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THE  
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## Original Communications.

### ON THREE CASES OF PERFORATING TYPHOID ULCER SUCCESSFULLY OPERATED ON.\*

BY

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Not very long ago, when a case of perforation of a typhoid ulcer occurred, it was looked upon as hopeless. With the general advance of abdominal surgery attempts were made to close the ulcer by operation. It was thought by many, however, that such attempts were liable to prove futile, because of the usual condition of collapse of the patient in such cases, and the little reparative power which existed, owing to the violence of the disease. It was argued that the operation by itself was a serious one, and with a severe fever superadded there was but little chance of a successful result. However, operations were still performed, and physicians soon recognized the fact that the earlier the operation took place, after perforation, the better; so the surgeon was called in as soon as the perforation could be definitely diagnosed. Now, from time to time, a successful case was reported, and, thus encouraged, more operations were undertaken, and at the earliest possible moment.

My colleagues at the Montreal General Hospital soon recognized that the surgeon should be called in as soon as possible after perforation, with the result that a fair percentage of recoveries was obtained. In some few cases a mistaken diagnosis was made and no perforation found, but no harm resulted to the patients. These mistakes are inevitable in early operations, but are much counterbalanced by the re-

\* Read at the meeting of the Canadian Medical Association, Montreal, September, 1902.

covery of not a few patients who have been submitted to the knife. If we wait until unmistakable signs of perforation exist, such as rigidity, distension, vomiting, etc.—in fact, signs of general peritonitis—then we will operate too late.

As to the technique, I have always made use of the lateral incision, and have usually found the perforation near the ileo-cæcal valve; by this incision the site of the perforation is more easily found than by the median incision, and with less disturbance to the parts and less moving about of the intestines, and consequently with much less chance of general infection of the peritoneal cavity. The ileo-cæcal junction can always be easily found, and from there the bowel followed until the perforation is reached. I have always closed the perforation by turning in the bowel and making use of a continuous Lembert suture, employing fine silk. Other ulcerations in the neighbourhood, which can be easily made out by the dark red colour and induration, are similarly treated in case they might also perforate, and so render ineffectual the successful closure of the first perforation. After closing the perforation the abdomen is irrigated thoroughly with warm normal saline solution, a rubber drain inserted down into the pelvis, and the wound closed either in layers or by through and through silk-worm gut sutures. There is always suppuration in these cases, and the wound shows but little disposition to heal, and usually there is a hernia as a result; but these are small disabilities in comparison with the saving of a life—the hernia can be kept in place by a suitable truss, or afterwards treated by operation if the patient so desires it.

In cases of operation for perforation of typhoid ulcers I have always employed general anæsthesia, and have seen no ill results follow. I know that many advocate local anæsthesia, but I have never felt satisfied with it, and, from the cases in which I have seen it used, believe that there is more shock than when general anæsthesia by means of ether is made use of. The important points, then, in these cases of perforation are—

1. Early operation, in fact as soon as it is positively known that perforation has taken place.

2. Rapid operation, and not too much time devoted to the so-called toilet of the peritoneum.

3. It is also important, at the time of operation, to see that there are no other ulcerations likely to perforate. I have seen the ulcer first treated heal perfectly, and the patient afterwards die from a second perforation. It is very simple to turn in the bowel opposite where the ulcers are showing, and where the congestion and colouring of the peritoneal surface indicate probable approaching perforation. I am

sure, if early operations were undertaken in every case of perforation, the deaths from this cause would be much reduced.

CASE 1.—Mrs. T., at. 30, on 2nd October, 1900, was sent into hospital, by Dr. Ridley Mackenzie, for operation for perforating typhoid ulcer. She stated on admission that she had not been feeling well for two weeks, but had been doing her housework until the previous day. At two o'clock in the morning of the day of admission she was seized with a very sudden pain in the abdomen, accompanied by vomiting. After a few hours she was seen by Dr. Mackenzie, who made a very careful examination, and diagnosed ambulatory typhoid with perforation from ulcer. At that time Dr. Mackenzie says the patient was not in a condition of collapse. He persuaded her to enter the Montreal General Hospital, where she was placed under my care, and immediately prepared for operation. On admission her temperature was 104.6°; pulse, 136; respiration, 28. The abdomen was rigid, tender, but not much distended; the tenderness was more marked on the right side. Liver dulness was not obliterated. Blood test gave typhoid reaction; rose spots seen on the abdomen.

*Operation.*—Commenced at 1 p.m. on 2nd October, about eleven hours after the supposed perforation. An oblique incision was made in the right side of the abdomen, as for appendicitis, and all the layers of the abdominal wall incised in the same line. On opening the peritoneum, a large amount of yellow sero-pus, mixed with large flakes of lymph, escaped. The cæcum appeared in the incision, and looked normal; the ileum was now searched for and easily found; it was much congested, and in places covered with a thin layer of very adherent lymph. About 8 in. from the ileo-cæcal valve the perforation was found, opposite the mesenteric attachment. The perforation was a small one with sloughy yellowish edges, and was in the centre of a dark red induration of the bowel which represented the ulcer and accompanying infiltration; this infiltration was about a centimetre in diameter. The whole mass was turned in and closed with a continuous Lembert fine silk suture in the long axis of the bowel. At the lower end, to make it more secure, a few interrupted sutures were placed in addition to the continuous one. The peritoneal cavity was then flooded with a large quantity of warm normal saline solution by means of a rubber tube introduced at the bottom of the pelvis; before this was done, the pelvis, which was full of sero-pus, was swabbed out with aseptic gauze pads. After a very complete irrigation had been performed; and the fluid returned quite clear, a large glass drain, reaching down to the pelvic cavity, was placed in the wound, which was then closed, each layer of the abdominal parietes being separately sutured with catgut, except

the skin, which was closed with silk-worm gut; gauze and sterile absorbent cotton-wool dressing was then applied, and kept in place with adhesive plasters.

As is usual in these cases the wound did not heal readily, but pus appeared on the third day, and the wound partly reopened. The tube was removed on the second day and replaced by aseptic gauze packing. The bowels moved well the next day by means of a turpentine and soap suds enema. The fever continued high,  $102^{\circ}$  to  $104^{\circ}$  F., for over a week, and then gradually fell to normal on the fourteenth day after operation. The wound closed by granulation, and the patient was discharged on the 31st October. I have seen this patient since, and she is quite well, though at site of wound is a slight hernia, which she refuses to have treated surgically.

Dr. Mackenzie tells me that he had seen the patient several times before the perforation took place, and had diagnosed typhoid, but could never induce her to go to bed.

CASE 2.—Miss H. C., *æt.* 28, was admitted into the Montreal General Hospital as a private patient, with typhoid fever, under Dr. G. Gordon Campbell, 15th May, 1901. At the time of admission she had severe headache and also splenic enlargement; temperature,  $104.4^{\circ}$ ; pulse, 92; respiration, 20. Dr. Campbell thought it was about the eighth day of the fever. Two days after admission rose spots appeared, and the blood gave a distinct typhoid reaction. The course of the fever was uneventful until the nineteenth day of the illness, when, at 10 p.m., she had a sudden acute pain in the abdomen, with great tenderness to the right of the median line, and vomiting. Through the night there was some increased resistance of muscles, and the pain kept up, but in the morning was not so severe; there was, however, increased tenderness and intense rigidity of the muscles.

A leucocyte count showed 3400 white cells. Temperature,  $105^{\circ}$ ; pulse, 88; respiration, 20. It being evident that perforation had taken place, she was transmitted to my care for operation; this was performed at 1 p.m., fifteen hours after the perforation.

The procedure was the same as in Case 1; a lateral incision was made, and the perforation found within 4 in. of the ileo-cæcal valve; the perforated portion was turned in, in the longitudinal axis of the bowel and closed with a continuous Lembert suture. The abdomen was washed out freely with normal saline solution, the wound closed in layers, and a drainage-tube introduced into the pelvis.

Her condition after the operation was good, the discharge from the wound was free for some time, and there was considerable pus. The wound healed slowly by granulation, but without any serious complica-

tion. After the operation the temperature fell to  $102^{\circ}$ , and the range for the next week was from  $103^{\circ}$  to  $103.8^{\circ}$ . During the fourth week of the fever the temperature was between  $101.2^{\circ}$  and  $100^{\circ}$ , and the pulse 70 to 80. On the thirty-fifth day she developed a phlebitis of the left femoral vein, which gradually disappeared under treatment. She was discharged, with the wound healed, on 21st June, 1901. I have seen her within a few weeks, and she is in perfect health, but has a fairly large hernia at the site of the operation wound, which is easily controlled by a truss.

It is of interest in this case, that, although perforation had taken place, there was no leucocytosis.

CASE 3.—Michael McL., *æt.* 30, was admitted into the Montreal General Hospital, under Dr. Ridley Mackenzie, suffering from typhoid fever. As far as could be made out, he was in the third week of the disease, which was of a fairly severe type. On 24th July, 1901, three days after his admission, at 3 p.m., he was seized with a severe pain in the right iliac fossa; temperature,  $102^{\circ}$ ; pulse, 150. When seen an hour after, there was obliteration of liver dulness and marked leucocytosis. Within two hours of the perforation, he was seen by me and immediately operated upon.

The usual incision was made, and some thin sero-pus escaped on opening the peritoneum. The perforation was easily found about 1 in. from the ileo-cæcal valve, and was quite small. The opening was easily and rapidly closed by inverting the peritoneal surface, and using a continuous Lembert suture. The pelvis was washed out with warm saline solution and the wound closed, a drainage-tube being left at the lower end, which reached the pelvis.

The patient did well for a week and then began to have high temperature,  $103^{\circ}$  to  $104^{\circ}$ ; this was apparently due to the fever and not to the wound. The tube was removed in three days, and gauze substituted. The wound did not heal very kindly, but discharged considerable pus and healed mostly by granulation. His temperature was not normal until the 28th of August, and he was not discharged until the middle of September. I have seen him quite recently (July, 1902), and he is in perfect health. He came to consult me about a hernia which existed at the site of the wound, and preferred a truss to operation.

# SARCOMA OF SHOULDER JOINT—AMPUTATION OF UPPER EXTREMITY.

BY

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P. M., female, aged 19 years. On January 2nd, 1902, this patient was admitted to the surgical side in the Montreal General Hospital, from the service of Dr. Ridley McKenzie, to whom I am indebted for the case, and for advice and supervision of the medical condition while the patient was in my ward.

The patient was born in England. As a young child she was healthy. At the age of 13 years she had an attack of sickness which kept her in bed for a week or two. Some months later she was admitted to an hospital in England, suffering from what might be considered "chorea." At intervals since she has had attacks of articular rheumatism.

In 1900, while a patient in the Montreal General Hospital, she had a severe and prolonged attack, during which she developed a suppurative axillary adenitis; this was opened, drained, and was soon well. It was considered to be of tubercular origin.

In October of the same year while suffering from pain and swelling of the left shoulder joint, she fell against a piece of furniture. This was followed by increased pain in the joint with numbness and tingling in the fingers. She was admitted to another hospital in this city, where she remained about six weeks. Under rest and hot fomentations the numbness and tingling passed away, but the pain and swelling in the joint remained.

On admission the patient weighed one hundred and five pounds; was of medium height and of good nutrition.

The condition was grave. She was suffering from cardiac hypertrophy and extensive valvular disease; her extremities were slightly cyanosed; pulse and temperature normal. She was unable to walk with any degree of comfort. The lymphatics were markedly enlarged in the right cervical and sub-maxillary regions, and palpable in both inguinal regions.

On examination of the left shoulder it was found to be uniformly enlarged, the skin over it was somewhat tense, through which superficial veins were plainly seen. No axillary glandular involvement was

made out. There was constant pain in the joint, especially severe at night and when the arm was manipulated. There was pseudo-fluctuation, and only after several examinations egg-shell crackling was faintly made out.

The patient was unwilling to try to move the arm, but passive movement carefully done showed that the joint was still movable, and that rotation was followed by change in position of the enlargement; no crepitus; no oedema of the arm; no apparent difference in the volume of the radial arteries; motor and sensory nerve supply normal. The coracoid process was not readily felt; the other bony prominences about joint were normal.

While under observation the pain in the joint increased so much at night that morphia had to be administered.

The diagnosis of sarcoma of the head of the humerus was confirmed by a radiograph.

It was very difficult to determine what advice should be given to this patient. On the one hand there was the recurring rheumatic condition with marked cardiac disease and occasional loss of compensation; on the other, advanced malignant growth of one of the large joints. Again, granting that the patient could survive a serious operation, how radical should it be? I considered one had to choose between amputation at the shoulder joint, or removal of the upper extremity. Each of these operations is not without danger when done in a patient of good physique, but in the present case the unsatisfactory general condition offered little or no hope for a successful result.

Although the clinical appearances pointed to a myeloid sarcoma, it seemed reasonable to assume that the soft tissues of the joint had become invaded, and that the more extensive operation must be chosen. I, accordingly, placed the situation before the patient, recommending the latter, and she declined to take the risk.

Increasing pain in the joint caused her to change her mind; she consented, primarily to relieve pain, and secondly in the hope that the disease would be eradicated.

Amputation of the upper extremity after the method suggested by Paul Berger was decided upon and carried out on January 16th, 1902. Briefly it is as follows:—

The anterior incision, commencing over the inner border of the clavicle is carried out to the acromio-clavicular articulation, and then obliquely over the tendons of the pectoral muscles into the axilla and down to the lower angle of the scapula. The posterior incision com-



mencing at the acromio-clavicular articulation passes backwards over and internal to the shoulder joint, and perpendicularly along the border of the scapula to meet the anterior incision. The next step is to excise the middle third of the clavicle, thus exposing the axillary vessels which are at once tied, and the tendons of the pectoral muscles are then cut and reflected, exposing the brachial plexus which is cut high up; the scapula is then separated from the body, the muscles being cut close to the scapular border.

The advantage of the operation is that it is almost a bloodless one, the only bleeding to be feared coming from a few scapular vessels. In the case under discussion, several large veins from the neighbourhood of the new growth had to be dealt with.

The flaps should come together without any irregularity; in this case however, owing to fear that the skin in front of the joint had been invaded, I was obliged to depart somewhat, thus accounting for the irregularity of the incision, which is plainly seen. Ether was administered and was well borne.

The convalescence was without incident, and in about ten days after the operation the patient was walking about the ward. Her general condition was much improved and the relief from pain complete. She was discharged February 25th.

September 2nd, cervical adenitis still present. No evidence of return of the disease, although there has recently been some pain in the neighbourhood, due possibly to the stretching of the scar by the weight of a large mammary gland.

I am indebted to Dr. John McCrae, Resident Pathologist, for the Pathological Report.

The tumour is large, subcircular, roughly 8-10 cm. in diameter, and involves the upper two inches of the humerus, of which it entirely replaces the head and shaft. On section, the humerus is seen to lose itself in the tumour, the medulla of the healthy bone shading almost imperceptibly into the tumour mass. Its origin in all probability is from the bone marrow of this part of the humerus. The crepitant egg-shell crackling can be felt, and parts of the original bone can be felt towards the periphery of the tumour. Extending upwards, the tumour has encroached upon the scapula, though no erosion of that bone is seen.

The glenoid cavity is to be made out, and the articular membrane of the humerus lies directly upon the tumour mass, instead of upon the head of the humerus.

The brachial vessels and nerves have been pushed downwards and inwards, and are displaced by, but not involved in, the tumour.



FIG. 1. CONDITION BEFORE OPERATION.



FIG. II. VIEW OF TUMOUR ON SECTION. *From a photograph by Dr. Patrick.*



FIG. II. SKIAGRAPH.

The tumour runs along the dorsal scapular surface 4 cm. from the glenoid fossa, but has not attacked the supra-spinous fossa at all. The infra-spinous fossa is involved for 2.5 cm. from the glenoid fossa. The tumour is not encapsulated, nor are its edges very distinctly defined.

Microscopically:—The tumour is a mixed round and spindle-celled myeloid sarcoma, with many giant (myeloid) cells.

The Radiograph was taken by W. P. Watson (Fig iii) the official radiographer of the hospital, who has kindly added the following particulars of the apparatus and methods used:—

Maurice E. Leeds coil with sparking capacity of eight inches and extra large condensor, Motor generator, a Queen self-regulating tube, Stanley dry plate, Methol hydroquinone developer, Exposure of three minutes.

Prognosis:—It is too soon yet to express an opinion as to the eradication of the disease. The patient's improved condition, the thorough removal of all neighbouring tissues, including the entire removal of the joint, taken in conjunction with the pathological report gives one hope for a permanent result.

## NOTES ON A CASE OF NEUROPATHIC ARTHROPATHY.

BY

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Neuropathic arthropathies cannot be classed among the common joint diseases, and I think such a condition developing in the shoulder, in a patient who is not suffering from locomotor ataxia, is certainly worthy of being reported to this Society.

S.C., female, aged 32, was sent to the Royal Victoria Hospital by Dr. Shirres for surgical treatment, for a condition which she described as "cramping of and an inability to use her legs." She had worked in a factory as a machine-hand, from 15 until she was 19 years old, at which date she was married. Up to this age she had enjoyed good health, but on the day of her wedding, pain in the small of the back was complained of, and continued more or less severe for the following five months. This pain was soon followed by a girdle sensation; twitching in the limbs, particularly the left; dragging of the feet in walking; and attacks of involuntary contractions of the legs, chiefly in adduction; tingling in feet and toes; associated with incontinence of urine and fæces.

At first she remained in bed for three weeks, receiving electrical treatment. The bladder function has improved, though at present she suffers somewhat from incontinence of urine.

At first she was able to walk in a fashion, by supporting herself between two chairs, but latterly has been during the day confined more or less to a wheel-chair.

She has borne two children; the first died in infancy from diarrhœa, the second is alive and well.

At sixteen she suffered from a skin disease on the lower limbs, which has resulted in extensive scarring, and which she says necessitated scraping of the bone. Shortly after her marriage a similar condition attacked the face and side of the neck, which has also resulted in extensive scarring.

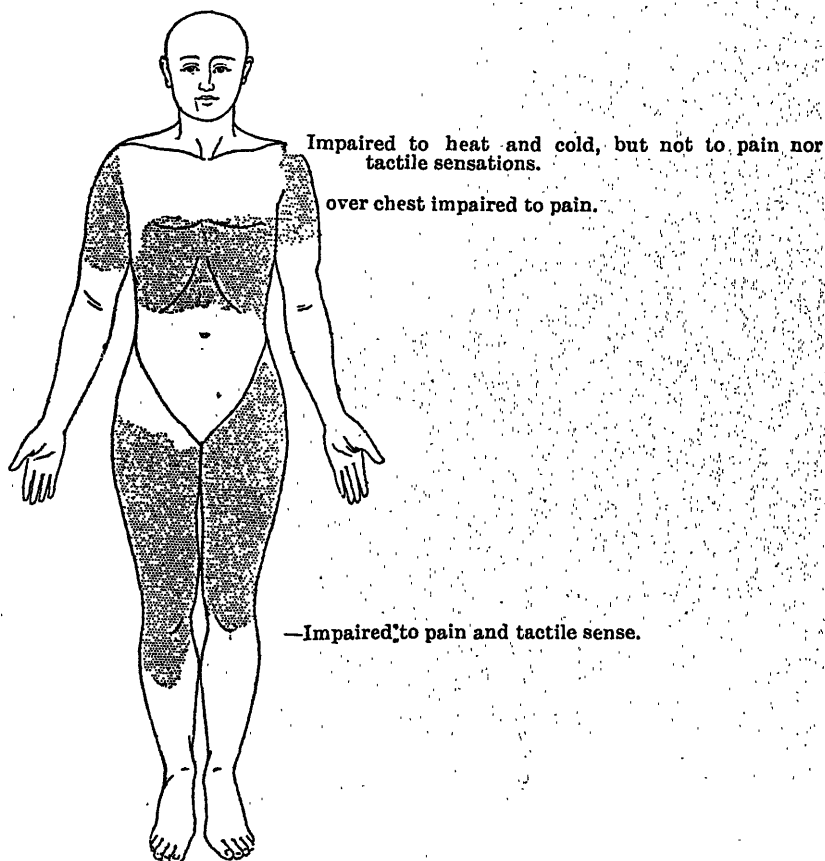
No venereal nor tuberculous history can be established.

Patient at present is well nourished, rather pale, lies on the left side, with flexed and adducted lower limbs. She is unable to walk, and can assume a sitting position in bed with difficulty owing to spasm of the lower limbs on attempting to move.

Marked increase of deep reflexes. Babinski's toe phenomenon is well shown.

Pain is complained of in the lumbar and hypogastric regions. Painful sensations are felt but much delayed. She is unable to distinguish heat from cold.

The accompanying diagram shows the area of disturbed sensation. Such, in brief, are the chief points in the history of the case, which has been diagnosed as a case of transverse myelitis.



A few days after admission she complained one afternoon to the nurse that her left shoulder felt heavy, and that she thought it was due to a bandage retaining a dressing on a small abrasion of her left elbow.

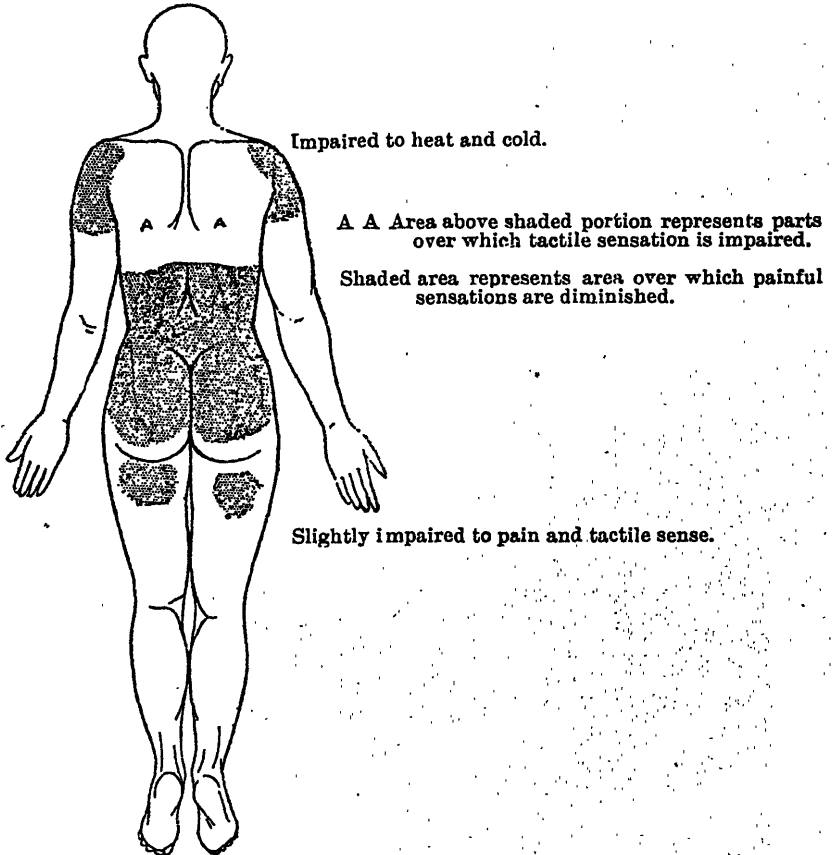
The house surgeon examined it, and found about the same condition which I saw the following forenoon at my regular visit.

The shoulder and arm were very much swollen and distinctly hotter than the forearm.

The swelling of the shoulder was spherical and tense, the bulging

being especially marked beneath the outer extremity of the pectoralis major, but less marked behind. Considerable pressure was necessary to palpate the edge of the acromion. The skin over the outer aspect was white, shiny and covered with dilated veins; it was not thickened, and this was in marked contrast to the skin about the lower border of the pectoralis major and along the inner side of the arm, which was brawny and of a dull red colour, showing a pitted appearance such as one sees in lymphatic oedema, and pitting with difficulty on pressure.

There is absolutely no pain either on active or passive motion. The

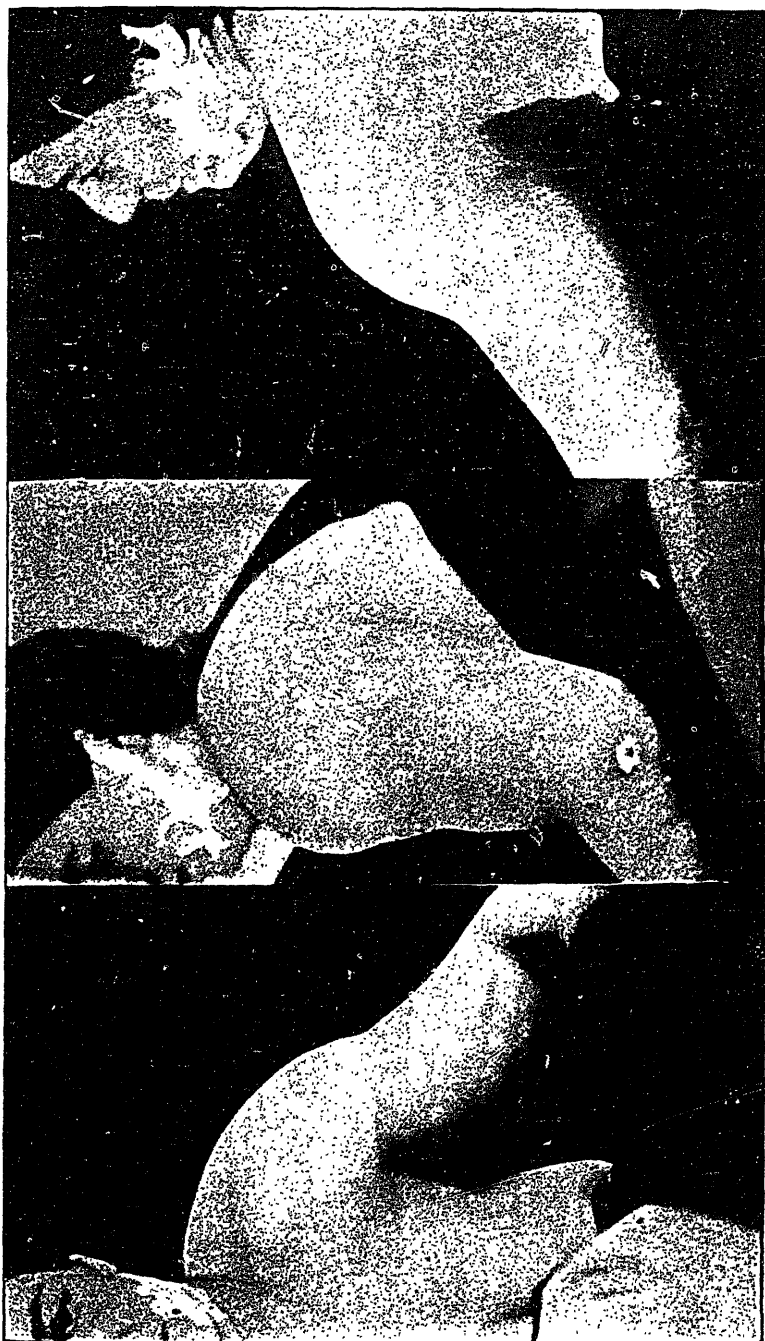


restricted movement is evidently due to the tension of the joint and the infiltrated tissues; there is not any evidence of muscular spasm.

*Measurements:—*

	<i>Right.</i>	<i>Left.</i>
Over Acromion and Axilla . . . . .	35 c.m.	48½ c.m.
Below Axilla. . . . .	28 c.m.	39 c.m.
Above Condyles. . . . .	22 c.m.	30½ c.m.





The accompanying sketches show the appearance on examination.

This condition did not vary for about three or four days. About this time, however, less tension was noted and crepitation could be readily elicited, but no loose pieces of bone could be felt.

The tension is steadily becoming less, and the infiltration is being absorbed, so that the impression one now gets is that of a subluxation of the shoulder.

The treatment employed, consisted in applying hot fomentations of lead and opium and fixing the joint by means of an internal lateral splint. It seems to me, however, that aspiration of the joint early, with fixation, might prove beneficial in helping to maintain the integrity of the capsule and thus lessen the deformity and possibly the ankylosis in cases which show a tendency to more or less perfect recovery.

## SOME UNUSUAL FORMS OF OCULAR TRAUMATISM.\*

BY

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During the past eighteen months some rather unusual forms of ocular traumata came under my observation in my clinic at the Montreal General Hospital, from among which I have culled the following cases as being of special interest.

### **Fracture of the Roof of the Orbit with Evulsion of the Eyeball.**

W. B., aged 35, a large, powerful labouring man, while working on a pile of lumber fell from it to the ground, a distance of twelve feet. In his fall he struck an iron crowbar which was standing upright in the ground, the point of the bar entering his left orbit. He did not lose consciousness, but staggered to his feet and walked to the cab which brought him to the hospital. There was but little bleeding at the time.

I saw him two hours later and found the lids and soft orbital tissues a mangled mass, the eyeball was unruptured, but dislocated in such a manner that the upper posterior surface presented outside the torn eyelids, through which the eye had been forced, the cornea being directed towards the floor of the orbit. The upper bony margin of the orbit gave distinct crepitus on palpation. There were two vertical lacerated tears in the upper eyelid and one in the lower. Pulse 70, low tension; temperature 97.2° F.; intellect clear.

I ordered cold applications for the night. The patient next morning showed marked signs of drowsiness, which was gradually increasing, the pulse being under sixty, but there was no decided headache or pain. Fearing intra-ocular oozing and also the difficulty of controlling a possible sharp hæmorrhage while clearing out the mutilated orbital contents, I had a consultation with Dr. Armstrong, who agreed with me as to the advisability of ligaturing the left common carotid, which he kindly did. I then cleared out the orbital contents, finding the optic nerve ruptured and the roof of the orbit broken into a number of pieces which I had to remove, two being as large as a finger nail. The fractures extended backwards and inwards about two inches, involving the nasal, frontal, sphenoid and ethmoid bones. There was also a

\* Read before the Canadian Medical Association, Montreal, Sept. 18, 1901.

depressed fracture of the floor of the orbit towards the outer angle, the lower margin of the orbit not being involved. The orbit was now thoroughly cleansed, pure carbolic acid swabbed over, followed by alcohol, and then finally dressed with friar's balsam and gauze.

The patient made a rapid and uneventful recovery, leaving the hospital in three weeks.

The crowbar had evidently entered the orbit above the eyeball, tearing the lids and dislocating the eye downwards and forwards. It is remarkable how the eyeball escaped rupture and how the crowbar escaped penetrating the cranial cavity. The depressed fracture of the floor must have been caused by indirect pressure. The diameter of the bar was  $1\frac{1}{4}$  inches. The case is very interesting on account of the severity of the injury and the rapid recovery.

#### **Entrance of a Piece of Steel into the Vitreous Chamber of the Eye; Removal by an Electromagnet with Retention of Useful Vision.**

C. W., aged 20, came to me with a history of being struck two hours previously in the left eyeball by a small piece of steel, which had entered the eyeball. He had severe pain and nearly complete obliteration of vision, merely light perception remaining.

On examining the eye I found that the piece of steel had entered it through the cornea about a millimeter or two from its outer edge in the horizontal meridian. It had then penetrated the iris, a small opening being plainly visible, and escaping the lens, had evidently lodged in the posterior chamber. The pupil was irregularly dilated, approximately a horizontal oval. With the ophthalmoscope no details of the fundus could be made out, the posterior chamber being filled with blood.

Feeling confident the steel was in the eye I had the patient anaesthetized and then made a meridional incision through the coats of the eyeball between the insertion of the external and inferior rectus tendons about seven millimeters from the cornea. Through this wound I inserted the tip of the electro-magnet (Snell's), and on the third attempt withdrew the piece of steel. The piece was a quarter of an inch long and irregular in shape.

Under antiseptic lotions, cold applications, and rest in bed, the wound rapidly healed. Three months later vision was one-third of the normal, but there was a scotoma in the inner part of the field of vision corresponding to the scar left by the incision. The ophthalmoscope revealed fundus details, some large lymph specks floating in the vitreous, and a white scar to the outer side where I had made the incision.

**Impaction of a small piece of Steel in the Right Cornea, penetrating all its layers and projecting into the exterior chamber removed by the Electro-magnet.**

C. F., a boy of fifteen, was struck in the right eye by a small morsel of steel. Four hours after the injury, on examining his eye, I found a small grey spot in the centre of the cornea. The spot was about the size of a small pin's head, and projecting through the centre of this spot into the aqueous humour I could distinguish a small splinter of steel. This could not be removed from the outside by the ordinary methods, as the slightest manipulation of it with a spud or needle would infallibly force it into the anterior chamber. I accordingly had the boy anaesthetized and then passed a broad bent knife into the anterior chamber from the side, so that its flat surface would be behind the piece of steel to support it and prevent it falling into the anterior chamber. Holding the blade in this position, I with a needle gently loosened the steel, and then applying the magnet withdrew it. Healing was rapid and normal vision was retained.

**Cataract following Electric Shock from a Live Wire.**

W. C., a boy of thirteen, was struck over the left malar region by a live wire. He was senseless for an hour, the family physician being even obliged to keep up artificial respiration for a lengthy period. Vision at the time of the injury was perfectly good, but gradually began to fail, so that in the course of a few months useful vision was lost.

There is a large scar over the left malar prominence corresponding to the burn, but in no way complicating the eyelids. A pale bluish white cataract is present, but there is no other evident abnormality. Vision is reduced to perception of light, but the projection is rather uncertain in the lower part of the field, likely due to some retinal or choroidal exudation. The pupils react to light.

Cases of cataract due to a lightning stroke have been reported, and Hess reports cataract arising from the discharge of a Leyden jar.

The other eye in my patient is normal, and after strict enquiry I find that vision in the injured eye was certainly good before the accident.

## TWO CASES OF CÆSAREAN HYSTERECTOMY.\*

BY

WALTER W. CHIPMAN, M.D., F.R.C.S. Ed.

Lecturer in Gynæcology, McGill University; Assistant Gynæcologist to the Royal Victoria Hospital.

*Mr. President and Gentlemen:—*

I have the honor of bringing before you two cases of Cæsarean Section, followed by removal of the uterus:—*Cæsarean Hysterectomy.*

These two cases have been met in the service of the Royal Victoria Hospital during the past year, the one by Dr. Gardner, and the other by myself; to Dr. Gardner I am indebted for the privilege of here associating his case with my own.

I have brought these cases before you in the hope that they might furnish some points of general interest, and chiefly for two reasons:—(1) The two cases exemplify two ways in which uterine fibroids may prevent parturition, and (2), they illustrate yet again the ever-recurring fact in surgery, that a procedure which was yesterday regarded as desperate, is to-day recognized as little more than commonplace.

In the two cases pregnancy had begun and developed to the later months, in a uterus the site of large fibro-myomatous growths, which growths both prevented the delivery of the child *per vias naturales*, and demanded also the removal of the uterus. In both the operation was an emergency operation undertaken as speedily as possible, the patients being brought to hospital when already in labour with a dilated cervix uteri, and the foetal membranes ruptured. In one case the patient, æt. 37, was at term, a second pregnancy, she having been delivered with forceps of a dead child four and a half years before; the tumor had been discovered to the patient for four years, it had grown steadily during that time and had endowed her with the usual train of symptoms, save the merciful one of sterility. In the other case the patient, æt. 32, was at the seventh month, a first pregnancy, she having been married and sterile for six years; she had enjoyed fair health until some three weeks before and was totally unaware of the existence of the tumor until the day of her admission to hospital.

In both instances the "fibroids" were multiple, but in the one uterus they were largely intramural and the menstrual loss while regular in its occurrence had become extremely profuse; in the other uterus the

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\* Read before the Montreal Medico-Chirurgical Society, December, 1902.

nodules were subperitoneal and the menstrual habit had undergone little change; recurrent attacks of pressure symptoms—pressure upon both bladder and bowel—as evidenced by difficult micturition, “bilious attacks,” and obstinate constipation, being the only complaint.

As you will observe, the two cases in their clinical history are widely divergent in every respect.

The operations in the two cases were similar, viz.: Cæsarean Section, and so delivery of child and secundines, followed by removal of the uterus and its tumors by means of a supravaginal amputation. It is, of course, understood that the complete operation of Cæsarean Section is, in these cases, not performed, as the opening in the uterus is not in any way closed. The results in the two cases were, I am happy to say, identical in respect of a rapid and complete recovery of the mothers. The full-time child was a fine boy of nine and a half pounds, who has since been named by his proud and grateful mother after the surgeon, the professor of Gynæcology in McGill University. On the other hand, the premature child was scarcely viable and it died on the fourth day.

As you all know the operation of Cæsarean Hysterectomy represents in its two parts one of the earliest and one of the latest operations in the history of surgery. The early operation is Cæsarean Section, the late one, Abdominal Hysterectomy, and included between these is the whole surgical story of the abdomen. For Cæsarean Section was performed before the time of the great Hippocrates, to rescue the child after the death of the mother, and it is said that we owe to this operation, so performed, the lives of the first Cæsar and our own Edward VI. Whether or no it is true that the first Cæsarean section upon a living woman, was accidental, a woman at term being gored by a bull and the child so delivered—the first authentic case wherein the operation was performed by a surgeon was in 1491 and in 1500 by Nufer, some four hundred years ago. Since that time the operation has been a definite surgical proceeding. It has undergone various modifications, chiefly in the hands of Porro, Simpson, Tait and Sänger, and though displaced at various times by such procedures as Craniotomy and Symphysiotomy, it remains to-day the operation of election in every case, where, the uterus and adnexa remaining healthy, delivery is rendered impossible by faults in the passages below.

Abdominal Hysterectomy, on the other hand is one of the later operations, it being first performed by Kimball of Boston, in 1855, barely fifty years ago, while the operation now known by this name has just reached its tenth year. The operation itself is a child of Ovariectomy, though born forty-six years after McDowell had opened his first abdomen. It owes its existence to repeated errors in diag-

nosis—a pediculated uterine fibroid being mistaken for an ovarian tumor. At first in such cases where the surgeon had operated for an ovarian tumor and had found a uterine fibroid, the fibroid was merely returned to the abdomen and the wound closed. But one day, so story has it, the fibroid refused to be returned, could not be got back into the abdomen, and so, perforce, the surgeon after tying the pedicle with strong cord, cut away the tumor. This was the first Myomectomy, and it seems a pity that the Fates have not preserved the name of that particular surgeon,—that reluctant and desperate pioneer.

The removal in this way of pediculated fibroids led by an easy stage to those cases where a pedicle could be secured only by taking the uterus as well, and we have the first Hysterectomy, performed as we have seen by Kimball for an interstitial fibroid. Kimball passed a ligature around the whole uterus at the level of the isthmus, and, after amputation, fixed the stump in the abdominal wound. This, at the time, was the invariable rule with all abdominal tumors,—the extra-peritoneal treatment of the pedicle or stump. Along the same lines followed now Koeberle, and in 1869 the great Péan with his clamp and *serre-nœud*. In 1876 Porro of Pavia, who died only last July, did his first Porro-Cæsarean operation, using the clamp and amputating the uterus in the then classic way. Hegar, in 1880, introduced his elastic ligature for the uterine stump, and some few years later, Ols-hausen, in order to prevent its premature escape, buried it in the tissue.

Wölfler, Van Hocker and Sängler, were the first to allow the uterine stump to fall back from the parietes into the abdomen, but they closely shut it off from the general peritoneal cavity, making it to communicate freely with the parietal wound. These “mixed methods” as they were called, soon gave place to the intra-peritoneal treatment of the stump, pure and simple, as practised first by Schroeder and Hoffmeir, and further perfected by the retro-peritoneal modification of Chrobak in 1891, and Baer in 1892. In this method, as you know, the vessels in the broad ligament are separately ligatured, no mass ligature being employed. The cervico-uterine stump is allowed to fall back to the floor of the pelvis and is covered by flaps of peritoneum, which have been previously separated, and the abdominal wound is completely closed. This operation has undergone various minor modifications during the last ten years and chiefly by Kelly of Baltimore; it is now commonly known as supra-vaginal amputation of the uterus, or in more restricted parlance, Kelly’s side-to-side method.



And this is the operation that was performed in the above cases, Cæsarcan Hysterectomy. The technique in both was practically the same. I had the privilege of assisting Dr. Gardner in his operation, and while the uterus was being incised and the child and placenta extracted, I practised digital compression of the vessels in the broad ligament. The uterine wall was uncommonly thick, and the edge of the placenta was struck in the bottom of the incision. The hæmorrhage for the moment was considerable, but a rapid evacuation of the uterus was followed immediately by strong uterine contractions and no further trouble was experienced. The broad ligaments were divided after sectional ligature, care being taken as usual to ligate cleanly and with separate ligatures the ovarian and uterine arteries. The ligature material was always cumolized catgut and no drainage was employed.

The case was a patient of Dr. J. J. Ross of this city, who had carefully watched her before her admission to hospital. She made a rapid and uneventful recovery and left hospital with her child at the end of five weeks.

In my own case the abdominal incision was made and the unemptied uterus delivered. In order to check, as much as possible, the hæmorrhage, I clamped temporarily the broad ligaments, for I had little hope of saving the seven months child. As it was impossible by palpation to detect the placental site I practiced Fritsch's fundal incision in the hope of escaping the placenta, for Hahn states that in only eight out of three hundred and eighty-two cases is the placenta planted upon the fundus. My own case must have been one of the eight, for I cut directly into the placenta, which had a fair fundal implantation. The hæmorrhage was profuse despite the clamps, and even after the emptying of the uterus the bleeding was troublesome and was only kept in check by firm manual compression upon the placental site. The large fibroid which lay in the pelvis was wedged therein, and was only drawn out by means of Doyen's *tiré-bouchon* (corkscrew), as a cork is drawn from a bottle. Fortunately, there were no adhesions.

As in the former case, the uterus with its tumors was removed after sectional ligature and division of the broad ligaments and a supra-vaginal amputation. The cervical stump was treated intraperitoneally and the abdominal wound closed without drainage.

This case was a patient brought in from Richmond by Drs. Moffatt and Tompkyns. They had been for the first time called to see her, and finding her in labor, with no hope of spontaneous delivery, the pelvis being blocked by a firm tumor mass, put her on board the first train, making her a bed on a mattress in the baggage car. On

her admission she had a capillary bronchitis with a temperature of 101.4, and a pulse rate of 140. This notwithstanding, she bore the operation fairly well, but her convalescence was complicated by a right-sided broncho-pneumonia. She safely weathered this and left hospital completely recovered in exactly one month. To the energy and care of Drs. Moffatt and Tompkins the patient undoubtedly owes her life. The child lived four days and then, in spite of precautions, developed a septic infection with rapid rise of temperature, as is usual in premature infants where the mucous membranes have so small resisting power, and so died.

Such is the clinical story, and may I now be permitted to append a single lesson which I have read to myself from these and other cases—cases of Cæsarean Hysterectomy. It is this—

If the pregnancy is under seven months, which means that the child is not viable, do not deliver the child at all, simply remove the uterus unopened,—perform an abdominal hysterectomy. In this way you escape all danger of excessive hæmorrhage. If, on the other hand, the pregnancy is more advanced than this, the hope of saving the child is a great one, and the consequent risk from hæmorrhage must of necessity be undertaken. In order to diminish this risk, however, leave the uterus unopened until both ovarian arteries and the uterine of one side have been controlled by ligature. The one uterine is sufficient to carry on the placental circulation and maintain the life of the child. Only then open the uterus, and without regard to placental site, deliver the child and clamp the remaining uterine. In this way, I take it, all danger from excessive hæmorrhage, which is always the great danger, is obviated.

I submit now the specimens from the two cases and photographs taken from these by Dr. Patrick, the photographer to the hospital. These specimens have been preserved and microscopic sections made therefrom by Dr. Charles Gurd, who, during the past year has been devoting himself to special work in Gynæcological Pathology.

Macroscopically the two specimens are, as you see, widely different. In the large specimen, Dr. Gardner's case, the fibroid nodules are multitudinous, more or less intra-mural and to some extent the shape of the uterus is preserved. The enlargement is general and is due in great part to a hyperplasia of the uterine muscle, throughout which are scattered the firmer, fibrous nodules. This tumor is in truth a myo-fibroma and is somewhat uncommon in that its fibrous and muscular parts are more than usually equal and discrete. The hindrance to parturition in this case was due, not so much to an obstruction,—the two larger nodules seen at the cervical pole of the uterus were

above the level of the pelvic inlet,—as to a lack of expelling power in the uterus. The uterine wall was weakened by the presence of the fibroid nodules and strong and effective contraction and retraction thereby prevented.

In my own case, the smaller specimen, the nature and disposition of the tumor growth is markedly different. Here the growth is chiefly fibrous and the nodules are few, large and sub-peritoneal. The largest fibroid occupied the pelvic cavity, almost completely filling it. It grew from the posterior wall of the uterus low down and had tilted the cervix uteri high up above the symphysis pubis, so high that the external os could not be reached by the finger per vaginam. The centre of the large nodule shows necrotic change—a coagulation necrosis due to deficient capsular nutrition. Here there was no possible outlet through the pelvis for the passage of the child. The expelling force was strong enough, parturition was prevented solely by obstruction.

So in these two cases we have exemplified the two ways in which uterine fibroids render natural delivery difficult or impossible:—

1. They interfere with, weaken the powers, the uterine power.
2. They obstruct the passages.

And again, these cases illustrate the gradual passing of this operation from the domain of the “desperate procedure” to that of the commonplace.

## THE FREEZING POINT OF URINE.

BY

W. G. TURNER, B.A., M.D.,

Medical Superintendent, Montreal General Hospital.

Cryoscopy may be defined as the science which deals with the determination of the freezing point of the fluids of the body, notably the blood and the urine; its clinical value consists in the comparison of the freezing point with the observed normal of a series of cases.

The apparatus employed is of German origin, and consists of a series of tubes, one inside the other; from without inwards these are filled with (1) a freezing mixture of ice and salt, (2) air in a jacket, which becomes gradually cooled, and (3) urine. To prevent absorption of moisture from the air in contact with the freezing urine, air passed through sulphuric acid is constantly supplied to the innermost tube. Glass rods allow of constant stirring of the freezing mixture, and determination of the degree of fluidity of the urine which is being tested. At every employment of the apparatus a sensitive thermometer is used, which is first immersed in freezing mixture until its standard zero is determined and noted; the urine is then frozen and its freezing point determined; after each experiment the standard zero is again verified by a control observation.

It will be understood, then, that the object of the experiment is to decide the amount (a fraction of a degree) of variation of the sample of urine or blood tested, from the freezing point of normal urine or blood, decided from a large number of observations.

As the experiments carried out deal entirely with urine, I shall refer but briefly to the results of blood determination. It must be borne in mind that a moderately large amount of blood (10 cc.) is required; this is, in itself, a decided drawback, as the unwillingness of the patient must be considered, and the employment of proper sterilization of the skin and the required hypodermatic syringes render it essentially a practice suitable only to hospital work.

From a large series of cases, Kummel has decided that the freezing point of normal blood is  $.56^{\circ}$  Celsius under that of distilled water, it may vary from  $.55$  to  $.57^{\circ}$ , but practically never more.

This freezing point, further, is unaltered in many cases of severe systemic disturbance and in inflammations of the genito-urinary tract.

where there is no actual incompetency of kidney tissue; should incompetency of kidney tissue, however, be present, a change, be it less or greater, does occur in the freezing point, the alteration being always in the direction of lowering of the reading. In systemic diseases, with high fever, even in typhus, Rumpel is authority for the statement that no change occurs; Epstein's assistants report the contrary, and it has occurred to me that the variance of result may be due to the presence or absence of kidney lesion in the course of the acute febrile disease.

In no case where much kidney tissue was thrown out of usefulness, was the freezing point of the blood normal, and in no case where a patient's blood showed a decided lowering, was the result of surgical operation good; on the contrary, where the surgeon temporized until the blood point rose to normal or nearly normal limits, the results (in this series of cases) were favorable. Practical deduction can thus be made: Does the blood show a decidedly lowered freezing point, do not operate, for it means incompetent excretion. Wait until the freezing point rises (that is, until kidney competency is restored); if it does not rise, the prognosis is bad.

Further, should a low freezing point of blood be present, suspect kidney incompetency (calculous nephritis, chronic interstitial nephritis, tuberculous nephritis, the various nephroses, etc.) . . . . As to means of localization, we shall presently speak; it suffices to say that the blood freezing point may thus indicate kidney disease, hitherto unsuspected, or may show the amount of affected tissue in a case where it has been previously known to exist.

It will be understood then, that the lowered blood freezing point indicates that excretion is imperfect: A sure supplementary test, upon which Casper, of Berlin, has lately insisted as an auxiliary to cryoscopy, is the well known employment of Phloridzin, which is excreted as sugar by the kidney; the less sugar produced, the greater is the involvement of kidney tissue, but if we decide that a certain amount of kidney tissue is destroyed, (*e.g.*, in a case of tuberculous nephritis), the question arises: "Which kidney is diseased? or are both?" Ureteral catheterization must here come into "play" and the quality of the urine from each kidney must be determined; a careful examination by ordinary laboratory means is essential, and may be sufficient to localize the disease. The urine from each kidney must be separately frozen, and the lower freezing point of the two specimens determines the side of greater tissue-destruction.

To determine the freezing point of the urine in cases of various

diseases, and, if possible, to find out what bearing they had upon the freezing point of the urine, I made, by the advice of Dr. Armstrong, a series of observations upon different urines, from medical and surgical cases; as yet, no specimen from the ureters have been examined, all specimens from female cases were taken by catheter.

The process is tedious, and is essentially a laboratory experiment. The investigator will find it necessary to make preliminary tests to thoroughly familiarize himself with the procedure. The series, to the present, has consisted of 70 cases, of 51 of which I append the results.

The amount of solid, indirectly, the number of molecules, in the urine determines, to some extent, the freezing point—the greater number of molecules, the lower is the reading. While it was realized that the lowest freezing points would be found in cases of greatest concentration (that is, in partial anuria, due to advanced degrees of disease), it was felt that it would be premature to begin with these cases, without having a table of more or less nearly normal-appearing urines; therefore, all the cases selected were those of practically undiminished amount.

It was found that specific gravity does not seem to bear any constant relation to freezing point; as specific gravity varies according to the kind of molecules, and freezing point according to the number of molecules—this is what might be expected.

I do not feel justified in inflicting upon you a meaningless list of figures.

The figures for normal urine are stated, by Casper, as lying between 1 and 2° Centigrade; ten normal urines varied between .09 and 2.28 the same individual presumably healthy, varying at different times. Five cases of trauma, all severe, gave consistently high freezing points, varying between .03 and .76. Three cases of extensive loss of blood varied from 1.45 to .53, the reading being highest where the loss of blood was greatest. Extensive infections, eight in number, were high between .04 and .67, but abdominal infections were more variable, six varying from .05 to 1.62, the majority being low. Five typhoids were consistently low, from 1.26 to 1.99.

Of nine kidney cases, with fair amounts of urine, the point was between .74 and 1.97. Apparently the limits of fairly good kidney tissue, five recovered or are improved, one died, but autopsy showed a septic nephritis, with numerous pin-head abscesses, but withal very little destruction of kidney tissue. Of this case the reading, as might be reasonably expected, was an average one—1.14.

The other cases (including ulcerations, abscesses, tuberculous and

new growths with no kidney lesion), I fail to classify intelligibly, and I may therefore omit particulars.

I have spoken of the results of this series to indicate the variations met with, and the great uncertainty of the results I have obtained; one dare not, on such premises, draw any conclusions. I trust, however, that to counterbalance the infertility of my own work, I may have indicated, however obscurely, the trend of work and of opinion in these directions.

I beg to thank Dr. R. C. Paterson, of the interne staff, for assistance in the work.

# TREPHINING FOR JACKSONIAN EPILEPSY.

BY

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## **Jacksonian Epilepsy from Trauma—Trephined—Recovery.**

C. R., male, aged 20 years, was admitted to the Winnipeg General Hospital May 6, 1896.

The patient complains of having had several epileptic fits since April 3rd, 1896, also of a loss of power in the left upper extremity.

He has always been a strong, healthy, and active boy, only having been confined to bed on one occasion from a scald, when five years old. There is no neurotic family history, and the boy is rather stoical in disposition.

On July 1st, 1895, the patient was hit on the head by a baseball bat, which felled him to the ground, rendering him unconscious, besides producing a good sized scalp wound over the right parietal region, which bled freely. For the next five days he remained in a state of profound coma and life was despaired of. On the 9th inst. the patient was able to recognize friends, and to understand what was said for the first time, but he could not speak in reply. He endeavoured to communicate with them in writing, but failed, owing to writing each succeeding letter of a word on top of the former.

On the 11th of July he suddenly regained the power of speech, and although it was very nasal in character he was able to make his wants known. These symptoms gradually improved. There is no history of paralysis of the tongue.

For the next six months his memory was very short, since which time it has gradually improved, but even now is not so clear as before the date of the injury, and since which time the patient's friends have noticed a vacant and void expression. The patient also suffered from left hemi-paresis, involving the arm and face, which condition still remains resulting in a left squint, facial deformity, weakness of the arm and an inability to button his clothes. He frequently complains of a peculiar numbness and tingling sensation in the left hand and fingers. There has also been partial anæsthesia in the hand, but tactile sensation has been markedly impaired. To illustrate: To determine whether he has secured his jack-knife, for which he has been seeking in his pocket, he is obliged to withdraw his hand and look as he opened his fingers.

Present trouble: About nine months after being injured, on April



3rd, 1896, while at work the patient had his first epileptic fit, which came on with an aura. On the 17th April he had a second, on the 24th of April he had a third, and on the 1st May he had two more. All these convulsions were of the same nature and of the Jacksonian type.

The aura was first felt as a marked numbness and tingling sensation in the left middle finger, which gradually became flexed; next the other fingers contracted, then the wrist and elbow and the muscles of the face began to twitch, and the whole body became involved in clonic spasms—and he lost consciousness.

If taken very early the patient at times was able to prevent a general convulsion by securing the services of some one at hand to grasp the wrist firmly and vigorously rub the hand and fingers. The patient frothed at the mouth during a convulsion, but did not bite his tongue, nor were the urine or fæces voided.

The convulsions becoming more frequent and severe, the young man became unable to follow his employment, and was sent to the hospital for surgical interference.

The general health of the patient was excellent: Pulse 72; temperature 98.5 F. He is well nourished, and there is no evidence of any disease of the thoracic or abdominal organs.

The symptoms appeared to point to some lesion involving the middle part of the ascending frontal and ascending parietal convolutions, more especially the latter.

*March 12, 1896.* The patient having been antiseptically prepared, the motor area of the brain corresponding to the left arm and face centres was determined, and the scalp and pericranium over this region was reflected downwards. The cranium over this area was trephined and removed, when about one dram of clear serum flowed out. The brain beneath the exposed dura was seen to be discolored, and the middle meningeal artery only remained as a cord and did not pulsate. The cortex of the brain was depressed. The dura mater was incised and also reflected downwards, some adhesions being found between it and the disclosed area beneath. The diseased brain, which was of a chome-yellow color, was depressed and did not pulsate. On incising into its centre about two drams of a thick brownish fluid, with some debris, escaped.

Next, I proceeded to carefully dissect away the diseased area, working towards the healthy cerebrum, and being careful not to cut too deep into the brain substance that looked normal. There was slight bleeding during this stage of the operation, but it was easily controlled by a few fine silk ligatures. The cavity, left, was conical in shape with its apex directed inwards. Its base was about half an inch by two-thirds of an inch in diameter, and its depth about one-half

inch. The cavity having been carefully washed out with sterilized water, and dried, the reflected duramater was replaced and sutured with fine silk. A few fragments of the removed bone, having been kept meanwhile in a warm 8 per cent. saline solution, were distributed on the dura, and a small opening having been made through the scalp and periostium to correspond with the cavity, a 1-16 inch soft rubber drainage tube was inserted into it. The scalp and periostium were now sutured in position, a second small rubber drain being placed under the scalp at the most dependent angle, and having applied a large antiseptic dressing, the patient was removed to his ward.

The patient remained in the hospital until July 9th, the temperature only reaching 99° F. on three occasions, viz., the evening of the operation, and the two following the second dressing, at which time the drainage tube was removed. During the two months in the hospital he experienced four auras. The first ten days after the operation (dressed three days before and stitches removed); the second and third, four days later (when he was dressed for the second time and the drainage tube removed); the fourth, fifteen days later.

There was no suppuration, and the wound healed by first intention.

The paresis of the hand became less marked directly after the operation, and the two days following the second dressing, at which time the tactile sensation became gradually normal, and his memory and general expression improved.

He remained well until December 1st, when he was reported having a fit during his sleep on the previous night. Later on in December he had a second convulsion, and called to tell me as he was on his way home that day. On examining his head he complained of tenderness on pressure and a small amount of thick pus could be squeezed through a pouting sinus that had appeared in the (injury) scar.

As the patient was determined to return home at once, I advised him to consult a surgeon as soon as he reached Toronto.

*May 29th, 1897.* C. R. writes that he has undergone a second trephining operation on December 30th, 1896, and reports that a large piece of bone had grown since the first operation, and that it was taking a downward curve, pressing on the brain; also that the new bone was necrotic in places.

He experienced two auras ten days after this operation, but has been in perfect health since.

*Remarks:* It is evident that there were two hæmorrhages in this case—one extra-meningeal, from the middle meningeal artery, which may have been small; the second from the middle cerebral artery into the motor area.

Since following out the subsequent history in this case I have

ceased to replace fragments of bone removed, but prefer the use of a chisel to reflect a flap of bone together with the muscles and pericranium left attached, and subsequently replacing it or else to use a trephine and leave the bone out.

**Leptomeningitis and Local Cerebritis with Softening, followed by Jacksonian Epilepsy and Paresis—Trephined—Recovered.**

F. R., male, aged 63 years, was admitted to the Winnipeg General Hospital, January 30, 1901.

The patient was brought to my office complaining of severe pain in the head, poor memory, and an inability to think or apply himself; also weakness in the legs, especially the right, and a loss of power in the arms, decidedly marked in the right hand and arm.

There is nothing noteworthy in the family history; both his father and mother lived to a good ripe age, and all his brothers and sisters are living and healthy. There is no neurotic or tubercular history in the family.

The patient has always been a strong, healthy and active man; fond of rowing, horseback riding, and athletic sports, and especially fond of the violin. He had acute rheumatism when nine years of age, but did not suffer from any complications.

In May, 1900, the patient was thrown from a wagon, striking the fronto-parietal region of the left side of the head against a stone, and a wagon wheel passed over the opposite parieto-occipital region, raising a hæmatoma. A slight scalp wound was produced where the head came in contact with the stone, which bled a little. He was momentarily unconscious, and was picked up by his friends, when he drove home in a dazed state. He did not take to his bed and was up the next day, but was unable to work for about a week, when he began to do light work and continued a light occupation for about three months.

After this time, finding himself gradually getting weaker, both mentally and physically, he confined himself largely to his bedroom, so as to avoid seeing people and any excitement. He became very irritable, and mentally dull and heavy, lost his memory; says he was absolutely useless and did not wish to be disturbed. He suffered much from headache from the first, the pain gradually becoming more severe and constant.

The pain is described as being thumping in character, and felt in the left parieto-frontal region. About once each day he experienced an exacerbation of this pain, which, he says, felt as if he had been hit with a sledge hammer. The pain ran down the right arm into the right forefinger, where it would remain for hours, and

was followed by numbness in the arm and finger. With these severe attacks he was unable to walk, and the only relief secured was by the application of ice to his head.

With one of these exacerbations of pain, three months ago, the patient fell over towards the right side and lost consciousness for about five minutes.

He lost power of the legs, more especially in the right, and required support in walking. The paresis was most marked in the right arm and hand, and his writing became illegible.

When attempting to play the violin he experienced spasmodic contractions of the muscles in the left side of the neck and was obliged to cease playing.

The patient felt chilly nearly all the time, even in a warm room, and any excitement would render him very weak and cause him to break out into a cold perspiration, consequently he kept himself secluded, and became dull, morose, irritable, and felt useless. His memory became very poor, and there was some impediment in his speech—he often forgetting the right word which he wished to use, as well as saying wrong words.

The patient is a well preserved man for his age; his general condition is good, but he feels weak. Appetite fair, bowels constipated. eyesight normal, and there is no optic neuritis. Hearing is impaired owing to cerumen. His gait is somewhat unsteady, and the right patellar reflex is absent; left patellar reflex is normal. All his muscles are weak, but the right hand grip is very deficient. There is no loss of sensation.

Pulse, 76; temperature, normal.

There is no deformity of the cranium. Around the centre of the left fronto-parietal suture is an area of tenderness. On pressure the patient experiencing a sensation as if a pin were being run into the scalp. Over this area on the scalp a thick brown gummy excretion is present.

Heart and lungs show no evidence of disease and the urine is normal. A depressed fracture of the inner table or a spicula of bone with meningitis was suspected.

The patient having been prepared for operation on January 31st, 1901, I trephined the skull, removing the cranium over the posterior part of the left middle horizontal frontal convolution and over the leg and arm motor centres. The upper part of Broca's convolution was also exposed, and the lower part of the first horizontal frontal convolution. On incising the dura the brain was seen to completely fill the cranium, but did not pulsate. No depressed bone or spicula was found. The subarachnoidal space was much distended and gave

a milky hue to the surface of the brain. This space was broken into and about two ounces of cerebro-spinal fluid escaped with immediate collapse of the central part of the area exposed. The brain immediately around this area pulsated.

I explored the posterior part of the second horizontal frontal convolution freely, when more fluid escaped, and there was either an indefinite cavity beneath it and in the surrounding convolutions for about one inch in all directions or cerebral softening. There was no distinct cyst wall present. The brain remained collapsed and a silk worm gut drain was inserted into its interior, as well as a second drain between the dura and the skull. The cut dura was sutured up with catgut and the scalp with silk worm gut, the bone not being replaced, and an antiseptic dressing was applied.

February 1st, wound dressed and found looking well, dressings soaked with blood and cerebro-spinal fluid, which fluid continues to flow.

February 4th, re-dressed wound, and part of each drain was removed. Temperature 101° F. Purulent discharge from right ear due to Otitis externa. Ears examined and found to be filled with wax,—syringed out.

February 9th, re-dressed wound, and removed stitches and drains. Wound healed.

February 13th, last dressing. The temperature has been normal since the fourth day after operation. Pulse since operation has ranged from 72 to 90.

For the first few days after the operation the patient experienced some difficulty in articulating, but since that time he has completely regained the power of speech.

March 1st. Patient's general condition has been gradually improving and his appetite is good.

He has completely regained power in his right arm and leg, and can now walk with a firm step and without aid. His memory is good and he again takes an interest in things going on around him. He is bright, jokes, tell stories, and feels well. He has had no pain in the head since the operation, and decided pulsation of the scalp over the area trephined is now present. His right patellar reflex has returned, but is still feeble. He is not able to write a good legible hand.

He says "he feels a new man."

The only way one can account for the rapid and marked improvement in this case is by the relief of intracranial pressure through drainage and the removal of the bone. The deficiency of the brain substance apparently did not involve any very essential area.

# THE PHYSICIAN'S PROFESSIONAL RIGHTS AND DUTIES

BY

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When I thoughtfully consider the subject on which I am to address you this afternoon I am deeply impressed with the dignity and importance of the matter. The study of medicine, including the professional rights and duties of a physician, is one of the noblest pursuits to which the human talent can be devoted. It is as far superior to geology, botany, zoology and a score of kindred sciences as its subject, the body of man, the visible lord of creation, is superior to the subject of all other physical sciences, which do so much honour to the power of the human mind.

The physician is, indeed, one of the most valued benefactors of mankind. Therefore, he has ever been held in honour among his fellow-men; by barbarous tribes he is looked upon as a connecting link between the visible and invisible world; in the most civilized communities, from the time of Hippocrates, the father of medicine, to the present day he has been held in deeper veneration than the members of almost any other profession; even in the sacred oracles of Revelation his office is spoken of with the highest commendation.

In considering the physician's natural rights and duties I will endeavour to confine myself to matters which civil and criminal legislation justly undertake to regulate. One of the chief functions of civil authority is to provide for the observance of contracts. Now, the physician in his professional services acts under a double contract, a contract with the Crown and a contract with his individual patients. By accepting his diploma of M.D. from the college faculty and indirectly from the civil authority, he makes, at least, an implicit contract with the Crown by which he receives certain rights conditioned on his performance of certain duties. In offering his services to the public, he also makes an implicit contract with his patients by which he obliges himself to render them his professional services with ordinary skill and diligence, on condition of receiving from them the usual compensation.

The usual rights are not granted him arbitrarily by the Crown, they are founded in natural justice, but made definite and enforced by human legislation. Take, for example, his right to receive due compensation for his services. This right was not recognized by the

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\* Read before the New Brunswick Medical Society.

old Roman law in the case of advocates and physicians, nor by the common law of England until the passing of the Medical Act in 1858. Surgeons and apothecaries could receive remuneration for their services, but not physicians. These were presumed to attend to their patients for an honorarium or honorary, that is, a present given as a token of honour.

Certainly, if doctors by common agreement waived their right to compensation, or agreed to be satisfied with any gift which the patient might choose to bestow, they would be entitled to honour for their generosity; but they are not obliged to such conduct on the principles of natural justice. For, by nature all men are equal, and therefore one is not obliged, under ordinary circumstances, to work for the good of another. If he renders a service to a neighbour, equity or equality requires that the neighbour shall do a proportionate good to him in return. Thus the equality of men is the basis of their right to compensation for services rendered. The physician's right to his fee is a natural one and on his patients rests the natural duty of paying it. Not to pay the doctor's bill is as unjust as any other manner of stealing.

As to the amount of compensation to which the doctor is justly entitled. By the law of this country, all branches of the profession may recover a reasonable compensation for their services, the amount of which, unless settled by law, is a question for the jury, in settling which the eminence of the practitioner, the delicacy and difficulty of the operation or of the case, as well as the time and care expended, are to be considered.

The main principle regulating all compensation is that there shall be a sort of equality between the services rendered and the fees paid for them. Ignorant people sometimes find fault with the amount charged as a doctor's fee. There may, of course, be abuses by excess; but men have no right to complain that a doctor will ask as much for a brief visit as a common laborer can earn in a day. This need not seem unfair if it be remembered that the physician had to prepare, during many years of primary, intermediate, and professional studies, before he could acquire the knowledge necessary to write a brief prescription. Besides, it may be that his few minutes' visit is the only one that day, and yet he has a right to live in decent comfort on his profession together with those who depend on him for support.

We must, however, remember, on the other hand, that excessive fees are nothing less than theft, for theft consists in getting possession of another's property without just title.

I have said that the rights conferred on the physician by the Crown

was conditioned on his performing certain duties. He owes the same duties to his patients in virtue of the contract, explicit or implicit, that he makes with them by taking the case in hand.

Under ordinary circumstances neither the Crown nor the patients can oblige him to exercise his profession at all; but, if once he has taken a case in hand, he can be justly held not to abandon it till he has given his patient a fair opportunity of providing another attendant, even the fear of contagion cannot release him from that serious obligation.

The duties arising from the physician's two-fold contract with the Crown and with his patients are chiefly as follows:

First: He must acquire and maintain sufficient knowledge of his profession for all such cases as are likely to come in his way. No doctor has the right to attempt the management of a case of which he has not at least ordinary knowledge. The courts justly hold him responsible for any serious injury resulting from great negligence; in such cases they will condemn him for malpractice. I would here remark that in an age in which the science of medicine is making such rapid progress, every doctor is in duty bound to keep up with the improvements made in general practice, and in his own specialty, if he has one.

A second duty is that of proper diligence in treating every single case. Many a person suffers injury to health or even loses his life in consequence of a doctor's neglect. Gross negligence is an offence which makes him punishable by the courts, if it results in serious injury. But even if such injury cannot be judicially proved, or has been accidentally averted, the moral wrong remains and is to be settled with the all-seeing Judge.

A third duty of the profession is to use only safe means in medical and surgical practice. He has no right to expose his patient to needless danger. What is to be thought of such remedies as will either kill or cure? They cannot be used as long as safer remedies are available and capable of effecting a cure; for neither doctor nor patient has a right to expose a human life to unnecessary risk. But when no safer remedies are going to effect a cure, then prudence itself dictates the employment of the only means of success. In such cases, however, the patient, or his parents or guardian, should as a rule be informed of the impending danger, so that they may give or refuse their consent if they please. For next to God, the right to that life belongs to them rather than to the physician. The same duty of consulting their wishes exists when not life, but the possible loss of a limb is at stake, or the bearing of uncommon sufferings.



Moralists teach that a man is not obliged in conscience to submit to an extraordinary painful or revolting operation even to save his life. Certainly when the natural law leaves him at liberty, the physician cannot compel him to submit to his dictation; all he can do is to obtain his consent by moral suasion.

As a consequence from the doctor's duty to use only safe means, it follows that he cannot experiment on his patients by the use of treatment of which he does not know the full power for good or evil. Nor is he excused from his responsibility in this matter by the fact that the experiment thus made on one patient may be very useful to many others. His contract is with the one now under treatment, who is not willing as a rule to be experimented upon for the benefit of others, and if the patient should be willing the doctor cannot lawfully expose him to grievous danger unless it be the only hope of preserving his life. This follows from the principle explained before, that human life belongs chiefly to God, not to man exclusively.

There are various kinds of medical treatment to which we can scarcely have recourse without exposing ourselves to serious evil consequences. Such is the use of cocaine, morphine and in special cases of alcohol. The drugs in themselves are useful, but they often lead to evil results. If the doctor is satisfied that a dose of morphine will do more good than harm, he can, of course, prescribe it. Still, in such matters he must remember that the good effect is but temporary, while its pernicious consequences, especially when habits are thus contracted, are liable to be permanent and cumulative. Besides the good results affect the body only, the evil often affects the body and soul. Many a wreck in health and morals has been caused by imprudent recourse to dangerous treatment, where a little more patience and wisdom would have been equally efficient in curing the bodily ailment without any deleterious consequences.

The sixth duty of a doctor is of a different kind. There exists a tacit and implicit contract between him and his patients that he shall keep their secrets of which he becomes possessed in his professional capacity. It is always wrong wantonly to betray the secrets of others, but the doctor is bound by a special duty to keep his professional secrets, and it is doubly wrong and disgraceful in him to make them known. For instance, if he has treated a case of sickness brought on by sinful excesses of any kind, he is forbidden by the natural law to talk about it to such as have no special right to know the facts. Parents and guardians are usually entitled to be informed of their children's and their ward's wrongdoing, that they may take proper measure to prevent further evil. Besides the doctor is properly in

their service, he is paid by them, and, therefore, his contract is with them rather than with the children. He can, therefore, inform them of what is wrong, but he cannot inform others.

It is a debatable question in Medical Jurisprudence whether the doctor's knowledge of criminal acts should be privileged before the courts, so that he should not be forced to testify to a crime which he has learned from his patients while acting as their medical adviser. By statute, in some of the United States, communications made by a patient to a physician when necessary to the treatment of the case are privileged, and the physician is either expressly forbidden or not obliged to reveal them. Such statutes exist in Arkansas, Indiana, Ohio, Michigan, Montana, Missouri and New York. Such communications, however, must be of a lawful character and not against morality or public policy, hence, a consultation as to the means of producing an abortion is not privileged; not would be any similar conference held for the purpose of devising a crime or evading its consequences.

The practical rule for the doctor's conscience on the subject of secrecy is, that he must keep his professional secrets with great fidelity, and not reveal them except in so far as he is compelled to do by a court of justice acting within its legal power or competency. If so compelled he can safely speak out; for his duty to his patient is understood to be dependent on his obedience to lawful authority.

Besides the rights and duties which arise for the physician from his contract with the Crown and with his patients, there are other claims on his conscience, which proceed from his character as a man, a Christian and a gentleman. As a man, he is a member of the human family, not a stranger dwelling amid an alien race, but a brother among brothers. The maxim of most secret societies is that every member must come to the assistance of every brother member in distress. But the law of nature and of nature's God is wider and nobler, it requires every man to assist every fellow-man in grievous need.

As physicians, as men, you will have duties to the poor, who cannot pay you for your services; they are your fellow-men. The rule of charity for physicians is that they should willingly render to the poor for the love of God those professional services which they are wont to render to the rich for pecuniary compensation. While thus treating a poor patient they should be as careful and diligent as they would be for temporal reward.

In this connection of regard for the poor, allow me to call your attention, gentlemen, to a point which students of medicine are apt

to forget at times; it is the respect which every man owes to the mortal remains of a departed brother. I do not know that a people has ever been found, even among the barbarians, who did not honour the bodies of their dead. For the good of humanity, dead bodies may be subjected to the dissecting knife, but never to wanton indignities. Reason tells you to do by others as you wish to be done by. Ever handle human remains in a humane manner, and as soon as they have answered the purpose of science, see that they be decently interred, if possible.

There are other duties which you owe, not as men, but as Christians. All of us enjoy the blessings of Christian civilization, even those who are not Christians themselves. We are dealt with by others on Christian principles, and we ought to treat others in the same spirit. When your patients are in real danger of death, let them have a good chance to prepare properly for their all important passage into eternity. Give them fair warning of the situation. Doctors and relatives are often afraid of alarming the patients and thus injuring their health. In any case, the interests of the future life are too important to be ignored. For the same reason, the physician should not prescribe such doses of morphine as will render the patient unconscious at a time when he should be preparing to meet his Judge. This would not be kindness, but cruelty.

Lastly, I must consider the duties which a doctor owes to others and to himself as a gentleman. It may not be easy to define what is meant by "a gentleman," and yet to some extent we all know it; we recognize a gentleman when we meet one, we pay him sincere homage in our hearts. We readily allow him to influence us and to guide us. We esteem him instinctively as a superior being, as we distinguish a precious stone from a common pebble; so we value a gentleman for precious qualities exhibited in the beauty of his conduct. His conduct ever exhibits two characteristic marks; a proper degree of dignity or respect for self and a proper degree of politeness or respect for others. Self respect will not allow him to do anything which is considered vulgar, rude or selfish; he will avoid the two extremes, of self-neglect on the one hand, and self-display on the other. His respect for others will make him treat all round him so as to make them feel comfortable in his presence, he will avoid whatever gives him pain or causes embarrassment to even the lowest member of society.

Gentlemanliness has much to do with every one's success in life, and in particular with a doctor's success. It is especially when we are sick that we are sensitive to everything displeasing in the conduct

of others. It is not then the bold thinker or the extensive reader that is the acceptable visitor to the sick room, but the gentlemanly consoler who says the right thing at the right time, whose very eye expresses and whose countenance reflects the thought and sentiment most appropriate on the occasion.

There are most able physicians who are not gentlemen, and there are in the medical profession gentlemen who are rather poor physicians; but, as a rule, I believe, the gentlemen will thrive where the genius will starve. It is more or less the same in other professions. I know learned lawyers to-day who are far from prosperous, while men ten times their inferiors in learning, are getting rich. I remember a most skilful physician, now no more on earth, who was a very genius in the science of medicine; but he was so filthy in his habits that many dreaded his visits and would sooner have a man of less ability and gentler manners as their family physician.

Gentlemen, habits good and bad cannot be put on and off like a dress coat. They are lasting qualities, the growth of years, the result of constant practice and self-denial or self-neglect.

Uniting the external decorum of a gentleman with a thorough knowledge of his profession, and with what is still more important, the virtues of a conscientious man and a sincere Christian, ever true to the sound principles of morality, you will be an honour to yourselves, an ornament to your noble profession, the glory and joy of your Alma Mater, a blessing to the community in which Providence will cast your lot, as the dispensers of health and happiness and length of days to your fellow-men.

# MORGAGNI, THE FATHER OF MODERN PATHOLOGY: AN APPRECIATION AND A COMPARISON.\*

BY

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At this juncture, when the hand of death has taken from our midst the greatest personality in the realm of contemporary scientific medicine and has thus brought to a close the most fruitful chapter in the story of pathological research, we are impelled to look back over the way we have journeyed, in order to see after what manner we have been lead, and, from the gleanings of the past, perchance to hazard a guess at the future.

In the history of Pathology, or more correctly speaking, that branch of it known as Morbid Anatomy, three names stand out conspicuously, Morgagni, Rokitansky, and Virchow. The first of these was more than a morbid anatomist. He may be truly said to have created the scientific method. Rokitansky, intermediate both in time and in achievement, has the somewhat doubtful merit of converting Morbid Anatomy into an exact science distinct from clinical teaching, and more or less remote from practical needs. His chief claim to fame is that he stimulated observation and thus contributed to bring to perfection those methods of diagnosis of which his friend Skoda was at the time the most brilliant exponent, and which have made Vienna for many years the Mecca of the medical student. Of Virchow it is perhaps too soon to speak, for we are still living in the glamour of his perfect method and multitudinous achievements. As a scientist his fame will, however, principally rest on his "Cellular Pathology" which gave the *coup-de-grace* to the hitherto prevailing erroneous conceptions of disease, and transferred the centre of gravity, so to speak, of disease processes from the organ to the cell.

Although separated in point of time by a century and a quarter, the first and last of this illustrious triumvirat , although standing as they do for the old and the new, present many striking resemblances. It is, perhaps, not too much to say that without Morgagni, Virchow could not have been, for it is to Morgagni that we owe that accuracy and completeness of research that is so essentially the modern characteristic and for which his work is scarcely surpassed by that of the

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\* Read at the meeting of the McGill Medical Reporting Society on Dec. 9, 1902.

present German school, which looks to Virchow as its founder and inspirer.

Giovanni Battista Morgagni, the founder of the science of Pathological Anatomy, and one of the most noted personalities of his time, was born February 25th, 1682, at Forli, an ancient and important town about fifty miles to the south of Bologna. His parents were respectable people in good circumstances, and thus the subject of our sketch was enabled to obtain that most important thing, a good preliminary education. Morgagni entered the school of his native town and soon became conspicuous for his attainments, notably in history and belles-lettres, and was distinguished especially for his readiness in classical epigram. He entered the University of Bologna at the age of nineteen, and engaged in the study of philosophy and medicine, graduating as doctor in both faculties three years later with much distinction. His first masters in medicine were Valsalva, Albertini, and de Sandris. He was shortly appointed prosector to Valsalva, who held the important position of "demonstrator anatomicus" in the medical department. Here he assisted Valsalva in the preparation of his famous work on the "Anatomy and Diseases of the Ear" which appeared in 1704, and laid the foundation of that accurate observation which later made him the most distinguished anatomist of his time. When Valsalva was translated to Parma, Morgagni succeeded to his demonstratorship. He very soon made his mark, being elected president of the Academia Inquietorum when only twenty-four years old. Even at this period he showed a tendency to break away from the traditions of antiquity by insisting upon personal observation and by discouraging the prevalent tendency towards abstract speculation. His lectures were further made interesting by the demonstration of anatomical preparations, a new and important departure in the art of teaching. He made several independent discoveries, more especially in connection with the muscles of the hyoid bone, the uvula, and the larynx, and his name is perpetuated at the present day by the *sinus* and *hydatid* of Morgagni. His communications were published under the title of "Adversaria Anatomica," and included observations on the larynx, the lachrymal apparatus, and the pelvic organs in the female, certainly a wide range of subjects. After some time he resigned his position and for the next two or three years gave himself up to researches in anatomy, chemistry, and pharmacy. He then entered upon the practice of medicine in his native place, and the renown of his attainments was so great that he soon acquired a considerable clientèle and was even sought in consultation by physicians much his senior. "Adeo erat in observando attentus, in prædicando cautus, in curando felix," ran the eulogy which might be predicated

of the most successful physicians of the present day. Tiring of this, however, or the scientific spirit proving too strong, he sought an opportunity of returning to academic work. Having made friends with the elder Guglielmini, professor of Medicine at Padua, he was attracted to that seat of learning, and when, on the unexpected death of Guglielmini, Vallisnieri succeeded to the vacant chair, Morgagni was appointed professor of Theoretical Medicine. From this time he taught at Padua with the most brilliant success until his death sixty years later. After three years he was appointed to the chair of anatomy by the Venetian Senate, and thus became the successor of an illustrious line of scholars, including Vesalius, Fallopius, Fabricius, Gasserius, and Spigelius. His stipend was gradually increased until he was receiving the unprecedentedly large sum of twelve hundred golden ducats. His great reputation led to his being elected into many learned societies, among them the Imperial Cæsareo-Leopoldina Academy (1708), the London Royal Society (1734), the Academy of Sciences of Paris (1731), the Imperial Academy of St. Petersburg (1735), and the Academy of Berlin (1754). Among his more celebrated pupils was Scarpa. So proud was the town of Forlì of its distinguished son that to perpetuate his memory in some concrete form they placed his bust, some years before his death, in the municipal buildings, with the following inscription:

J. Bapt. Morgagno, Nob. Forol.  
Patria,  
Inventis, Librisque ejus probatissimis  
ubique gentium illustrata,  
Decrevit A.D. MDCCLXIII.,  
Ponendam in celeberrimo hoc loco  
Marmoream effigiem  
Adhuc viventis.

Morgagni was a man of magnetic personality, tall and robust, with blonde hair and blue eyes,

“And over those ethereal eyes  
The bar of Michaelangelo.”

Of cheerful and agreeable address, he was immensely popular with all classes of society, and his lectures attracted students from all parts of Europe. He was the friend and favorite of distinguished senators, cardinals and pontiffs. Among the latter may be mentioned Popes Clement XI. and XII., and Benedict XIV. No one of any note came to Padua without seeing Morgagni. He was visited by the then King of Sardinia, and was received by Emperor Joseph the Second. All

were impressed by his urbanity and distinguished attainments. As a result of the attention he received he became, perhaps, a little vain; at any rate he was not oblivious of fame, "that last infirmity of noble minds," for we read that he was mightily offended when a foreign scientist referred to him in his work without prefixing the title "illustrissimus" to his name. With the exception of this trifling foible, one could find little fault with his life. The simplicity of his tastes,



G. B. MORGAGNI.

even after he had become rich, caused him to be taxed with avarice. Yet we find him contributing for many years to the support of a poor man who had saved him from drowning in childhood. He led an even, contented, and happy life. A deeply religious man, and perhaps because of this, he yet believed in judicial astrology, in spite of his strong rationalistic turn of mind.

Unlike many, he was enabled happily to gratify his supreme passion, the thirst for knowledge, in the way that best suited his tastes and disposition. His death occurred at the advanced age of ninety years, after a life full of honour and usefulness.

Morgagni was a man of profound scholarship and wide sympathies and his attainments may well strike us with astonishment. Apart from his more scientific studies, his writings on philology, archæology, literature and history were numerous, proving that he lived in an age when broad culture was still appreciated. Among his works of this class may be mentioned his letters to Lancisi on the "Manner of Cleopatra's Death," Commentaries on Celsus and Sammonicus, notes on Varro, Alpinus, Vegetius, Columella, and Vitruvius, and archæological papers on the districts round Ravenna and Forli. During the first few years of his career at Padua, he produced several series of *Adversaria Anatomica*, largely on controversial points, for he had



become involved in a dispute with Bianchi on the structure of the liver, but for the next twenty years his medical publications were few and far between, including only the "Nova Institutionum Medicorum Idea," the "Vita Guglielmini," notes on gall-stones, varices of the vena cava, calculi, and memoranda on medico-legal subjects. In 1740 he brought out an edition of the "Works of Valsalva," with plates, to which he contributed a Life, a Commentary, and many additional notes of his own. It was not until 1761, when he was in his eightieth year, that he published the work that rendered him immortal, laid the foundation of our present exact methods of research, and transformed the spirit of medicine. This was the "De Sedibus et Causis Morborum per Anatomem Indagatis Libri quinque," which leaped at once into popularity, going through three editions in four years, and before his death in 1771, had been translated into French, English and German. The work was confessedly based upon that of Théophile Bonet of Neuchatel, entitled "Sepulchretum: sive Anatomia Practica ex Cadaveribus Morbo Denatis," the first systematic treatise on Morbid Anatomy that had hitherto appeared, which was published at Geneva in 1679. This work enjoyed great reputation in its day. For Haller speaks of it as "an immortal work, which may in itself serve for a pathological library."

Bonet's production dealt with the subject under four heads: first, diseases of the head; second, those of the thorax; third, organic lesions of the abdomen; and fourth, diseases the seat of which was unknown. In the last group were placed tumours, plagues, syphilis, fevers, and gout. The book represented much labor and patience, but would now be considered as of little value. It dealt mainly with curiosities and monstrosities, and was compiled largely from other men's observations, regardless of their authenticity. Bonet lacked the critical faculty and his work is diffuse, inaccurate, and misleading, on account of his ignorance of normal anatomy. Further, it lacked an adequate index so that its contents were not readily accessible. Of its shortcomings Morgagni was well aware and refers to them at some length, but in his criticism perhaps did Bonet less than justice, considering that he had the immense advantage of living some eighty years subsequent to that author.

Morgagni in his preface tells us in a very modest and simple-minded way how for a long time he had entertained the idea of supplementing Bonet's work as he was conscious of many defects in that renowned production which he felt he could remedy by bringing to the subject the wealth of his own observations and that of his master, Valsalva. Besides, however, the very laudable desire to perfect and

supplement previous work, his practical common-sense asserts itself, for, he says, "I have had two views in publishing these writings, the first that I might assist the studies of such as are intended for the practice of medicine; the second, and this the principal view, that I might be universally useful, though this cannot happen without the concurrence and assistance of the learned men in every quarter."

He had finished his edition of Valsalva in 1740, and it came about that he was enjoying a holiday in the country together with a young friend who was curious in many branches of knowledge. In the course of conversation, the *Sepulchretum* of Bonet was referred to, and the young man suggested that Morgagni should place on record his own observations. This he was the more ready to do as it coincided with his own inclinations, and it was soon arranged that he should write letters on the anatomy of disease for the information of his young friend. The idea was carried out until seventy letters in all were the result. After the beginning of the undertaking many controversial points began to be agitated so that although he did not alter what he had written on account of the labor involved, he was careful for the future, as he said, to give no one a justification for complaint. With characteristic modesty and greatness of mind, he simply took his stand on his facts, allowing others to dissent or not as they pleased from his interpretations of those facts. This he did "Because I should otherwise be afraid, lest, when speaking from opinion only, notwithstanding I make probability my guide, somebody should nevertheless rise up and retort upon me agreeably to what Homer says (*Odyss. L. 19*) 'Dixit mendacia multa, dicens veris similia,'" His work has been criticised on the ground of its discursiveness, but he explains that in order to give the weight of personal experience to his writings, he took care to intersperse other remarks relative to the practice and history of medicine and the history of anatomy, with many other things relative to the studies and pursuits of the young gentleman to whom he addressed the letters, and this with the further intention "to withdraw his imagination for a while from the horrid and perpetual idea of diseases and dead bodies."

The subject is handled in five books, dedicated respectively to Trew, Bromfield, Senac, Schreiber, and Meckel, as representing the various learned societies of which he was a member. These were; first, diseases of the head; second, of the thorax; third, of the abdomen; fourth, general and surgical diseases; and, fifth, of such other things as may be added to the other four books. The work is based upon the results of some six hundred and forty autopsies occurring generally in his own experience, but occasionally taken from notes of Valsalva

and Albertini not previously published. It would take up too much space to give one of his protocols in detail, but the cases are well and systematically arranged and given with a precision and completeness characteristic of more modern work. The clinical symptoms and the antecedent circumstances are given with completeness and are afterwards discussed in the light of the pathological findings. Morgagni's reverence for his old teacher everywhere comes out, for, whenever possible, he gives Valsalva's opinion first and then supplements it with his own. Frequently he goes off in a long digression on General Pathology and Therapeutics in which his thorough scholarship comes out in his numerous references to former and contemporary literature. His work differs from the modern text-book on Morbid Anatomy in the point of view. He approaches his subject from the clinical side and the various symptoms determine the order of the presentment of the anatomical lesions. It was not until twenty years after the idea was first conceived that his work was given to the world as a systematic treatise in two folio volumes under the title "*De Sedibus et Causis Morborum per Anatomem Indagatis Libri quinque*" (Venetiae, 1761).

Before we can estimate the work of Morgagni at its true value we must understand fully the state of Medicine at his time, for it would be manifestly unfair to judge him according to the standards of the present day.

Ever since the time of the Alexandrines and the Arabians, medical science had lain fallow, and it was only in the thirteenth and fourteenth centuries that signs of life became manifest in common with that remarkable renaissance of thought which spread over Europe at this time. Medical practice followed the tenets of two main schools, the Galenists and the Chemists, the former of which was hide-bound by tradition, and the latter unscientific and purely empirical. It was impossible for medical knowledge to advance until the restrictions were removed from the study of anatomy through dissection of the human body, so that theory could be tested by observation.

The first school of literature, law and medicine, was Bologna, which in the thirteenth century had more than ten thousand students, and for more than four hundred years retained an easy preeminence in the realm of thought. At the beginning of the fourteenth century, Mondino di Luzzi, called the "Restorer of Anatomy," filled the chair of Medicine, which at that time included Anatomy, and obtained permission to dissect an unclaimed human body. Mondino is said to have dissected two female subjects, and later published a text-book of Anatomy entitled "*De omnibus Humani Corporis interioribus*

membris Anatomia," which for two hundred years was the standard authority. From this time on until the sixteenth century there is but little progress to record. Then the work of Berenger, who is noted as having introduced the mercurial treatment of syphilis, Sylvius, Etienne, and Servetus (burnt by Calvin) paved the way for most remarkable developments. Vesalius (1514—1564), perhaps the greatest anatomist that ever lived, revolutionized anatomy, and in his "De Humani Corporis Fabrica," dealt a death blow to the Galenical philosophy.

Many able men were now led to think and observe for themselves, among whom may be mentioned Eustachius, Fallopius, Varolius, Colombo, Fabricius, and Casserius. The inductive method of reasoning, which we associate with the name of Lord Bacon, as well as the philosophical systems of Cartesius and Spinoza, gave a profound and lasting impetus to the pursuit of the natural sciences, and the employment of the microscope, with the notable anatomical and zoological researches of van Leeuwenhoeck, and more than all Harvey's great discovery of the circulation of the blood, did not a little to establish the art of Medicine on a scientific basis. Malpighi (1628—1694) was the first to employ the microscope in the study of Anatomy and by his numerous discoveries may be truly said to be the founder of the science of Histology. It is the glory of the Italian schools that they were the first to break away from tradition and, building upon a foundation of accurate observation, thus created the science of Descriptive Anatomy. The mere mention of the names of Eustachius, Fallopius, Aranzio, Varolius, Botallus, Malpighi, Valsalva, and Morgagni, serves to remind us of what we owe to Italy.

Previous to Morgagni the normal anatomy of the human body had been fairly fully and in some parts exhaustively written, but any attempts at describing diseased conditions had been desultory and tentative. There were not wanting, however, those who attempted to find the hidden causes of disease in the dead body. Antonio Beneveni (born 1540) was, perhaps, the earliest of these, and with him may be mentioned Eustachius, Coiter, Colombo, Paaw, Nicolas Tulpius (immortalized in Rembrandt's great picture "The Anatomy Lesson" at The Hague), Panaroli, Wepfer, Ruysch, Peyer, Glisson, and Bonet. Glisson (1597-1677), appears to have been familiar with the idea of systematically comparing the organs in a series of bodies and noting the lesions that invariably accompanied a certain train of symptoms, and Harvey remarks that there was more to be learned from the dissection of one person who had died from consumption than from the bodies of ten persons who had been hanged. Up to the

time of Morgagni the causes of disease were, however, still looked for in certain occult principles only poorly understood. During the seventeenth century three main views were held as to the causation of disease. One was the "mystic" idea of natural philosophy, of which van Helmont was the leading exponent. He personified the vital principle under the name "Archæus," and recognized an Archæus insitus (imported) and an Archæus influus (congenital). An abnormal condition of the Archæus, the so-called "Idæa morbosa," controlled the development of disease. The second was the "Chemico-therapeutic" and "physico-therapeutic" idea. The most important representative of the former school was Sylvius (1614—1672), who correctly enough based the practice of medicine on anatomy, physiology, and clinical observation, but explained disease processes as "fermentation," in which, perhaps, he was not so hopelessly wrong, but he further believed that the "acrimony" in the blood was due to what he called "volatile" and "animal" spirits. The third school was the Hippocratic, of which our own Thomas Sydenham was the leading representative. He was the first to advocate a thorough systematic examination of the patient. With Hoffman (1660—1742), Stahl (1660—1754), and Boerhave (1668—1738), the preeminence in medicine so long enjoyed by Italy passed to Germany and Holland, and Leyden now became the medical metropolis, only to pass on the torch of learning to Vienna through the influence of van Swieten, the distinguished pupil of Boerhave. With the conflicting views of disease prevalent at this time, all of them based upon theory, we can understand how necessary it was for some master-mind to systematize what was known and to direct scientific thought into proper channels. As we have seen, morbid Anatomy is the legitimate offspring of normal Anatomy, and Morgagni is thus the scientific son of Vesalius, Fallopius, Spigelius, and Valsalva. It was both natural and fitting that he should have gained his inspiration at Bologna and should carry on the tradition of the school made famous by his illustrious predecessors.

It was Morgagni's great merit that he introduced precision into the descriptions of disease, based his views upon personal observation, and tried to harmonize the clinical manifestations of disease with the morbid appearances. He was the first to comprehend and teach the necessity of basing diagnosis, prognosis, and treatment upon the anatomical basis of disease. To a large extent he broke loose from the traditional conceptions of disease prevalent in his time and attempted to establish medicine on a rational basis. In this he was immeasurably ahead of his time, and, although his book is in some particulars open to criticism, for many better books have been written

than the De Sedibus, his method of attacking the subject is essentially the one we employ to-day. He, however, like some who have come after him, often erroneously regarded the effects of disease as its cause. Morbid Anatomy was, in his opinion, of value even when it did not contribute directly to the cure of disease, from the fact that it threw light upon the problems of Physiology and normal Anatomy, and suggested the lines upon which palliation might be attempted. It is to Morgagni to whom we owe the aphorism that Observations should be weighed and not counted. In the orderliness and precision of his methods, his exhaustiveness and freedom from prejudice, Morgagni is singularly modern. It may be truly said that Morgagni once and for all established on a firm basis those great principles that underlie our modern methods of scientific research, not only in medicine, but in natural philosophy in its widest sense. Symptoms were no longer placed together in arbitrary groups but began to be viewed as "the cry of the suffering organs" and the new method placed on a broad scientific basis Sydenham's grand conception of a "natural history" of disease. Morgagni's work substituted localization for generalization, and precision for vagueness. It is not too much to say that Lænnec's invention of the stethoscope to wrest their secrets from the heart and lungs and Bright's endeavor to discover the condition of the kidneys by means of chemical tests applied to the urine were the direct results of this new conception.

While it is true that Morgagni was the first to grasp those great underlying principles that should guide us in the investigation of disease, it cannot be denied that he came far short of establishing a complete system of Morbid Anatomy. He could not entirely shake himself free from the erroneous conceptions of disease prevalent in his day. Although the microscope was in use before his time, he does not appear to have employed it in his investigations. The science of Histology was in its swaddling-clothes, that of Pathological Histology was still to be born. It was only after the comparatively recent perfection of the microscope that it became possible to spell out the language of disease and create an exact science as Virchow did. To the employment of instruments of power and precision we owe the doctrine of the "cellular pathology" but the spirit of the research is Morgagni's. Morgagni created no System of Medicine, and erroneous and conflicting views persisted up to the middle of the nineteenth century. Virchow cleared away the mists that obscured the mirror of truth and did more than any other man to transform medicine from an art into a science. Morgagni in creative power was a hundred years ahead of his times; Virchow was the sublimated product of

preceding ages. Morgagni possessed the nimble, prehensile mind of the Italian: Virchow was the type of the plodding, conscientious, and moreover practical German. Like Morgagni, Virchow was a man of wide sympathies, but while Morgagni was always somewhat of a dilettante, dazzling by his brilliancy, and interesting himself largely in literary and antiquarian questions, Virchow was the essentially practical man of science, a politician in the full sense of the word, busying himself with everything that could ameliorate the lot of man. This one thing, and this the most important, Morgagni and Virchow possessed in common, the love for and the endeavor after truth, the hall-mark of the true scientist. Considered in relation to the age in which he lived and the limitations by which he was bound, Morgagni was one of the brightest spirits in the history of Natural Science. To comprehend and establish the unchanging principles that should underlie all scientific research is no doubt more than to rigidly apply those principles, but while we may, therefore, be disposed to award the palm of genius to Morgagni, yet Virchow was undoubtedly the greater man.

It may be safely said that with Virchow closes one great chapter in the history of Pathology. His period was the time of accurate observation and description. The manifestations of disease are now well understood and what may be called the "regional" morbid anatomy has been described and re-described until further advance is likely to be trifling. Every pathologist knows how hard it is, for instance, to discover a new tumour, and in the future we can only expect that our knowledge will be perfected in some minor points. The efforts of the next generation will be taken up with the problems of the causation of disease, and the manner in which it brings about its effects. What we need now is a second Morgagni to point the way to a philosophy of Pathology. The concrete manifestations of disease are well known; the theory of disease and especially the therapeutics are still somewhat nebulous. And just here we may stop to consider if we are not in danger of being led astray. With the predominance of the German school in the domain of medical thought, there is at present a notable tendency towards minute and more or less desultory investigation. May we not have too much of a good thing? There is in Pathology, and here I use the term in the widest sense as the doctrine and manifestation of disease, a regrettable tendency towards excessive specialism. We are too apt to separate in our thought and teaching clinical observation from morbid anatomy which is the foundation of the whole edifice. Our clinicians should be to-day as they were of old, well-equipped pathologists, and

our pathologists should make the best clinicians. In this we need to get back to the spirit of Morgagni. He was at one and the same time a renowned anatomist, a skilled pathologist, a brilliant teacher, and a successful practicing physician. His scholarship, his breadth of sympathy, his appreciation of other men's work, and his practicality, stamp him as being above the besetting sin of the latter-day specialism. We need more than ever to draw our inspiration from the past, and cultivate those broad principles, in short the "humanities," which do more than anything else to elevate our calling as physicians to the dignity of a liberal profession.



# RETROSPECT OF CURRENT LITERATURE.

## Surgery.

UNDER THE CHARGE OF GEORGE E. ARMSTRONG.

### **The Treatment of Inoperable Cancer.**

A discussion on this most interesting subject engaged the attention of the surgical section of the late meeting of the British Medical Association for a time. These cases are not at all uncommon; if referred to the hospital by the general practitioner, they generally do him harm, because they will infer that he must be lacking in knowledge to have sent them there (often at some trouble to themselves) when nothing could be done. The discussion was participated in by Henry Morris, G. T. Beatson, Thomas Bryant and other distinguished English surgeons.

After defining "inoperable cancer" as (1) primary cancer affecting inaccessible parts, (2) cases of acute diffuse cancer and very rapidly growing infiltrating growths with no well defined border line, and (3) recurrences of the disease in multiple metastatic foci or in an inaccessible focus, Mr. Morris went on to show that treatment meant one or two things:—(1) The employment of remedies other than the knife to cure, ameliorate or retard the growths. (2) The employment of the knife to relieve pain, prolong life, restore function or otherwise to ameliorate the patient's condition.

The different points made by the participants in the discussion were as follows:—

(1) That many cases now operated upon by extensive operations should really be transferred to the inoperable class. In other words, that cases so extensive as to require hours for their removal were so very liable to metastatic recurrences, even if they did not recur locally, that the result would not justify the risks of such an operation. These remarks refer especially to cancer of the stomach, intestines, body of the uterus, and some mammary recurrences.

(2) That more use should be made of the curette followed by cau-

terization to arrest these growths and keep them in reasonable grounds, and at the same time to render them less painful.

(3) Regarding toxins and serum-therapy, the difficulty is that all these agents are purely empirical and must remain so until the cancer germ, or whatever is the cause of cancer, is determined and isolated. Coley's injection of mixed serums only claims to be of service in sarcomas, and of the spindle-celled variety at that, and even there it has not always proved good. So also for the other serums, toxins and chemical substances which aim at the disease through the general circulation and not locally.

(4) Beatson's treatment, removal of the ovaries followed by thyroid feeding, is applicable only to mammary cancer and not reliable. In cases of inoperable recurrence there have been some results which might justify a trial.

(5) X-rays and Finsen's light are specially applicable in rodent ulcer, not only because of the excellent cosmetic result, but also because they bring out foci which would not otherwise be apparent. There are cases which will prove intractable, and here it would be wise to first excise and then use the light or rays to complete the cure. This is most valuable, and will probably be more done in future. In superficial forms of inoperable cancer (carcinoma and epithelioma especially) the use of the X-rays does seem to arrest the growth even though it does not cure, and its analgesic effect is always most marked, more so than perhaps any other agent. In deep-seated cancer the results from this treatment have not been satisfactory.

(6) That many inoperable cases have been rendered so by the failure of early operation, which in all forms still remains our best prophylactic.

### **Prostatic Hypertrophy.**

One gets almost wearied of this subject just now, when it is almost impossible to open a surgical journal without reading some article upon it. It seems to me pretty well settled that surgical treatment of some kind forms the only permanent prospect of relief from catheter life with all its accompanying discomforts and risks, and the battle at present is being waged between the advocates of the perineal route on the one hand and of the suprapubic route on the other, in order to reach the gland. Once it is reached, there are almost as many ways of treating the enlargement as there are operators. One shells the gland out of its capsule, though no two quite agree as to what constitutes the capsule. [One would think that Sir Henry Thompson's most careful directions had settled that point at least.] Another operator only excises as much of the prostate as is in his judgment

hypertrophied, and thus frees the urethral obstruction. Still another will treat the enlargement with the actual cautery, applied either through a suprapubic opening or as in Bottini's operation.

A most interesting discussion on this subject took place at the last meeting of the British Medical Association, which was participated in by P. J. Freyer, Prof. Alexander, Sir William MacEwen, Jordan Lloyd, Reginald Harrison and others. It seems as though the suprapubic route to the prostate was rather losing ground and the perineal route becoming more popular as the future operation, though the question is still much debated, and many good men differ on it and differ strongly. The suprapubic operation is the easier, gives a good view of the field of operation, and also gives the operator complete knowledge of the intravesical conditions and their treatment, especially so if any calculus is present. Against it is the fact that you have made an extra opening in the bladder and one which does not give as good drainage as the perineal opening would. Moreover, the advocates of the perineal operation claim they can enucleate the prostate without opening the bladder at all, only the prostatic urethra.

In the November number of the *Annals of Surgery*, Dr. John P. Bryson, of St. Louis, Mo., advocates a sort of combination of suprapubic and perineal operation. He makes a suprapubic incision through the space of Retzius down to the bladder, carefully avoiding the peritoneum. Then, with the fingers of the left hand introduced into the wound, he presses the bladder well down upon the perineum, in which had been made the ordinary perineal incision into the prostate. In this bimanual way, he claims, he can easily with the forefinger of the (right or operating) hand shell out the enlarged prostate through the perineum. Ferguson, of Chicago, pulls down the prostate into the perineal wound with a blunt hook passed into the bladder over the gland, while some Continental operators use a small inflatable rubber ball upon the end of a handle, for the same purpose.

In the December number of the *Annals of Surgery* is a well written and most exhaustive article on the "Pathology of the Enlarged Prostate," by Dr. Crandon, of Boston, which will well repay perusal by anyone interested in this subject.

### **A Standard of Technique in Surgical Operations.**

Dr. Edward Wallace Lee, of New York, makes a plea for this in an article published in the *New York Medical Journal* of November 8, 1902. He points out that surgical literature is full of such expressions as "the ordinary aseptic precautions being taken," "the patient having been prepared in the ordinary way," etc. He declares that these expressions have a different meaning or value for each operator or writer,

and pleads for some definition of these meanings—some fixation of a standard.

While we admit the truth of Dr. Lee's statements and agree with him that his ideal is a good one, we do not see how it can be brought about in the present ceaseless change of operative technique. It appears to us to be too early to begin standardizing in surgical technique, and as the tendency is always towards simplicity we do not stand to lose anything by the delay. The author of the article has himself no practical suggestions to offer and is content to have raised a very interesting question.

### Rubber Gloves.

Dr. Robert T. Morris, of New York, has an article on this subject in the *New York Medical Journal* for November 22, 1902. He prefaces his article by the statement that "rubber gloves seem to be at their height of popularity in surgical work in this country, although they are being discarded apparently in Europe, where they received first attention." (?) His main contention against the use of gloves in clean cases is that the operation could be quicker done without them, and therefore the resistance power of the tissues of the patient is lowered, rendering him more susceptible to the action of air-borne bacteria, which will for the same reason have greater chance of access to the tissues. He thinks that the new crops of bacteria which are set free from the deeper layers of skin of the operator's hands as the operation progresses may very safely be left to the care of the best of germicides—the blood serum of the patient. Hence he deprecates frequent washing of the hands while operating unless, of course, they have touched something septic. Speed, and as little as possible, injury to the tissues, are the two great requisites of good modern surgery, and given these we may safely ignore the dangers which rubber gloves are designed mainly to overcome. He freely admits that many cases demand the use of gloves, *e.g.*, infected cases (for the surgeon's sake as well as those he may afterwards touch), diabetic patients, whose blood serum is deficient in germicidal power, and cases of that kind. Many of his conclusions will be denied by good operators, and, while personally I do not use gloves in clean cases, I am not at all ready to say that those who do are in the wrong. In the majority of cases it may well be safer to wear them.

J. M. E.

# Otology.

UNDER THE CHARGE OF FRANK BULLER

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ALEXANDER... "Histological Study of Tumors of the External Ear."  
*Archives of Otology, October, 1902.*

GRIMMER. "A Contribution to the Pathology and Diagnosis of Tuberculous Otitis Media." *Ibid, June, 1902.*

Alexander gives the clinical and histological notes of fifteen cases of tumor arising in the rarely visited external ear. Eight of the growths belonged to the connective tissue group, while seven were classed as epithelial tumors. Briefly, the cases were as follows:—

Case 1.—Papilomatous fibroma molle.—A tumor about the size of a pea arising by a *narrow* pedicle behind the tragus of the right ear and the entrance to the auditory canal.

Cases 2, 3.—Cheloids.—One case grew from the vicinity of the scaphoid fossa at the site of an old scar; the other from the usual situation—the lobule which had suppurated as a result of piercing.

Case 4.—Tuberculous granuloma of the lobule.—Consisting of two small knotty growths, one on the lobule, the other on the antitragus of a patient showing definite pulmonary tuberculosis. The origin attributed to suppuration following piercing of the ears eight years previously.

Case 5.—Angioma cavernosum.—A reddish blue growth about the size of a pea with an irregular surface and rather broad pedicle which had developed in a few weeks on the left auricle anterior to the scaphoid fossa in a male *æt.* 30.,

Cases 6, 7, 8.—Endotheliomata of the lymphatic vessels.—The two cases, accompanied by clinical notes, occurred respectively in a male and female, both 53 years of age.

Cases 9, 10, 11.—Flat-celled carcinomata, occurring respectively in two males *æt.* 76, and a female *æt.* 65. Two of these cases began in a blister from which the ulcerated area developed; the other was attributed to frostbite. All originated in the helix, the usual situation, according to Zeroni, for this form of growth, because of degenerative changes at this most exposed portion of the auricle. The tendency to destruction of cartilage was also marked in all three cases.

Cases 12, 13.—Cylinder-celled carcinomata.—One case, in a male *æt.* 54, began as a warty growth at the meatus following a sero-sanguineous

discharge from the right ear. It gradually involved the whole extent of the external auditory canal in spite of numerous operations, and extending behind the auricle and into the parotid glands ended fatally. The other case, an old lady *æ*t. 70, after having a watery discharge from the left ear for two or three months, developed a small growth in the external auditory canal, and soon after a similar tumor over the mastoid. Removal with the curette was followed three years later by recurrence, but no secondary return of the growth was present at the time of the patient's death, from other causes, five years later.

Cases 14, 15.—Atheromata.—One case consisted of a fluctuating tumor the size of a goose's egg attached to the lobule of the ear in a male *æ*t. 46. The other was a small tumor springing from the upper wall of the auditory canal in a lad of 18 years.

With a view of determining a clearer clinical picture for distinguishing the tuberculous from the non-tuberculous, and also of ascertaining what methods of pathological and bacteriological investigation can be held to establish an indisputable diagnosis during life, Grimmer studied, both clinically and pathologically, a series of nineteen cases in the Royal Infirmary and the Laboratory of the Royal College of Physicians, Edinburgh. The conclusions reached were as follows:—

1. Advanced tuberculous changes may be present in the mucous membrane of the tympanum and of the tympanic membrane itself without producing visible evidence through the external auditory meatus.

2. The membrana propria of the drum head offers marked resistance to tuberculous infiltration, and is only destroyed by a process of erosion. This resistance also accounts for the frequency of multiple perforations in tuberculous cases.

3. Latent tuberculous naso-pharyngeal adenoids and all other latent foci must be excluded before deciding that any case of middle ear tuberculosis was of primary infection.

4. A high percentage, probably 65-70%, of cases of suppurative otitis media with neighbouring bone lesion, in children under five years are tuberculous; in older persons not more than 16% of similar cases are tuberculous.

5. Intraperitoneal inoculation of guinea pigs is a good and reliable method of proving the presence or absence of tuberculosis in granulations from the middle ear. Reliable proofs may also be obtained by examining microscopically such granulations or even an enlarged mastoid gland or naso-pharyngeal adenoids when present.

6. In cases of suppurative otitis media the absence of ear pain, early and extensive destruction of bone, early facial paralysis, multiple per-

forations, pale flabby granulations with caseous points in the meatus about a mastoid sinus, and in the mastoid antrum, and an enlarged mastoid gland, point strongly to the disease being tuberculous.

7. The detection of bare bone with the probe through the meatus, the character of the discharge, facial paralysis, and extensive destruction of bone appearing as a late symptom are of doubtful value in arriving at a diagnosis, while the presence of cholesteatomatous masses is positively opposed to tuberculosis being present.

*W. Gordon M. Byers.*

## Reviews and Notices of Books.

A PRACTICAL MEDICINE SERIES OF YEAR BOOKS. Comprising ten volumes of the year's progress in medicine and surgery. Vol. vii, *Materia Medica and Therapeutics, Preventive Medicine, Climatology and Forensic Medicine.*

The article on *Materia Medica and Therapeutics* is written by Dr. Geo. Butler, who has given us a concise and interesting summary of the year's progress in *Therapeutics*. In his introduction, he says: "In reading the literature of the past year, it is noticeable that less progress has been made in the line of therapeutic investigation than perhaps in any other branch of medicine. While numberless new remedies have been manufactured, the majority of these are only combinations of old remedies for which credit must be given to the manufacturing pharmacist rather than to the chemist. Real advances in our knowledge of the physiological action of drugs have been few. Therapeutic measures, other than drug medication, such as hydrotherapy, massage, phototherapy, and electricity, have during the past year been more relied upon than formerly. New fields of usefulness have arisen for many of our old and more familiar drugs, such as carbolic acid, cocaine, atropine, etc., and to these more attention has been paid than to the many synthetic or proprietary preparations that appear almost daily and which lack the test of time to prove their value." This small volume as a work of reference for the ensuing year will doubtless prove of value to the general practitioner.

MORPHINISM AND NARCOMANIA FROM OTHER DRUGS. Its Etiology, Treatment and Medico-Legal Relations. By T. D. Crothers, M.D. W. B. Saunders & Co., Philadelphia. Canadian Agents, J. A. Carveth & Co., Toronto, Ont.

Every year the increasing prominence of this psychosis calls for more exact studies and a fuller recognition of the conditions and causes of its existence. The special object of this work has been to group general facts, to outline some of the causes and symptoms common to most cases, and to suggest general methods of treatment and prevention. The writer claims for the volume that it is a practical summary of his clinical experience extending over a quarter of a century in the active treatment and care of narcomaniacs. He has entered a comparatively



untrodden field, for although morphinism has been discussed by the profession for many years, the literature on the subject is still limited and unsatisfactory. The volume opens with a preliminary survey of this new field of psychopathy; then takes up consecutively the etiology, symptomatology, prognosis and termination of each class of case. In regard to the question of the gradual or rapid withdrawal of the drug in a case of morphinism, the writer says: "If the addiction is a newly acquired one in a person previously well and free from neurotic strain, a rapid withdrawal is the most practicable." If the habit is of some standing, the withdrawal must be more gradual. The conditions present are always neurasthenia and anæmia in addition to various functional disorders which are made worse by concealment with drugs and with the narcotism of morphine. It is first necessary to find out the amount of morphine the person takes and so far as practicable correct the digestive disturbances which exist. The next step is to stop the morning dose of morphine and to concentrate the amount given from noon to six in the afternoon. To compensate for the morning dose, baths are given with a stimulating diet containing a considerable amount of hot milk if the stomach will bear it. In a few days, when the system is accustomed to this change, the afternoon dose is reduced by one half, and then as soon as practicable, the time varying according to the condition of the patient, a still further reduction is made. In from ten to fifteen days later the morphine can be entirely abandoned. Then comes the third step of treatment for the withdrawal symptoms. Efforts now must be directed towards diminishing their intensity, particularly that of the insomnia and restlessness. To this end prolonged hot baths, electricity, strychnine nitrate and a careful dietary, are all recommended. We have much pleasure in recommending this volume as a clear, concise and in every way admirable presentation of a difficult subject.

A. D. B.

SYSTEM OF PHYSIOLOGIC THERAPEUTICS. Vols. 3 and 4.—Climatology, Health Resorts, Mineral Springs. By F. PARKS WEBER, M.A., M.D., F.R.C.P., with the collaboration for America of Guy Hinsdale, A.M., M.D. In two books:—(1) Principles of Climatology, Ocean Voyages, Mediterranean, European and British Health Resorts. (2) Health Resorts of Africa, Asia, Australasia and America, with chapters on Special Therapeutics. Illustrated with maps. P. Blakiston's Son & Co. Canadian Agents, Chandler & Massey, Ltd., Toronto and Montreal.

The subject of climatology is still somewhat in its infancy; its importance has not yet been fully recognized by the profession. To Sir Herman Weber we are indebted for most of our knowledge of its

possibilities. The present volume is by his son, assisted, especially as regards American health resorts, by Dr. Guy Hinsdale. Necessarily such a work must, to a great extent, be a compilation, but it appears to be accurate and readable and will be found of great value as a work of reference. Its opening chapters on Climato-therapy should be read by all.

Only in recent years are we beginning to appreciate the importance of this means in the treatment of disease. Climate itself is, however, a very unstable agent, the variations of which cannot be foreseen. Fortunately, other agents of a more constant character can be associated with it for the benefit of our patients, such as mental rest, cheerful surroundings, open air life, altered diet, and sometimes the use of mineral waters. In prescribing climate, we have to consider also not only the effects on the patient when he arrives at his journey's end, but also the effects that may arise from the journey itself, and from the patient's removal from home surroundings. It is, therefore, evident that much care and thought must be given to the subject if we would obtain the greatest good for our patients. Haphazard prescriptions of climate are apt to be as valueless, sometimes as dangerous as haphazard prescriptions of drugs. Nevertheless, treatment by climate and in health resorts often succeeds, especially in chronic cases, when ordinary medicinal treatment, and sometimes every kind of treatment at home has failed. To such as are in search of the necessary knowledge to guide them in advising their patients we have much pleasure in recommending these two volumes, which contain not only the latest knowledge in regard to the various places which may be used as health resorts, but much practical advice in making a suitable selection. The volumes are well printed and contain numerous maps, which are of much service in illustrating the text.

A. D. B.

A LABORATORY GUIDE TO THE STUDY OF QUALITATIVE ANALYSIS.

By E. H. S. Bailey, Ph.D., Professor of Chemistry, and Hamilton P. Cady, A.B., Assistant Professor of Chemistry in the University of Kansas. Fourth Edition. 12mo., 235 pages. Published by P. Blakiston's Son & Co., 1901. Price, in cloth, \$1.25 net. Canadian Agents, Chandler & Massey, Ltd., Toronto and Montreal.

The aim of the authors has been to produce a book which would enable a student to successfully carry on the work of qualitative analytical chemistry without the constant assistance of an instructor. Every precaution which a considerable experience could suggest has been

taken to guard against sources of error. Nevertheless it is recognized that for the most successful performance of the work, "elbow instruction" is still invaluable. This volume will, however, prove of great assistance to the student.

NOTHNAGEL'S ENCYCLOPÆDIA OF PRACTICAL MEDICINE, American Edition, Vol. II. Variola, Vaccination, Varicella, Cholera, Erysipelas, Whooping Cough and Hay Fever. W. B. Saunders & Co., Philadelphia, 1902. Canadian Agents, J. A. Carveth & Co., Toronto.

For general excellence in the treatment of the subject matters, this volume compares favorably with the first volume of the series. Special mention must be made, however, of the article on Vaccination (including Variolation), by Dr. H. Zimmermann, of Basel. It is safe to say that nowhere can there be found a more lucid and comprehensive presentation of the subject, or a more complete and satisfactory vindication of vaccination as a measure of public health. The article should be in the hands of every practising physician, who will find in it every argument necessary to overcome the prejudice of the most rabid antivaccinationist—if there be any such that are open to reason. The articles on Variola, by Dr. H. Zimmermann; Varicella, by Th. von Jürgensen; Asiatic Cholera and Cholera Nostras, by C. Liebermeister; Erysipelas, by H. Leuhartz; Whooping Cough, by G. Sticker, are all excellent and have been brought up to date by the editor, Sir J. W. Moore, of Dublin. An omission that strikes one in the article on whooping cough is the absence of any discussion on the bacteriology of that disease. Both this article and that on hay fever show great erudition and wide reading of both ancient and modern writers. The latter topic is treated in a controversial way that not only adds to its interest, but may afford not a little amusement to the curious reader.

Vol. III. Diphtheria, Measles, Scarlet Fever and German Measles.

In this, the third volume of the series, the standard of excellence has been fully maintained. The first article, that on diphtheria, is not a translation of the article on the same subject as it appears in the German edition, but an original one from the pen of Dr. William P. Northrup, of New York. This change was necessitated by a prior arrangement of the German author to publish a translation of his article apart from this series. After reading Dr. Northrup's excellent and exhaustive contribution, one may entirely endorse the remark of the editor, that the substitution has entailed no loss to the readers of the volume. Following a short historical summary of the

progress of our knowledge about diphtheria, the etiology, pathology, symptomatology, diagnosis, prognosis and treatment are successively dealt with in thoroughly up-to-date sections. There is no padding. In the section on the morbid anatomy, the important work of Councilman and Mallory has been largely drawn upon. The section on treatment is particularly full, and contains, besides numerous statistical summaries of antitoxin treatment, a number of excellent X-ray photographs, plates drawn from frozen sections and ordinary photographs, illustrating intubation and the feeding of intubated patients. There are also a number of charts and microphotographs of diphtheria and pseudo-diphtheria bacilli, and of lesions in the different organs. An extensive bibliography is found at the end of the article.

Measles, Scarlet Fever and German Measles, by Dr. Theodor von Jürgensen, Professor of Medicine in the University of Tübingen, are preceded by a general introductory article on the exanthemata, by the same writer, dealing with historical considerations on the antiquity of these affections, the question of their possible common origin, co-existence and recurrence and on general prophylaxis. It is not probable that many physicians in the Western Hemisphere would endorse the following statement made by von Kerschensteiner and quoted with approval by von Jürgensen: "Smallpox, scarlatina, and measles are not communicable through the medium of a third person who remains unaffected;" still less the following:—"Intercourse with the family of patients suffering from scarlatina or measles is admissible; the children in such a family may, therefore, unhesitatingly continue their attendance at school, just as physicians in charge of the patients may visit others without misgiving." It is only fair to add that he makes a strong plea against the cooping up of the unaffected children in the same house as the sick ones. But is this the only alternative? In this country kind friends and relatives can usually be found who will harbor the well children in time of need. His remark that teachers, whose family are affected with scarlatina or measles, frequently keep on attending school, reveals a crassness in school administration surprising, if true, in a country like Germany, which we are sure would not be tolerated for a moment in America.

The articles on measles and scarlet fever are elaborate, not to say diffuse and prolix. One feels that a good deal of boiling down and the omission of the minutiae of individual case-reports would make them more readable. The same may be said of some controversial questions, where the reader's interest flags and the conclusions blinded from the over-elaboration of the argument. The descriptions of the

general symptomatology are admirably objective, a clinical picture in the most literal sense, and the establishment of the length of incubation by unimpeachable statistics is most satisfactory.

Important additions have been made by the American editor, an adequate description, with coloured plates of Koplik's (or Filaton's) spots, Meunier's sign, and blood examination in measles; and in scarlatina, infection from milk, blood examination, and methods of quarantine and disinfection. In the article on German measles the author takes the stand that it is not an independent disease—a view which is not shared by the American editor. The "fourth disease" is briefly considered in an interpolated paragraph.

THE DEVELOPMENT OF THE HUMAN BODY: A MANUAL OF HUMAN EMBRYOLOGY. By J. PLAYFAIR McMURRICH, A.M., Ph.D., Professor of Anatomy in the University of Michigan. Pp. 518, with 270 illustrations. Price \$3.00. Philadelphia, Blakiston's Son & Co., 1902.

We are glad to welcome this excellent small manual of embryology by one of the most brilliant and well known graduates of the Biological School of Toronto.

It is a serious endeavor to place clearly and in a small compass the main facts of embryology as they bear upon the development of the human body. It begins wisely with a very thorough and well illustrated study of the development of the spermatozoon and of the ovum, followed by what is known concerning the fertilization of the ovum and, after this, takes up in due order the main points in the development of the embryo and the foetus. The enormous amount of material that has been collected bearing upon these matters and the uncertainty which still exists regarding the interpretation of many of the facts, undoubtedly renders it difficult to write always with clearness, but for the medical student who desires to gain a broad grasp of the principles and the main facts regarding the development of different organs, we are inclined to think that the number of special embryological terms might have been materially reduced and the language somewhat simplified.

Notwithstanding, throughout the book we cannot but feel that Dr. McMurrich writes as an authority and not as a mere scribe and that he has supplied us with a work that will be of the highest value for those who wish to master the admittedly complicated process of evolution of the different organs. He has, in fact, supplied us with a work of very great value for those who do not desire to be embryologists first and foremost, but who require to obtain a broad grasp of the facts of the development of the human organism.

**A TEXT BOOK ON PATHOLOGY AND PATHOLOGICAL ANATOMY.** By DR. HANS SCHMAUS, of Munich. Translated from the Sixth German Edition by A. E. THAYER, M.D., Instructor in Pathology, Cornell University Medical College, and Edited with Additions by JAMES EWING, M.D., Professor of Pathology in the same. Pp. 602, with 351 Engravings, including 35 Colored Plates. Lea Bros. & Co., Philadelphia and New York, 1902.

That Professor Schmaus' text book of pathology has already in a few years reached its sixth edition, is a clear indication that it is recognized by the German student as filling a distinct need, and this fact is in itself an adequate excuse for translation. It has filled a place in Germany occupied on this continent by the familiar Green's Pathology, published also, we may add, by Lea Bros. & Co. Although Green's text book has been wonderfully improved of late years and brought up to date, a comparison of the two books shows that this is much fuller and on the whole more authoritative, though the very mass of facts condensed into its six hundred pages renders it, we confess, more difficult reading; as again does the fact that here we deal with a translation, painstaking as that translation would seem to be.

Undoubtedly the ordinary student demands books of this order in which the necessary facts are given in a didactic and compressed form without discussion of principles or of exceptions. We ourselves doubt whether such condensed food does not surely lead to indigestion, but freely confess that that here supplied is excellent of its kind. Add to this that the illustrations as a whole are excellent and, in general, of the proper diagrammatic character. The whole "get up" of the book strikes us as a distinct improvement upon the original, and we are glad to note that Professor Ewing has brought in here and there references to the more important work performed upon this continent of late years.

**TREATISE ON DISEASES OF THE SKIN FOR THE USE OF ADVANCED STUDENTS AND PRACTITIONERS.** By HENRY W. STELWAGON, M.D., Ph.D., Clinical Professor of Dermatology in the Jefferson Medical College and Woman's Medical College, Philadelphia, etc., etc. With 220 illustrations in the text and 26 full-page lithographic and half-tone plates. Philadelphia and London, W. B. Saunders & Company, 1902. Canadian Agents, J. A. Carveth & Co., Toronto. Price, \$7.00.

This is a large book of over 1,100 pages, well illustrated, and written in a clear and sufficiently didactic style to be of service to the class

which the author wishes to appeal, students and practitioners. Moreover, recognizing that the great difficulty in most branches of medicine, but perhaps more so in dermatology, lies in diagnosis, Dr. Stelwagon has paid particular attention to this part of his subject and to the symptomatology. Advantage has been taken of the publishers' ownership for America of Mracek's plates from the *Hand-atlases of Diseases of the Skin and Syphilis* to incorporate many of the more useful ones in this work, and the majority of the other illustrations are new, being taken from the author's collection of photographs or from those of his colleagues not hitherto published. The greater part of these are well executed and add much to the value of the work.

The first 130 pages are devoted to general anatomy, symptomatology, pathology, etc., which, though possibly essential to the completeness of a "treatise," we think, might with advantage have been cut down. The classification followed is that of Hebra as originally modified by Croker, a plan much more useful to both student and practitioner than the alphabetical arrangement adopted by many recent authors, as, admitting that it is an imperfect attempt at classification, it groups together diseases allied at least pathologically or etiologically. While the system at present in use by the American Dermatological Association, the alphabetical, serves the purpose of a body of specialists, any attempt to teach students without some system of classification enormously increases the difficulty of the subject to them.

Dr. Stelwagon, in treating lichen ruber reproduces Hebra's own account of the disease, translated by himself, without commenting upon the description, but under pityriasis rubra pilaris he alludes to the controversy regarding the identity of the two diseases, and bases his own belief in their individuality upon the failure of the latter to be influenced by arsenic and its comparative benignity. Certainly the disease described as pityriasis rubra pilaris in the work under review is not lichen ruber as Canadian dermatologists understand it, the statements that it never leads to atrophy of the hairs or produces any constitutional symptoms, alone serve to distinguish it from the graver disease. Lichen scrofulosus is also described along with this group, the author believing that it should be placed among the tubercloses of the skin, though definite evidence of this by the finding of tubercle bacilli has never been produced. Eczema seborrhoicum is considered at some length, the author remarking that "The acceptance of eczema seborrhoicum as a distinct entity has almost obliterated seborrhœa." For its treatment he recommends sulphur, salicylic acid and resorcin, but makes no mention of the oleate of mercury which has proved so

serviceable in our hands. The articles on scarlatina, measles, and variola are written by W. M. Welch. All the forms of purpura are grouped under the same heading, a short paragraph each being given to peliosis rheumatica, Henoch's purpura and the other less familiar forms. Under the heading "Tuberculosis cutis" are included the varieties ulcerosa, disseminata, verrucosa, scrofuloderma and lupus vulgaris; lupus erythematosus is treated separately, but the author admits that there is strong evidence of its tuberculous origin. The animal and vegetable parasitic diseases receive full attention.

The book, as a whole, will be found very useful to the practitioner whose want of intimacy with skin diseases, except those of the most frequent occurrence, will render the very simple descriptions and minute details of treatment of special value.

**PRACTICAL DIAGNOSIS: THE USE OF SYMPTOMS AND PHYSICAL SIGNS IN THE DIAGNOSIS OF DISEASE.** Fifth Edition, revised and enlarged. By HOBART AMORY HARE, M.D., B.Sc. Lea Brothers & Co., Philadelphia, 1902.

That this work should run through five editions is sufficient proof of its utility and popularity.

The writer takes up first the manifestations of disease in organs, and secondly, the manifestations of disease by symptoms. The recognition of these conditions, therefore, leads the student to build up a diagnosis, and enables him to recognize well-defined disease types.

An enormous amount of information is conveyed in a very moderate space, and the work has been kept well up-to-date by the introduction of the newer symptoms of disease and the methods of investigation.

The plates and diagrams form an important feature of the book. They leave nothing to be desired either in selection or execution, and many of them are invaluable to the student and physician for ready reference. We may specially mention plates of malaria plasmodium of the cutaneous distribution of the nerves of the spinal segments, and the colour scale for estimating hæmoglobin, as forming useful adjuncts to a work on diagnosis.

The only feature of the book which we would wish to see elaborated are some of the laboratory methods of diagnosis. The technique of analysis of the gastric contents, the quantitative estimation of sugar by Fehling's method and by the saccharometer, and the removal of blood for bacteriological examination are all subjects on which a work on diagnosis may be expected to give full information, and in future editions we hope to see such subjects fully dealt with.



**THE PRACTITIONERS' GUIDE.** By J. WALTER CARR, M.D. (Lond.), F.R.C.P., T. PICKERING PICK, F.R.C.S., ALBAN H. G. DORAN, F.R.C.S., and ANDREW DUNCAN, M.D., B.S. (Lond.), F.R.C.S., M.R.C.P. Longmans, Green, & Co., London, New York and Bombay, 1902. Canadian Agents, J. A. Carveth & Co., Toronto.

This is a single volume dictionary of medicine intended as a handy reference book to the practitioner, and with the exception of midwifery embracing all subjects likely to be of service to the general practitioner who does not undertake to perform the major surgical operations. The space devoted to each disease, or rather organ, member, or joint, for many entirely different affections are grouped in this way under the same heading, is necessarily brief, with the single exception of Diseases of Women, and many of the symptoms common to a large number of diseases, for example, constipation and convulsions, are treated separately. While feeling that the constant use of works of this description must tend towards satisfying the medical man in general practice with a very superficial knowledge of medicine, pathology admittedly receiving but little notice, there is no question but that the demand exists for them, and the one under review is perhaps as free from defects as any in the market. The amount of space devoted to the different subjects is well proportioned and the publishers' work is excellent; although a large octavo of over 1,100 pages, the book is not cumbersome, the print is clear and distinct, and the paper free from that objectionable gloss which, unless the light be exactly at the proper angle, gives such a disagreeable reflexion to the paper used by many publishers.

**CHILDBED NURSING.—WITH NOTES ON INFANT FEEDING.** By CHAS. JEWETT, M.D., Professor of Obstetrics, Long Island College Hospital, 5th edition.

This manual was originally prepared for the Training School for Nurses of the Long Island College Hospital, and has been subsequently rewritten and adapted to general use. Its object is not to furnish a text-book, but rather to aid the nurses in remembering the more important practical teachings of hospital training. It contains chapters, not only on childbed nursing, but on the care of the child and on artificial feeding. We have no doubt it will fulfil its purpose and we commend it to the attention of nurses.

**TRANSACTIONS OF THE COLLEGE OF PHYSICIANS AND SURGEONS OF PHILADELPHIA.** 3rd Series, Vol. 23.

This volume opens with a Memoir of Sir James Paget by Dr. DaCosta, and one of William Pepper by Dr. James Tyson, and contains

also numerous valuable papers read before this very active society. Among the more important are the following: The Surgical Treatment of Ascites due to Cirrhosis of the Liver; on Perforating Ulcer of the Stomach; several papers on Anæsthetics in Heart Disease, and a report of 70 cases of Heat Fever.

THE CLIMATE AND BATHS OF GREAT BRITAIN. Being the Report of a Committee of the Royal Medical and Chirurgical Society of London. Macmillan and Co., Ltd. Vol. II.

The climatology of London, of the central and northern portions of England, together with those of Wales and of Ireland, is described in this volume in a very full manner and will doubtless prove of much service to the profession in England and to all those who are in search of information upon the subject.

SELECTED ESSAYS AND MONOGRAPHS, Chiefly from English Sources. Braxton Hicks, Bodington, Hodgkin, Paget, Humphrey and Ehlers. With an Obituary Notice of the Society's late Treasurer. New Sydenham Society.

These essays in their present form will prove a valuable addition to any library as a reprint of papers which attracted much attention at the time and which are now out of date.

## Society Proceedings.

### MONTREAL MEDICO-CHIRURGICAL SOCIETY.

*Stated Meeting, November 21, 1902.*

G. E. ARMSTRONG, PRESIDENT, IN THE CHAIR.

Drs. Malcolm Mackay, Fernand Monod, and R. F. Rorke, of Montreal, were elected resident members of the society.

#### **A Case of Hyatid Disease.**

DR. RIDLEY MACKENZIE reported the history of this case, and Dr. F. J. SHEPHERD the result of the operation. (To be published in the February issue.)

DR. MAC'TAGGART found the structure of the cyst wall identical with that of an ecchynococcus cyst, and on examining a small amount of the fluid it was seen to contain numerous hooklets and immature worms in various stages. It showed no evidence whatever of a communication with the gall-bladder. This was the first case which has come to operation since his connection with the hospital, although three cases were found at autopsy, two males and one female. A microscopic specimen was exhibited showing the cyst structure and also the immature worms.

DR. MAUDE ABBOTT referred to a case seen some years previously at a clinic in Vienna, in which four small cysts about the size of a pigeon's egg had been passed per rectum, apparently by the common bile duct. There was a tympanitic area below the liver.

#### **Digital Compression for Aneurism.**

DR. F. J. SHEPHERD exhibited this case, of which he gave the following account.

This man came to hospital in August with a pulsating tumour in the right groin. It had been first noticed three months before, but did not increase or diminish in size. I found an aneurismal tumour with strong pulsation which could be arrested by pressure upon the artery above. I hesitated about the proper procedure in this case, as cutting down upon and tying the common iliac artery might prove very serious, so I decided to wait until the students got back and try compression. I put the patient on treatment, giving him dry diet, and certainly with apparent good results. When the students had returned, I put them on for six-hour shifts for twenty-four hours. At the end of twelve hours the pulsation ceased, and at the end of twenty-four the tumour was a

hard, solid mass. I argued that an attempt to cure the tumour in this way could not do the patient any harm, and it might be successful, while the tying of the common iliac was a risky procedure. We gave each of the men five minutes digital compression, it being found that this was as much as a man could do. There were twelve men in a group, so that each man had six turns in six hours. The pressure was made just above the aneurism, and the patient was given full doses of opium. I may say that I remember as a student helping the late Dr. Fenwick with a similar successful case.

DR. J. ALEX. HUTCHISON had also taken part in the compression of a case of Dr. Fenwick's, he thought it was in 1883. The man suffered a good deal from cellulitis, but he eventually recovered, and was heard of some years afterwards in good health.

DR. J. M. ELDER was also much interested in the case, as he too had been on the relay of students which assisted in Dr. Fenwick's case. The compression was made over the femoral, and he could quite confirm the fact that five minutes was the length of time one man could act at a time.

DR. MORPHY asked Dr. Shepherd if the opening in the vessels was entirely closed by the clot, or if there was likely still a channel for the blood.

DR. SHEPHERD, in reply, thought that there was complete occlusion of the vessel.

### **A Case of Asthenic Paralysis.**

DR. JAMES STEWART showed this case, of which the following is a brief summary.

The case was the second shown before the society, Dr. Finley having also shown one last year. The patient was a man of 32 years of age, who had first noticed about six months previously some trouble chiefly if not entirely in the muscles of the eyes. Drs. Byers and Birkett had investigated the condition of the eyes and throat. The most interesting symptoms were in connection with the throat and eyes. He had lost in a considerable degree the power of turning his left eye out and of raising the globe of the right eye. There was a marked difference between the two eyes in voluntary movement, and also a considerable degree of ptosis on voluntary movement in the right side. These paralytic conditions were only noticeable when he was examined closely. There was considerable difficulty in swallowing, and the muscles of mastication were also involved. He swallowed the first few mouthfuls very well, but very soon tired, and the difficulty at times was very pronounced. The same was true with regard to the muscles of mastication. Weakness of the upper limbs was demonstrated to the meeting by having the patient raise and

lower his arms as rapidly as possible. After thirty or forty movements there was rapid exhaustion, and the weakness showed itself first in the proximal and afterwards in the peripheral muscles. The same disability, but not to the same extent, was present in the lower limbs. The patient could walk fairly well, but soon tired. This rapid weakening of the limbs on voluntary movement was one of the most characteristic features of the disease. The only other feature of the case was the absence of knee jerks. This weakness of the muscles varied from time to time, hour to hour, and day to day, but had remained unchanged for the past month. After a very short rest the limbs were perfectly restored in strength.

DR. BIRKETT stated that he had examined the man's throat carefully, but could find nothing suggestive of sensory or motor disturbance.

DR. BYERS had found the lessened strength in elevation of the right globe was due to the involvement of the inferior oblique muscle.

DR. LAPHORN SMITH asked if there was any ataxia, and also if the symptoms were more aggravated when the patient was in company than when alone. He referred to a lady who had experienced difficulty of swallowing in company, which passed off when alone. After a gynaecological operation, during which she was necessarily kept at rest for some time, the difficulty had disappeared.

DR. DEEKS asked if there was any hereditary history in the case.

DR. MILLS wished to know if there was any evidence of paresis of the unstriped muscle for the appearance of the right eye was very similar to that narrowness of the palpebral fissure which followed section of the cervical sympathetic. He would also ask if there was any evidence of vasomotor disturbance.

DR. G. G. CAMPBELL said that the eye symptoms were very similar to a case of his own, in which ptosis developed after fatigue. The man was a clerk, and showed the ptosis after a day's work. He had been given iodide of potassium in large doses, as he had had syphilis, but without any improvement of the symptom. After being under observation for five years he developed what was apparently obstruction of the bowel from a tumour in the hypogastric region, and as urine was passing freely, he had not thought of using a catheter. The man had been sent into hospital, and there the passage of a catheter had withdrawn a large quantity of urine and completely relieved the obstruction. The case developed into a well-marked one of locomotor ataxia, and he died of that disease.

DR. STEWART, in reply, said that in this patient there was neither nasal speech nor regurgitation of fluid by the nose. No involvement of the involuntary muscles had been found, and they were not affected in these cases. He could sympathize with Dr. Campbell in his difficulty of

making a diagnosis, as the cases closely resembled tabes in many cases, but differed in that the weakness in the extremities in tabes was due to peripheral neuritis. In this disease there is no group of muscles that is absolutely functionless, whereas this is not the case in the organic lesions of paralysis. While nothing definite was known regarding the seat of the disease or its nature, the weight of opinion placed it as at the ends of the motor nerves.

#### **Tying the Carotid Artery for Intracranial Hæmorrhage.**

DR. HILL exhibited for Dr. Armstrong a man in whom the common carotid artery had been tied for intracranial hæmorrhage with most satisfactory results.

DR. JAMES STEWART said the great trouble in these cases was in making a diagnosis. It was remarkable how few cases there were in which one could say definitely that the lesion was certainly due to rupture of the vessel and not possibly to blocking.

DR. ELDER, while he had never tied the common carotid for hæmorrhage like this, had done so four times to arrest hæmorrhage due to traumatism, in which there was danger of death in fracture of the base of the skull. Two of these were hæmorrhages from the internal auditory meatus and two from the vault of the pharynx in addition to hæmorrhage from the external ear. Dr. Stewart of Halifax had reported a case in Toronto in which both carotid arteries had been tied and the patient had recovered. He did not think that cerebral symptoms would arise in cases operated upon for traumatism.

DR. J. A. HENDERSON referred to a case in which a man was brought into the hospital after a slight fall in an unconscious condition. Catheter specimens of the urine revealed the presence of sugar, and a diagnosis of diabetes was made, but death resulted, and an autopsy revealed the presence of intracranial cerebral hæmorrhage, which would have been operable.

DR. ARMSTRONG discussed the means of lowering intracranial pressure through operative procedures.

#### **Dermoid Tumour of the Ovary.**

DR. WILLIAM GARDNER showed a dermoid tumour of the ovary taken from a patient some years past the menopause, who had been admitted to the hospital for femoral hernia and the tumour had been discovered accidentally. On opening the abdomen the tumour had been found easily removable, as it was free from adhesions. This was the interesting point, as it contained the usual wisp of hair, blackened teeth, etc., and fat.

#### **A Case of Habitual Miscarriage.**

DES. J. J. ROSS and WILLIAM GARDNER reported this case, which will be published in full later.

THE

# Montreal Medical Journal.

*A Monthly Record of the Progress of Medical and Surgical Science.*

EDITED BY

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GEO. E. ARMSTRONG,  
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F. G. FINLEY,  
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No. 1.

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## ATYPICAL FORMS OF THE EXANTHEMATA.

Among the many difficulties which confront the family practitioner there is none, perhaps, more perplexing than that of making a diagnosis in those atypical forms of the exanthemata which lie on the borderland between scarlet fever and German measles. Many cases are met with in which the condition of the throat suggests scarlet fever and a diffuse redness of the skin, seen perhaps only by artificial light, seems to confirm this opinion, and yet the following morning either no trace of an eruption is present, or it has assumed a patchy or punctate appearance not resembling scarlet fever, and one wonders whether the redness of the night before was not merely the flushing of the skin so common in young children with any rise of temperature and disappearing as the temperature falls. How to act under these circumstances is the question. Undoubtedly the safest course, and from many standpoints the only proper one, is to call all doubtful cases scarlet fever and treat them as such and thus avoid the dangers which might result from an error in the other direction. At the same time the inconvenience and expense to which this course must often

put a family unfortunate enough to have such a case in its midst must frequently cause the physician to hesitate before adopting it. Even should there be no further symptoms of disease after the first few days, having once pronounced the case one of scarlet fever, the quarantine must be rigidly enforced for from four to eight weeks, and all the inconvenience and annoyance occasioned thereby the physician cannot help but feel has been caused by what may have been an error in his diagnosis. How anxiously he often looks for the characteristic desquamation which will verify his diagnosis and which happily seems often to follow a light case in which the eruption was not distinctive.

The only way we can see of overcoming the difficulty is by removal of the case from the house, and here we have a very strong argument in favour of a civic hospital conducted so that all classes in the community will have confidence in it. Were it possible to isolate these doubtful cases in a comfortable room free from any danger of receiving infection and under the care of their own family physician, we cannot help feeling that not only the poor, who cannot afford to lose the time, or to afford the expense of a lengthy quarantine, but the well to do of all classes, would be willing to take advantage of it. One of the great objections hitherto urged against sending such cases to a fever hospital is the danger of the diagnosis having been wrong, and the consequent risk of exposing the patient to infection. Another objection is often that, at least in the case of a child, parents feel that no one understands their children like the trusted family physician, and that isolation with no one but a strange nurse and strange physician for a long period of time will be a hardship for the child, and an unnecessary one in a mild case of disease, whatever may be said in favour of a specialist in the severe cases.

We are pleased to learn that at last the difficulties which have so long prevented the erection of a civic hospital in Montreal have been overcome through an arrangement between the civic authorities and the existing hospitals by which the city will pay a sum of money yearly to the Notre Dame Hospital for the care of the French Canadian section, and to a committee from the three English hospitals to perform the same service for their own nationality. In this way the vexed question is settled in a manner which ensures to both nationalities treatment by physicians of their own language and religion.

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#### THE SOCIETY OF AMERICAN BACTERIOLOGISTS.

The following resolution, presented by Dr. Welch at the meeting of the Society of American Bacteriologists in Washington, D.C., December 31, 1902, was adopted by the Society by a rising vote, and the



Secretary was instructed to spread the resolution on the records and to transmit a copy of the resolution to Mrs. Johnston.

We, the members of the Society of American Bacteriologists recognize that by the death of Dr. Wyatt Johnston we have lost one of our most genial, useful, and productive members. We shall miss greatly from our meetings a personality so attractive, so full of enthusiasm and of fruitful suggestion, and so devoted to the interests of sanitary science, of forensic medicine, and of pathology—subjects to which he had made valuable original contributions.

We desire to express to the surviving members of Dr. Johnston's family our heartfelt sympathy.

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Dr. A. F. Starkey, who has been appointed Strathcona Professor of Hygiene and Preventive Medicine at McGill, in succession to the late Dr. Wyatt Johnston, has had considerable experience in public health administration both in England and in India. In the latter country he has spent two years; in part in Professor Haffkine's laboratory for the production of plague and cholera vaccine at Bombay, in part as sanitary officer in charge of a large district. A graduate of the London University, he undertook his medical course at University College Medical School and Hospital, since which time, apart from active work as a health officer in the north of London, and investigations in Devonshire and elsewhere under the local government board, he has acted as demonstrator of Hygiene at University College.

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Beginning with the issue for January, 1903, "The Journal of Cutaneous Diseases" will be under the editorial management of Dr. James C. White and Dr. John T. Bowen of Boston, Dr. James Nevins Hyde of Chicago, Dr. Henry W. Stelwagon of Philadelphia, Dr. Prince A. Morrow, Dr. Edward E. Bronson, Dr. George T. Jackson and Dr. John A. Fordyce of New York.

Dr. A. D. Mewborn of New York will be the acting editor. The editors will take an active interest in the Journal and by their united efforts hope materially to improve the quality of its contents. It is their desire to present a monthly review of all important advances in dermatology and syphilis both in this country and abroad.

The Journal has been the official organ of the American Dermatological Association and will publish, in addition to its transactions, the proceedings of all the local societies throughout the country devoted to this specialty.

## NEW BOOKS, ETC., RECEIVED AND NOTED.

*W. B. Saunders & Company, Philadelphia and London.*

The American Text-book of Obstetrics for practitioners and students. By thirteen American obstetricians. Edited by Richard C. Norris, M.D., and Robert L. Dickinson, M.D., art editor. Second edition, revised, 1902.

Diseases of the Pancreas and their Surgical Treatment. By A. W. Mayo Robson, F.R.C.S., and B. G. A. Moynihan, M.S., 1902.

American Edition of Nothnagel's Practice. Diseases of the Bronchi and Pleura, Pneumonia. By Drs. Hoffman, Rosenbach, and Aufrecht. Edited by John H. Musser, 1902.

Bacteriological Technique. A laboratory guide for the medical, dental, and technical student. By J. W. H. Eyre, M.D., F.R.S., Edin., 1902.

A Text-book of Diseases of the Eye. By G. E. deSchweinitz, A.M., M.D. Fourth Edit., revised, enlarged and entirely reset, 1902.

*John P. Morton & Company, Louisville.*

How to succeed in the practice of medicine. By Joseph McDowell Mathews, M.D., LL.D., 1902.

*Lea Brothers & Co., Philadelphia and New York.*

A Manual of Dissection and Practical Anatomy. By William T. Eckley, M.D., and Corinne B. Eckley, 1903.

*E. B. Treat & Company, New York.*

The Mattison Method in Morphinism. By J. B. Mattison, M.D., 1902.

Transactions of the Association of American Physicians, Seventeenth Session, Vol. XVII., 1902.

Diseases of the Skin. By Alfred Schalek, M.D., 1902.

*U. S. Government Printing Office, Washington.*

Index Catalogue of the Library of the Surgeon-General's Office, United States Army, Vol. VII., 1902.

Proceedings of the McGill Medical Society of  
Undergraduates.

BRIEF HISTORICAL SKETCHES OF FAMOUS ANATOMISTS.

**Gabriel Fallopio.**

BY

A. R. ALGUIRE, '04.

Gabriel Fallopio, who was an Italian anatomist, was born in 1523, at Modena and died in 1563, at the early age of forty. He studied under several professors in Italy and then visited Greece and France. When only twenty-four years of age, he was appointed professor of anatomy at Ferrara, subsequently filling the same position in Paris and finally in Padua.

The fact that even Fallopio did not shrink from accepting the gift of some convicts and then poisoning them—indeed, even when the first experiment failed he tried it again with better success—is characteristic of the age in which he lived. He was a pupil of Vesalius and improved upon and extended his works in many directions.

He instituted accurate investigation upon particular parts of the organ of hearing and of the eye, by which he was able to give fuller information upon the ligementum ciliare, the tunica hyaloidea, the lens, etc. So also in the case of the female genital organs, the oviduct, known as the Fallopiian tube, has immortalized his name in anatomical terminology,

Of his numerous discoveries and descriptions we may mention those of the aquaductus vestibuli, the foramen ovale, the lamina spiralis of the cochlea, the chorda tympani, the petrosal and sphenoidal sinuses (he demonstrated the absence of the latter as well as the fact that the foetal sternum consists of seven bones and the foetal lower jaw of two bones); of the muscles of the forehead, occiput and tongue, the three scaleni, the oblique abdominalis, the so-called Poupart's ligament, the seminal vesicles, the lymphatic vessels, acoustic and glossopharyngeal nerves, nervous ganglia, etc. He also showed that the membranes of the brain have no part in the origin of nerves.

Fallopio was the author of the well-known maxim, that "the road to surgery leads through anatomy."

**Andreas Vesalius.**

BY

H. S. MUCKLESTON, M.A.

Andreas Vesalius was born in Brussels on December 31, 1514. The history of earlier members of his family was enough to bring the study of medicine very near to his mind. His great great grandfather, great grandfather and grandfather were all physicians; and his father was an apothecary. He attended the University of Louvain and there showed himself strongly disposed to the study of anatomy by his frequent dissection of small animals. He then went to France, and in Paris continued his studies under Sylvius (Jacques Dubois) and others until his twentieth year. While still in his student days he wrote his book "De Humani Corporis Fabrica," being only eighteen years old at the time. He gave instruction to his fellow students at the age of twenty.

He returned to Louvain from Paris. It was at this time that he possessed himself of his first skeleton by stealing from the gallows the body of a criminal which had been stripped of all soft parts by birds.

Soon afterwards he became an army surgeon, but took up the work of teaching in his twenty-third year, when he was appointed by the Senate of Venice to the professorship of anatomy at Padua. He published his book "De Humani Corporis Fabrica" in 1543, though he had written it some ten or eleven years before. In the same year he was summoned to Belgium to be the chief physician of Charles V., then Emperor of Germany and King of Spain.

During his life at Court in Belgium and in Spain under Charles V. and Philip II., he fell into disfavour with others high in power, and finally left on a pilgrimage to Jerusalem. The reason for this action was avowedly a great offence, for he was charged with opening for post mortem investigation the body of a Spanish lady while life was not yet extinct. Other explanations less favourable to his opponent's good name are advanced.

He was recalled to the University of Padua from Palestine in 1564, and on the voyage was shipwrecked on the island of Zante and died from the effects of this accident.

Vesalius' work reformed the study of anatomy. He opposed the teachings of Galen without fear and thus incurred the hostility of his teacher Sylvius. Galen, for example, denied the existence of marrow in the bones of the head. Vesalius demonstrated its presence. Sylvius advanced the assumption that in the days of Galen the bones of the head were differently constructed. Vesalius refuted Galen's teaching on the existence of a bone in the heart and on the strong

curvature of the bones of the upper arm and thigh. Sylvius defended Galen on the latter point, urging that the straightness of the bones was not a natural condition, but a result of the use of narrow trousers.

Further advances by Vesalius were on the functions of the intercostal muscles, the origin of the inferior vena cava, the non-separation of the bones of the symphysis during parturition.

While he was wrong on many points, for example, the circulatory system and the presence of pores in the septum ventriculorum, still he did much to advance anatomical knowledge. For he was the first to describe the course of the vena azygos, the subclavian vein, the ductus venosus, and added to the knowledge of the bones of the head, the brain, the mediastinum, the stomach, the peritoneum and the omentum.

Named after Vesalius are:—*Foramen Vesalii*, found, but not constant, at the root of the pterygoid process of the sphenoid. It transmits a small vein.

*Vesalius' gland*. One of the pulmonary and bronchial mucous glands.

*Ligament of Vesalius*. Poupart's ligament.

*Vein of Vesalius*. A communication between the pterygoid plexus of veins and the cavernous sinus.