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NOTES ON THE MAYOS' SURGICAL CLINIC.

BY

A. LAPHORN SMITH, M.D.,

Surgeon-in-Chief of the Samaritan Hospital, Gynecologist to the Western Hospital and to the Montreal Dispensary, Montreal.

From a surgical standpoint the most interesting ten days of my life have recently been spent at St. Mary's Hospital, Rochester, Minnesota, and I thought it almost a duty, as well as a pleasure, on my return to tell the members of the Society something of the work being carried on in that little western town of nine thousand inhabitants by these remarkable men, William and Charles Mayo.

As it took me several hours to find it on the map, I might mention that it is situated 347 miles from Chicago on the North Western Railway, and the train leaving Chicago at eight at night lands one at Rochester sharp at nine next morning. Ten minutes later we can be at the Hospital, having missed only four or five operations for various kinds of hernia. There are two operating rooms, and they do on an average two operations an hour in each room. As there were twenty-four operations on the list for that Tuesday morning and they began at eight, it was two o'clock when they finished. At two o'clock they go down to their office in the town where their forty assistants, some of them partners, help them to make a diagnosis by every possible means; one doctor taking down the history and another taking the blood count, another making a urinalysis, and another does nothing else all day but analyse the feces. Then another takes an X-ray, while another makes a cystoscopic examination. These examinations generally take a week or more, and when the scientific examination is complete the patient is brought before Dr. Graham, the chief of the office staff, who makes his clinical examination and diagnosis.

Rochester is the centre of the richest farming country in America, and the streets are lined with farmers' waggons as though every day

Read before the Medico-Chirurgical Society of Montreal, on 3rd April, 1908.

were a fair day. But many of the Mayos' patients are wealthy people, while many are doctors who are not wealthy, from distant cities, so that there are always some fifteen hundred people in the town who are being observed or operated on, or are convalescing from an operation. The great care taken in diagnosing is one of the elements of their success. The majority of the cases are people who have been suffering for years with what was supposed to be stomach and liver trouble, but the Mayos interpret these symptoms as either gall stones, or appendicitis, or both. They have even had some fifty cases for whom gastro-enterostomy had been performed for supposed pyloric or gastric ulcer, without benefit. In every one of these cases either gall stones or a stone in the appendix were found.

There are generally about twenty doctors visiting their clinic whom they receive most kindly to the number of fifteen hundred a year, so that their influence is becoming very widespread. For the benefit of the latter they have organized a Surgeons' Club, where the visiting surgeons meet every afternoon from four till six, to discuss the cases operated on each morning. Two doctors are chosen to report the cases at each meeting, and these are given special opportunities for seeing and hearing. A few of the doctors stay at the Kahler Hotel, a modern and expensive place, but most of them put up at the Cook House or at private boarding houses, of which there are a great many. In fact, every second private house has two or three or a dozen convalescent patients or visiting physicians as boarders. St. Mary's Hospital has only 175 beds, which are all filled after eight days operating, so that in order to get twenty-four beds they have to send that many out of the hospital every day to hotels and boarding houses, where they are visited by the assistant doctors or by a nurse from the hospital. At each of the hotels several nurses are employed steadily looking after the patients who have been sent out of the hospital. Even the gall-bladder cases go out in ten or twelve days with the drainage tube still in, while the appendicitis cases generally go out in a week. Sometimes want of beds compels them to cut down the number of operations to ten or fifteen a day.

The town has a modern water, electric light and drainage system, and is beautifully kept, having several miles of paved streets, and a public library of its own, having declined Mr. Carnegie's offer to build one for them. St. Mary's Hospital is thoroughly up-to-date with trained nurses, although under the financial control of the Franciscan sisters. The head sister has been Dr. William Mayo's assistant for sixteen years, and she is so proficient that when he stops operating to talk

to the doctors the sister goes on with the operation, half unconsciously perhaps. Three ladies give the anaesthetics, one in each room and a spare one who relieves the other two from time to time. One of these ladies, Miss Alice McGraw, has reported fifteen thousand ether anaesthetics. The method employed is very safe, although very extravagant with ether; namely, a continuous stream poured on to a chloroform mask. The eyes are covered with two little squares of rubber tissue so that no ether gets into them. It takes about six two-pound tins of Squibbs ether a day, which they buy in hundred pound cases. The patients all walk into the operating room and see the doctor, which, they say, gives them great satisfaction. If they are doubtful whether they will be operated on by the Mayos themselves or by one of the forty assistants it reassures them to see the great surgeon there before they go to sleep. After the patient is asleep an electric signal is given in the visiting doctor's waiting room, and they come in to the first operating room and remain until the signal is given that the other Doctor Mayo is beginning his operation, when they are all supposed to go and see it. On some days the operations alternate so quickly that one has not a moment to spare between them for several hours together. I attended the Thursday meeting of the doctors of the staff at Dr. Charles Mayo's house, when each doctor read an abstract of an important article in the *Annals of Surgery* or other journal, which we discussed. These abstract cards are then indexed and filed, and are frequently made use of in writing articles; one assistant does nothing else but prepare statistics and literary material for their reports. About twenty of the staff are doctors, each having a consulting room, to which the patients are distributed by two ladies. If the case is important enough or difficult enough to have one of the Mayos see it, the examining doctor presses a button which turns on a red light in the hall which tells Dr. William Mayo that he is wanted, while if it is a case of eye, ear, nose or throat, or general surgery, he will turn on a blue light notifying Dr. Charles Mayo to come to that room. Thus the Mayo brothers pass from room to room all afternoon. One assistant does nothing all day but make blood counts; another, microscopical examinations of urine and sputum. Another is engaged all the year round following up the cases, every one of whom is written to every six months. When a doctor has sent the case, he is written to and asked to keep track of the case and to let them know the result. The Mayos maintain, and I believe justly, that gall stones are more frequent than is generally supposed. The most reliable statistics are those of the post mortem room of Guy's Hospital, where the gall-bladder was examined in many

thousands of cases with the result that gall-stones were found in 3 per cent. of all the men, women and children who died there. Now, to apply that figure to the adults only in the United States, of whom there are sixteen million families, or thirty-two million adults, three per cent. of whom would be nine hundred and sixty thousand. Most of these people, Dr. Mayo says, are taking lactopeptine and pepsine for stomach trouble prescribed by regular doctors who have not diagnosed, or even suspected the condition, or phosphate of soda for liver trouble; or else these patients are taking patent medicines for dyspepsia in such enormous quantities as to make multi-millionaires of the vendors of them. Many of these patients get over their attacks of gall-stones and remain partly well for from five to ten years, and whatever treatment they were taking last gets the credit of curing them. One of them will make the reputation of a Christian Scientist or an Osteopath.

But sooner or later the gall-bladder becomes infected with colon bacilli, or the cystic duct or common duct becomes obstructed and the patient suffers severely from local peritonitis, which binds down the pylorus and duodenum, and he dies from starvation or jaundice, or, in a certain proportion of the cases, from cancer. During the first week of my visit the only death in the hospital while I was there was a man of seventy with cancer of the gall bladder. There would have been another death from cancer of the pylorus, but in this case Dr. Mayo opened the abdomen and verified the diagnosis but declined to do even a gastro-enterostomy, saying that he could not do enough good to warrant him in running the risk. He was sorry that he had even made the exploratory incision, because all the suitable operable cases in that man's neighbourhood would be influenced against being operated on early because that man was operated on too late. Dr. W. Mayo is one of the few doctors who realizes our responsibility towards the public when we operate on hopeless cases, or when a bad operator operates on a good case.

What impressed me most favourably about the Mayos was their perfect frankness. On the list of operations you see constantly "Explore gall-bladder, duodenum and appendix." After having taken precautions to make an accurate diagnosis by every means known to science, they frankly admit that they have not been able to make a pathological diagnosis, but they are quite satisfied to operate if they are sure that the patient has one of these things, any one of which demands surgical intervention. Dr. William Mayo said he did not feel at all ashamed to admit ignorance because it is sometimes impossible to make an exact diagnosis, and very often, if the symptoms were obscure, it was because there were several conditions present.

Just fancy forty-three gastro-enterostomies, for supposed ulcers of the pylorus, some performed by himself in his earlier days, which were not only unnecessary, but did so much harm that they had to be undone, and all for symptoms due to gall-stones, which were cured when the latter were removed! Nature had set up reflex spasm of the pylorus and forthwith her warning was neglected and another unnatural condition was added to the gall-stone inflammation. My sometimes wavering faith in pathology as a clinical help has been greatly revived by the practical use the Mayos put it to. Across the hall from the operating room is the laboratory, and by a preconcerted signal the pathologist is there with a dish as Dr. Mayo lifts out a uterine or other tumour; between sixty and ninety seconds later he returns saying there is cancer in that uterus and Dr. Mayo removes the cervix very carefully, or in the case of a breast, he removes all the glands; or he reports there is no cancer, which makes the latter procedure unnecessary.

To give an idea of the amount of work done, I will give the list for Tuesday, the day I arrived: 1, Removal of the thyroid; 2, Chronic appendicitis; 3, Chronic appendicitis; 4, Chronic appendicitis; 5, Acute appendicitis; 6, Chronic appendicitis and hæmorrhoids; 7, Explore gall-bladder and common duct; 8, Explore gall-bladder and remove appendix; 9, Remove gall-bladder and appendix; 10, Remove cancer of breast, including both pectorals and axillary glands; 11, Complete removal of tuberculous glands of the neck; 12, Removal of gall-stones and appendix; 13, Umbilical hernia and fissure of anus; 14, Hysterectomy for fibroid; 15, Radical cure for hernia and fistula in ano; 16, Vaginal hysterectomy for complete prolapse of uterus; 17, Hæmorrhoids (clamp and cantery); 18, Removal of tuberculous kidney; 19, Removal of appendix and Meckel's diverticulum. *Case 5.*—Exploratory club foot; adenoid and tonsils; 22, Abscesses; 23, Abscesses; 24, Removal of adenoids and tonsils.

On Wednesday there was a case of cancer of the gall-bladder with a stone an inch long in the common duct, in a patient seventy-six years old and jaundiced. He had a section made of a piece of the gall-bladder and in one minute the report came back that it was cancer; so he removed the gall bladder and put in a No. 16 English soft rubber catheter into the common duct and sewed it in, and drained. *Case 2.*—Four or five faceted stones in gall-bladder and removal of appendix. *Case 3.*—Removal of appendix and shortening round ligaments by drawing them through an opening in external oblique fascia. *Case 4.*—Removal of appendix and Meckel's diverticulum. *Case 5.*—Exploratory incision for cancer of the stomach; could find no obstruction and closed up. *Case 6.*—Operation for tumour of uterus as large as a cocoanut;

there was only a shell left but he reconstructed a uterus out of it, admitting that he was running more risk than if he had done a hysterectomy. *Case 7.*—Removal of three-quarters of the thyroid for exophthalmic goitre, (about the four hundredth thyroidectomy). *Case 8.*—Double inguinal hernia transplanting cord. *Case 9.*—Umbilical hernia by a new method. *Case 10.*—Removal of breast for cancer; patient and family doctor were aware that she had the tumour two years; glands in axilla full of cancer; bad prognosis. *Case 11.*—Double inguinal hernia; and thirteen other operations, including removal of double cataract by Dr. Charles Mayo.

On Thursday, the 19th March, there were twenty patients anaesthetized: on glancing over the list I see there were five cases of gall-stones, all of which had been treated for years for stomach trouble with occasional bilious attacks. Six cases of chronic appendicitis, one simulating hip-joint disease, because it had eaten into the psoas muscle and one simulating duodenal ulcer; three hysterectomies for fibroid (one by vagina); three cases of inguinal hernia and three cases of cancer of the breast, glands of the neck, etc.

On Friday there were twenty cases, of which six were for appendicitis, four for gall-bladder, one tubal pregnancy, two hysterectomies one of which was pronounced to be in cancerous degeneration; three for hernia; one for renal fistula due to a piece of cystic kidney having been accidentally left in by another operator; and a rare tumour, a desmoid of the abdominal wall. There was also exploring for duodenal or pyloric ulcer, but symptoms were found to be due to peritonitis set up by the gall bladder.

On Saturday he had only fifteen beds, so only that many patients could be operated upon, among which were five cases of gall-bladder trouble, one cancer, an abscess which he simply drained; another was a stone in the common duct, also two gastro-jejunostomies for stricture of the pylorus; three appendectomies; one exophthalmic goitre, a double inguinal hernia, one amputation at the hip by a bloodless method; a large Kocher clamp with one blade sharpened being plunged into the tissues in front and another behind, which when closed completely controlled the arteries for an indefinite time, and rendering the operation practically bloodless. The rest of the cases were mostly for chronic appendicitis.

By Monday they had eighteen beds again so they did three appendectomies; three operations on gall bladder and common duct; three inguinal hernias, an umbilical hernia, a large broad ligament cyst; an exophthalmic goitre, an Alexander and two perinorrhaphics, a removal of the parotid, and removal of breast.

On Tuesday there were nineteen people anesthetized: five for chronic appendicitis; three for gall-stones; three for ventral and inguinal hernia; one gastro-enterostomy; one vaginal hysterectomy for complete prolapse; one Alexander; one ligature of the external carotid, and one amputation of the breast. On Wednesday, 25th March, twenty people were anesthetized, some of them having two or three operations. It was remarkable to see Dr. Charles Mayo excising a tubercular elbow and then remove a cataract in the next case. The list included two abdominal myomectomies for fibroid, in both of which Dr. William Mayo reconstructed the uterus; a teratoid dermoid cyst; two of gall-stones in the common duct; and a hydronephrosis due to kinking of the ureter owing to abnormal blood vessels holding the lower pole of the kidney in an abnormal position. One of the gall-stone cases had been operated on before in a distant city without relief, and Dr. Mayo said he expected that a stone had been overlooked. After a careful search he brought up the common duct into view and showed the stone before cutting into it. A cut directly over the duct came upon it, as large as a bean.

On Thursday, 26th March, there were fifteen patients operated upon, of which six were for chronic appendicitis, with long histories of stomach troubles; four gall-stone cases; one exploration of stomach for ulcer, and two removal of thyroid; the rest being various kinds of hernia.

On Friday, my last day there, they were short of beds, and only eleven cases were operated on, but one of them, the removal of the rectum for carcinoma, was one of the neatest operations I have ever seen.

The anus was first securely closed with a purse string of linen thread. Then it was separated from the sphincter ani. Then the incision was carried back to the coccyx. Then the rectum was detached from the levator ani and from the transverse perinei muscles, and from the vagina. Then all blood-vessels were cut between clamps and tied. All the fat in the recto ischial fossa was removed because it contained small cancerous glands. Then the peritoneum was opened and the sigmoid flexure loosened and drawn down. By this time he had seven inches of bowel hanging out, while the disease only went four inches. This was securely tied with linen thread, and a clamp put on just below it, and then the rectum was severed with the actual canterly between the two. He said that most of the failures were due to infection of the wound, and to avoid this danger he would leave the ligature on the intestine for six days, by which time the bowel would have grown to the sphincter ani and all raw surfaces would be healed. Then he would cut the ligature and empty the bowels. The operation was concluded by stitching the intestine to the levator ani and the sphincter ani, and

to the vagina. The patient was eighty-one years old, but having worked on a farm was very hale for her age. This operation is known as the Queening Tuttle operation and gives a much better functional result than the Kraschke operation, of which he has done seventy-five. It was practically bloodless.

Dr. Charles Mayo is strongly in favour of a proposition which had few supporters when the subject was discussed here a few years ago, concerning when to operate for cancer of the breast. He maintains that if we wait until we are sure that a tumour in the breast is cancer before removing it only twenty per cent. of our patients will be alive after three years. Of those twenty only four will be alive after six years. In other words, if we wait for the ordinary accepted symptoms, such as retraction of the nipple and enlargement of the axillary glands we might almost as well leave them alone. But if we remove every tumour of the breast, not the whole breast, with an inch of healthy margin, before the glands become infected, we will save every case. Even of benign tumours, he said, in his experience eighty per cent. eventually became malignant.

So that as long as the family doctor tells a woman with a small lump in the breast to leave it alone for six months we will continue to have these dreadful statistics after the most radical operation performed by the best operators. If, on the contrary, he would consider every growth in the breast of a woman over twenty-five as malignant when first seen and teach the public so, then even an ordinary operator will have a hundred per cent. of recoveries from the operation, and also a hundred per cent. of permanent cures. He said that in several hundred cases where he had to remove the two pectoral muscles and all the glands in the axilla, more than half of the cases had been under observation for more than six months by the family doctor, who was calmly waiting for the case to become hopeless before sending her to the surgeon.

The Mayos have been accused of not being original; they do not claim to be. On the contrary, they constantly tell their visitors where they picked up this good thing or that, and how much it brought down their death rate. Dr. Charles told me of a great European operator who has operated several hundred times for gall-stones, but who has never seen anybody else operate nor apparently read what anyone else is doing: result sixteen and a half per cent. of deaths instead of three. He often speaks of what he learned from Joseph Price of Philadelphia, and always with feelings of affection and respect; for instance, when removing the tubal pregnancy, he said, "Joseph Price used to tell us that it depended where the rupture took place whether the patient was taken to the surgeon or to the undertaker. If at the uterine end,

always the undertaker; if at the fimbriated end, the surgeon; if in the middle, sometimes one and sometimes the other, and sometimes both."

I was very much struck with his care in stopping bleeding, even the smallest vessels being tied. He remarked, "I have more time to tie this now than I will have to reopen this afternoon for secondary hæmorrhage."

He frequently called attention to the greater tendency to hæmorrhage when there was much bile in the blood which prevented it from clotting. He was very severe on the olive oil treatment of gall-stones. People frequently brought him three or four dozen of what they thought were gall-stones as large as bantam eggs which were simply balls of soap.

He removes the gall-bladder in about 35 per cent. of the cases, although he believes that the gall bladder mucus renders the bile less acrid. Speaking of his mistakes, he told me of a man who came to him for disease of the stomach: a few years ago he would have made the mistake of operating on the stomach, a mistake he had often made in former years. But on close enquiry he found a history of attacks of appendicitis dating back to when he was seven years old. So he explored the appendix, found it diseased, removed it and the stomach trouble disappeared from that moment.

Once when he operated on a patient for abscess over the gall-bladder and another for abscess over the appendix he remarked, "Don't be too inquisitive; this is no time to be poking around the peritoneum." However, in the appendix case he was inquisitive enough to feel around in the abscess cavity for the stone which caused the perforation and found it. He took care not to disturb the adhesions protecting the peritoneum. I have never seen any operator take such care to protect the peritoneum with gauze packing in cases where it might be soiled.

His operation for umbilical hernia is original; as such patients are always very fat and there is no muscle he makes an upper and lower flap of fascia which he makes overlap about an inch and a half. Of this operation I can only say that I wish I had known about it ten years ago. He called attention to the fact that women with umbilical hernia are very liable to have gall-stones which he always looks for.

Speaking of the importance of looking at the appendix when you have the abdomen open for something else, he related an incident which occurred when Ochsner of Chicago was paying him a visit. He had removed a myoma and was about to close when Ochsner said, "Are you not going to look at the appendix?" He replied, "Oh, it's all right, she has never complained of it." "Well," Ochsner replied, "it is worth

looking at, at least." So he looked for it and with difficulty got it out of a mass of adhesions, and besides found a large stone in it. After that he always looked at it, but left it alone very often till a year later, after removing an ovarian tumour with many adhesions and the patient going wrong he reopened and found that the appendix which had appeared quite healthy the week before was now gangrenous and she had a narrow escape for her life.

I have already mentioned his operating on fibroid uteri. Two of these were in young women who were most anxious to have a child. His experience has shown him that under 56 years of age myomas are generally single; after that they are mostly multiple. So, before he began, he said he intended to save or reconstruct the uterus. In shelling out these tumours, which were as large as an infant's head, he not only opened into the uterine cavity, but he tore away three-fourths of the uterine mucous membrane. He tied all bleeding points and then began to cut out a pattern of mucous membrane out of what was left corresponding to what one would see if one cuts open a virgin uterus. Then he hunted around for some muscle among the shreds and trimmed that up, but he saved all the peritoneum which he had peeled off the tumour. When he had sewed up the mucous membrane with 6-day catgut, turning in the mucous membrane like sewing intestine, and then the muscle, he obtained a very presentable uterus. He used his large flap of peritoneum to cover all the sewing and then he reattached the bladder to the uterus. He was quite aware of the risk he ran and was quite prepared to reopen all these cases on the fifth or sixth day and remove the uterus; this would be in about 10 per cent. of these cases. Both these women made perfect recoveries without a rise of temperature. I called his attention to the large cystic ovaries in both these cases and asked him if he would not snip a piece off the thick coat so that they would be emptied and not refill. He replied that 35 per cent. of appendages in fibroid cases were diseased, but as long as the tubes were patent he left the ovaries alone. He believed that conservative work on the ovaries meant a second operation every time. He only did two things to them; take them out or leave them severely alone. Even where he had to remove the uterus he left one ovary which afforded great mental comfort to the woman. He was strongly opposed to telling women with fibroids to leave them alone; thirty per cent. of them, he said, would become cancerous while many of the others would die from indirect results.

He said he had removed many myomas during pregnancy, even opening into the cavity of the uterus without the woman miscarrying; while

in other cases, where he was unable to remove a tumour which would obstruct delivery, he has lifted the tumour out of the pelvis and stuck the cervix down there instead and the women have had a normal delivery. If you have to interfere, don't wait for labour; do a Cæsarean section or a Porro at 8½ months.

I must not close without a few words about Dr. Charles Mayo's operation for goitre, of which he has done some five hundred cases. He has two expert assistants who follow him closely with hæmostats as he shells the cyst out of the gland, or the gland out of the capsule. It takes seven or eight minutes and the hæmorrhage seems terrible, but by the time they have put on between three and four dozen forceps the bleeding is stopped. These thirty or forty bleeding points are tied in ones and twos, and the oozing surface is dried with Harrington's solution. Then the edge is button-hole sutured, taking care that no muscular fibres are caught in any of the ligatures; he lost two in one day from this little mistake; the patient moved her head and the contracting muscle pulled off a ligature and there was a large hæmorrhage under the skin. His breast cases are also beautiful pieces of surgery. In the middle of the operation he removes a gland and calmly waits until the pathologist reports whether it is cancer or not; making a big or a small operation according to his report.

As both the brothers Mayo are most interesting speakers and fairly bristling with percentages of every kind and talking each about three hours a day, I have notes enough to make half a dozen little papers like this; while a summary of the information brought out in discussion by many able men from all over the continent at the Surgeons' Club would make as many more.

TWO CASES OF GUNSHOT WOUNDS OF THE UPPER END OF THE HUMERUS, REQUIRING INCISION OF THE HEAD OF THE HUMERUS.

BY

J. GUY W. JOHNSON, M.A., M.D.,
Cumpas, Mexico.

Both these cases were shot accidentally at short range, with soft nosed bullets, thus causing more damage to the parts than is usual.

Case I.—T. E., Mexican, age 22. About noon, on August 5th, while out hunting in the mountains, he fell, discharging his carbine (caliber .44). The bullet entered the anterior surface of the left arm, just above the level of the insertion of the deltoid. He lost a good deal of blood; but managed to crawl to a ranch, about five miles distance from the

scene of the accident, reaching there about 7 p.m. A doctor was called, and he removed the bullet, which he found lying just beneath the skin and superficial to the tip of the acromion process. He was brought to me at 1 p.m., August 7th, that is, forty-eight hours after the accident; his condition was then as follows:—

His pulse was regular, in volume and rhythm, small volume, low tension. T. 103°, P. 120, R. 24.

The radial and ulnar arteries were beating.

The left shoulder was very painful, and very much swollen, obliterating all land marks.

There was a ragged wound, about one inch in diameter, situated three and one half inches below the tip of the acromion process, and just posterior to the anterior border of the deltoid muscle. The bullet had travelled in an upward and outward direction, through the upper part of shaft and the head of the humerus, splintering them. At the tip of the acromion process there was a small incised wound caused by the extraction of the bullet.

There was no evidence of injury to any of the large nerve trunks; but the deltoid muscle seemed to be paralyzed, pointing to injury to the circumflex nerve. This I was unable to make sure, owing to the pain in the shoulder.

Examination of the chest showed signs of a slight bronchitis.

Owing to the man's poor condition I only washed out the wound (with 1 per cent. carbolic solution), and put a drain tube up into the shoulder joint. I gave him strychnine, and prepared him for operation next morning. The operation was performed under ether anæsthesia, in spite of the fact of the bronchitis, as his general condition was so poor, that I feared to give him chloroform.

Operation.—The incision was continued from the bullet wound upwards to the coracoid process, i.e., about four inches, this was practically parallel to the groove between the deltoid and the pectoralis major muscles and about one-half inch anterior. The incision was through the skin and superficial fascia and fat. On separating the edges of the wound, the cephalic vein and a large branch of the acromio-thoracic artery were seen in the bottom of the wound, these were pulled to the inner side, and the fibers of the deltoid were separated with the handle of the scalpel, thus exposing the capsule of the joint and the upper part of the shaft of the humerus. On examining these with my finger the bone was found to be badly splintered, there being two longitudinal fractures extending down the shaft as far as the condyles, thus dividing the shaft into three pieces. The head and upper part of the shaft were broken into a great number of small pieces, some of which were devoid of

periosteum. All the loose pieces were removed first, later wherever they were adherent to the soft tissues, care being taken to save as much of the periosteum as possible; next the insertions of the muscles attached to the greater tuberosity were cut; the pieces of the head being held with lion toothed forceps—all cutting being against the bone to save the periosteum. This was done with one blade of a pair of blunt pointed scissors. The insertions of the muscles attached to the lesser tuberosity were then dealt with in the same manner. This part was very difficult as I had no assistant beyond the anæsthetist. In all twenty five small pieces of bone were removed. The upper ends of the pieces of shaft were then drilled, and tied together with No. 4. chromicised catgut, as I was afraid to use a permanent suture on account of the wound being septic. The deltoid was then sutured with interrupted catgut sutures, the wound was then packed with iodoform gauze. The skin was sutured with interrupted silkworm gut sutures. Dry dressing with a Velpeau bandage with a large pad of absorbent cotton in the axilla were then applied. The operation lasted nearly two hours; the pulse rose to 140 so a hypodermic of strychnine $1/30$ grain was given, the pulse rapidly came down to 124. A pneumonia jacket was applied as soon as he was put in bed.

After History.

August 9th. T-102, P. 110, R. 28.

Sibilant and sonorous and coarse mucus rales heard all over the chest. Profuse muco-purulent expectoration (acute Bronchitis). The pulse a great deal stronger. Given an expectorating mixture. The dressing was reinforced on account of oozing.

August 10th. T101-102, P-98-104 R. 28.

Wound dressed, gauze removed and a rubber tube inserted, there being a very free sero purulent discharge.

The wound was dressed daily, the discharge gradually growing less, and the bronchitis gradually clearing up. On the 15th the strychnine was reduced to $1/30$ grain.

August 20th:

Stitches removed. Incision healed except where the tube is inserted. Temperature normal for two days. Lungs perfectly clear. Strychnine discontinued. A small piece of dead bone came away while the wound was being dressed. The discharge from the wound is very slight. There seems to be some wasting of the deltoid muscle.

August 31st.

Patient walking around with his arm in a sling. Some dead bone can be felt in the bottom of the wound. Tube removed and gauze drain inserted.

September 10th:

Went home returning every second day for dressing.

October 15th:

Dead bone loose. Under ether three pieces of dead bone were removed and the bone and sinus curetted. The wound perfectly healed, the last dressing being on the 1st. of November.

Result:—The patient can move his arm freely in an anterior-posterior direction and to the opposite shoulder, or to the mouth. He can lift a ten pound weight off the ground and hold it for some time without tiring. He has perfect use of his hand and forearm; but cannot raise his arm to more than an angle of 45 degrees from the body. There has been a great deal of regeneration of new bone from the periosteum that was left, the total shortening being now, (Dec. 1), two inches. The deltoid is very much atrophied, whether the circumflex nerve was injured by the bullet or during the operation I am unable to say.

Case III:—(Mexican Woman aged 21). On August 20th., she was accidentally shot in the left shoulder by a soft nosed revolver bullet, (32 caliber), at a distance of about three feet. The bullet entered the shoulder about an inch below the tip of the acromion process, making a wound about the size of a lead pencil. She lost very little blood at the time; but suffered at a great deal of pain. I saw the woman about three hours after the accident.

Condition when first seen: Mexican woman of age 21. Two months pregnant. Well developed, large amount of subcutaneous fat making it difficult to make out the bony points. Complaining of great pain in the left shoulder. Pulse regular in volume and rhythm, good volume and tension, 88, temperature 98°, respiration 24. No sign of shock. I was unable to find any crepitus, but as the pain was so great I anaesthetised her: I was unable to locate the bullet which seemed to have disappeared under the deltoid muscle, even under chloroform I was unable to make out any crepitus.—I made no great search for it. The humerus moved freely in every direction. I inserted a rubber drain in the wound. I then made arrangements to have her transported to the hospital, a distance of 15 miles. As there were no roads she had to be carried on a stretcher. On account of the great heat in the middle of the day here, this was done early on the 21st. She arrived at the hospital about 11 a.m.

On arrival temp. 100, pulse 110, resp. 24. Very slight discharge from the wound, but its edges looked red and angry.

August 22nd.

T. 102, P. 110, R. 24. Free flow of pus from the wound, which was extremely tender. On moving the shoulder the head of the humerus was

felt to move over some solid body, crepitus was also elicited. The patient was very restless; but absolutely refused any operation at this time. The wound was irrigated daily with 1 per cent. carbolic solution and hydrogen peroxide. Notwithstanding this her condition did not improve. Her pulse and temperature keeping up.

August 26th:

There is a pocket of pus to be felt in the arm about and just internal to the insertion of the deltoid muscle. The pus can be pressed from here to the bullet wound.

August 28:

Patient consented to operation, which was performed at 9 a.m.

Operation:—Chloroform anæsthesia. Duration of operation 45 minutes. A vertical incision 4 inches long was made through the bullet wound, to the tip of the acromium process, to try and locate the bullet. The fibers of the deltoid were then separated with the handle of the scalpel. On rotating the humerus outwards, a hole, the size of the bullet, was seen in the capsule of the joint. The hole in the capsule which was just internal to the long tendon of the biceps was enlarged and the joint explored with the finger. A great deal of pus was expressed from the joint. The head of the humerus was found to be badly shattered into a large number of small pieces. These were extracted, and the joint again examined. It was found that the damage was entirely intraarticular, and chiefly the lower part of the head being damaged, and that by simply removing the remaining articular portion of the head of the humerus and leaving the tuberosity a useful arm could be obtained. A Gigli saw was introduced into the joint and the head sawn off along the line of the anatomical neck. In all ten pieces of bone were removed from the joint. The bullet was not found, it having passed through the capsule below and disappeared in behind the subcapsularis. A stab wound puncture was made behind the acromion process to establish through and through drainage. Rubber drainage tubes were inserted in both wounds. Another stab wound puncture was then made at the insertion of the deltoid to drain this pocket of pus, and another tube inserted here. The separated fibers of the deltoid were then brought together as much as possible with catgut sutures, and the skin wound closed at the top and bottom with silk worm sutures. Dry dressing applied. A large pad was inserted into the axilla and a Velpeau bandage applied.

After History:—The patient made a rapid recovery, the discharge of pus rapidly decreasing, and the temperature falling to normal, only once reaching 100°. The drainage tubes were removed on the 8th. day—

she sat up on the 9th. day—passive motion was begun on the 10th. day entirely healed in four weeks, at which time she was discharged.

Condition when discharged:—There was one half an inch of shortening in the length of the humerus. The deltoid was intact and showed no signs of atrophy. She was able to raise her arm to the horizontal without rotating the scapula and by rotating the scapula she was able to raise it to an angle of about 135° with the body. She was able to bring her hand to the back of her head without any exertion, she could also touch the opposite scapula from behind. In fact to a casual observer one would not notice anything the matter with her arm.

History of the Operation for Excision of the Shoulder:—Excision of the shoulder as first performed by Bent of Newcastle in 1721. It was next performed by Orred of Chester in 1778. In 1786 Morreau, the elder, excised not only the upper end of the humerus, but also the portion of the scapula supporting the glenoid fossa and part of the acromion process.

Syme placed the operation amongst the recognized operations of modern surgery. The earlier operators exposed the joint by raising a flap from the deltoid region. The credit of introducing a single anterior incision, now in general use, is ascribed to Baudens and Malgaigne. Orred, however, had before this used a longitudinal incision from the socket of the shoulder to the insertion of the deltoid.

Chassaignac in 1844 first drew attention to the advisability of preserving the long head of the biceps. Oliver deserves the credit for perfecting the sub-periosteal method.

Main Indications for Excision of the Head of the Humerus:—

(I) Different forms of arthritis disorganizing the joint, and resisting careful treatment in subjects, whose age and general conditions are satisfactory.

(a) Tuberculosis with caries.

(b) Disorganization of the joint after rheumatism, gonorrhoeal rheumatism, wrenches, etc., with ankylosis in young subjects.

(c) Osteitis with suppuration, caries etc.

(d) Epiphysitis, acute necrosis, exhausting the patient, where the outlook for a natural cure is bad.

(e) Disease of the deltoid bursa ulcerating into the joint and setting up a destructive arthritis.

(II) Gunshot wounds, where the large vessels and nerves have escaped injury, and where fragments of shells, bullets, etc., are lodged in the head of the bone, especially if the shaft of the bone has not been much damaged.

(III) Compound dislocation and compound fracture with much damage to the capsule and cartilage of the bone, the large vessels and nerves being intact.

(IV) Some cases of ankylosis.

(V) Some cases of unreduced dislocations of the head of the humerus.

(VI) Fracture of the upper end of the humerus, with dislocation of the head of the humerus.

VII) Recurrent dislocation of the head of the humerus.

(VIII) A few cases of new growth of the head of the humerus.

As both my cases were due to gunshot wounds, I will deal only with that indication.

In gunshot wounds about the head of the humerus we have three possible methods of treatment:—

(I) Trusting to antisepsis and drainage, with removal of loose fragments of bone.

(II) Excision of the head of the humerus.

(III) Amputation of the arm at shoulder joint.

Professor Ollier says:—

“That if the head only is fractured, and not into more than two or three pieces, and these not widely separated, then trust to antisepsis, if later suppuration occurs, then resect;—but if the head is badly shattered and the fragments are separated, perform a primary resection, endeavoring to shape the upper end of the humerus into a new head.”

“If the damage extends not more than four centimeters, then remove all damaged bone; but if the damage extends further than that, you have to leave part of the damaged bone. Even if the shaft is splintered, resect, if the soft parts are fairly sound.”

Professor Ollier is very pronounced in stating that you must save all the periosteum possible, also that you are not to use the bullet wound in place of the recognized incision.

Amputation is called for, when in addition to the damage to the bone, either the large vessels or nerves are damaged, or the soft tissues are so damaged that a useful forearm is out of the question.

In any case of gunshot wounds the amount of damage done depends mainly on three things:—

(a) The nature of the missile.

(b) The distance of the person from the weapon.

(c) The velocity of the missile.

Steel-jacketed bullets with smokeless powder cause much less damage than the soft nosed bullet.

In all cases of excision of the head of the humerus, one must consider what result can be expected.

Longmore, in his Resection of the shoulder in military surgery, pp 12, says that loss of the elevating power of the deltoid, must be accepted, like the loss of the rotating powers, from the division of the muscular insertions into the two tubercles, as a necessary consequence of the resection of the head of the humerus.

Sir J. Erickson says:—

“The four chief movements of the shoulders are:—

- (a) Abduction and elevation.
- (b) Adduction.
- (c) and (d) Movements in an anterior and posterior direction.

These last two are the most important in the trades for the guidance of the hand. These are retained, while the two former are, to a great extent, lost by this operation.

PRIMARY CARCINOMA OF THE APPENDIX.

BY

A. E. GARROW, M.D., and C. B. KEENAN, M.D.,
Assistant Surgeons, Royal Victoria Hospital, Montreal.

Miss E. Y., aged 21, was admitted to the Royal Victoria Hospital October 1st, 1906, complaining of pain in the right lower quadrant of the abdomen.

Seven years ago she had for a short period what she calls a “dead soreness” in this region, which was aggravated or brought on by over-exertion. She frequently complained of pain in this side when menstruating; otherwise her general health has been good.

Four weeks ago, however, she had an usually severe attack of pain, accompanied by vomiting, necessitating her confinement to bed at that time for a day or two, and since then she has had in all five similar attacks. In the intervals she was free from pain but there was an abiding tenderness on pressure in the right side. Examination on admission revealed some tenderness to pressure at or about McBurney's point, and a small tender mass could be palpated two fingers' breadth below a line running from the umbilicus to the anterior superior iliac spine.

On October 4th, incision revealed a slightly adherent appendix, constricted three quarters of an inch from the base and very much distended at its distal portion. There was little evidence of peritoneal inflammation old or recent.

The patient made an uninterrupted recovery and from the last report has remained perfectly well.

Section of the appendix showed complete occlusion for about one inch, the distended and thinned out terminal part containing clear mucoid material. At the operation this was regarded as a typical example of obliterating appendicitis and I am indebted to Dr. Keenan for the opportunity of adding another case of primary carcinoma of the appendix to the rapidly increasing number of such cases now recorded.

Microscopical examination showed that the occluding mass was not an inflammatory nodule, but a cubical celled carcinoma infiltrating all the coats of the appendix.

I need not add but for the routine examination of all morbid material in the surgical clinic this case would have passed unrecognized.

I am indebted to Dr. Mackay of Grenville, who sent the patient to the Hospital, for the opportunity of securing the specimen.

II.

The second patient, I. F., a girl aged 13, was admitted to the Royal Victoria Hospital on March 19th, 1907, complaining of pain and tenderness in the right iliac region. Dr. Harwood of Malone, who had charge of the patient previously, stated that on March 13th, she had been suddenly seized with severe pain in the right iliac region with nausea and vomiting. Extreme tenderness soon developed in the appendix region associated with an increased pulse rate and moderate fever.

When admitted the patient's condition strongly suggested a perforated appendix with localised peritonitis and she was operated on immediately. The appendix was found lying over the brim of the pelvis, which latter was filled with pus. On freeing the appendix from very slight adhesions its distal third was found dark, gangrenous, and distended, measuring one inch in diameter and showing a small perforation. The proximal two-thirds exhibited slight congestion of the serosa only.

Examination of the removed appendix showed a small new growth blocking the lumen just proximal to the swollen portion and this latter consisted of a distended gangrenous appendix well filled with pus.

Sections of this growth showed it to be a small cubical celled carcinoma markedly resembling a rodent ulcer.

The greater portion of the mass projected into the lumen, but it also invaded the muscular coats and a few groups of the tumour cells lay just beneath the serosa. The small cubical cells of the tumour were quite distinct in type from the tall columnar cells lining the remaining lumen of the appendix and transition forms could not be found.

The patient made an uneventful recovery and at the present time, a year later, is in perfect health.

Until quite recently carcinoma of the appendix, unless secondary to caecal cancer, has not been recognized or recorded except in a very few instances. In late years systematic examination of all appendices removed has revealed the fact that primary carcinoma of the appendix is not a rare condition, for the above two, with those previously recorded make eighty-four cases of primary carcinoma of this organ.

It is interesting to note that most if not all of these cases were diagnosed only when the nodule was sectioned. This is true of our two cases and they both illustrate well one type of the so-called "Primary Carcinoma" of the appendix, occurring as it so frequently does in young people, Brandts¹ having reported a case in a seven year old boy and Zaaiker² another in a girl of twelve. Vassmer³ in a recent communication has stated that such growths do not give rise to any symptoms until appendicitis develops and believes that the nodule is indirectly responsible for the onset of the inflammatory symptoms. Cases are recorded, however, where such growths were discovered quite accidentally on the post-mortem table, or where laparotomy had been performed for some other condition.

A careful histological study of our two specimens shows that the new growths originated in the submucosa, possibly from embryonic rests, for the small cubical cells composing the growths are quite distinct and apart from the tall columnar cells lining the remaining lumen of the organ.

Some pathologists have termed these nodules "endotheliomata." We must regard such growths as carcinoma in spite of their small size, slow growth, not recurring when the appendix is removed, nor giving rise to metastases, which, as already pointed out, infiltrate contiguous tissues.

¹ Brandts: Munch. med. Woch., 1907, s. 1780.

² Zaaiker: v. Brunnsche Beiträge z. Klin. Chir., Bd. 54, H. 2, s. 239.

³ Vassmer: Deutsches Zeit. f. Chir., Bd. 91, s. 445, 1908.

BROMURAL: A NEW SEDATIVE AND HYPNOTIC.

BY

H. A. CASSEBEER, M.D.,

Assistant Physician to the Roosevelt Dispensary.

During the past twenty-five years many new preparations, mostly synthetic, having varying degrees of sedative and hypnotic power have been added to medical armamentarium; beginning with paraldehyde (1882) there followed at varying intervals urethane, amylene hydrate, chloralamid, somnal, trional, tetronal, and recently veronal and propional (1903).

The first observations recorded of all these new preparations were uniformly glowing tributes to their satisfactory action and harmless nature. Subsequent experience, however, has shown some of them to be not only useless but also distinctly harmful, while many have justified their introduction and have come to stay. Any new hypnotic, which may be brought to our attention, must prove, therefore, that it possesses some distinct advantage over our present therapeutic agents. Such a progress has been accomplished, I believe by Dr. E. Saam, who succeeded in 1907 in isolating a new substance, alphamonobromisovaleryl-urea, which he calls bromural, having the formula $(\text{CH}_3)_2\text{—CH—CHBr—CONH—CONH}_2$.

Bromural occurs in the form of small white flakes. It has a very faint odour suggestive of valerian, and a slightly bitter taste which lingers on the tongue. It is easily soluble in hot water, alcohol, ether, and alkaline solutions, but practically insoluble in hot water.

The physiological action of bromural depends chiefly on the combination of the isopropyl molecule with valerianic acid, which is intensified by its chemical union with urea and the introduction of the halogen molecule bromine.

According to the pharmacological investigations of Prof. v. d. Eeckhout, as ascertained by animal experimentation, bromural given by mouth, acted as a prompt hypnotic. There were no injurious secondary effects. The drug showed a selective action on the cerebrum, not influencing either the medulla oblongata or spinal cord. The circulation and respiration were but slightly affected. The lethal dose for a rabbit appeared to begin at 1 gramme per kilo body weight of animal. The human subject requiring a much smaller dosage to produce a hypnotic action, there is but little possibility of dangerous secondary effects.

The clinical investigations of Drs. H. Krieger and R. v. d. Velden, instituted at the University Medical Clinic in Marburg, confirm in general these pharmacological findings. They report that bromural acts as a nerve sedative when taken in doses of 5 grains several times daily. When administered just before retiring in doses of 5 or 10 grains it acts as a hypnotic in 5 to 25 minutes. Larger doses do not produce any stronger action. In all cases the effect probably wears off in 3 to 5 hours. In those cases where sleep extends beyond this period it is owing to the fact that natural sleep has been added to the primarily induced hypnotic state. In case this natural sleep fails to occur, a repetition of the original dose procures the same result as before. No secondary action or injurious by-effects on stomach and intestines, central nervous system or circulation were noted. Narcotic

after-effects there were none. The drug was well borne, even in cases of heart disease and gastro-intestinal derangements. In no case was there ever any sleepiness or heaviness the next day. The drug proved of especial value as a hypnotic in the aged.

It seems that no "habit" is induced by continued use, nor appears any cumulative action to occur, as has been so frequently acted with other hypnotics. This may be due to the rapid disintegration of the preparation within the system and its speedy elimination by the excretory organs.

That bromural is free from by- and after-effects and easily borne by all as compared with those hypnotics having a stronger narcotic effect is shown by Dr. Th. Runck, in his reports on the drug when used on children and nurslings, suffering from restlessness and sleeplessness. Doses of 0.1 gramme several times daily were well tolerated without any disturbance of the stomach or kidneys. Prof. E. v. Leyden reports favourably on the drug and says that the sleep induced is in all respects a natural sleep, the patient on awakening feels refreshed and rested and does not experience any drowsiness or depression.

All authors agree that bromural is primarily of value as a nerve sedative and, therefore, indicated in cases of cramps and epileptiform attacks (Linke), eclampsia, especially in children (Runck), mental work and worry, hysteria, nervous dyspepsia, and cardiac neuroses (v. Leyden). It is also a harmless and generally successful hypnotic in mild and moderately severe cases of insomnia accompanying the more serious organic diseases, such as pneumonia, phthisis, nephritis and cirrhosis of the liver, etc (Runck, Krieger and v. Velden). Runck calls attention to the beneficial effect of bromural in cases of excessive night-sweats. Bromural has been used successfully in treatment of the insane by Dr. A. Würschmidt, who believes that the drug will in the immediate future acquire an important position as a hypnotic and sedative, especially in cases of female insanity.

According to Krieger and v. Velden, bromural fails in all cases where pain, cough, angina pectoris and excitement or delirium exist; it can, therefore, only be regarded as possessing a mild hypnotic action.

It is not a powerful hypnotic and fails in all cases accompanied by pain such as gout, rheumatism, neuralgia, pleurisy, etc. As a simple nerve sedative, however, I have used it with uniform success, especially in such mild forms of nervousness in which we are reluctant to use the more powerful narcotics with the attendant dangers of forming a drug habit, cumulative action, and other injurious after-effects.

Bromural, I consider especially efficacious in all forms of nervous excitability and insomnia so frequently associated with cases of mental

overwork and financial worry, hysteria, mild alcoholism, excessive use of tobacco with cardiac irritability, nervous dyspepsia, and in the first stages of rest-cures for neurasthenia, when a harmless sedative is absolutely requisite. In all but one of my cases it was taken without any untoward effect. In this one case (10 grs. on retiring) it was followed by headache and dizziness on the next day; this patient, however, told me she could never take valerian without the same effect, and because of the faint odour suspected the latter drug in the prescription. It may therefore have been a case of auto-suggestion. Otherwise, I have never noticed any bad effects. It has never caused a rash or any of the other symptoms obtained with the bromides, nor did it show the stimulating effects of valerian. In all my gastric cases it was extremely well borne and caused no derangement of stomach or intestines. As regards methods of administration, it is best dispensed in tablet form or in capsules. In general nervousness 5 grains every three hours is sufficient. As a hypnotic 10 grains given at bedtime is necessary. Children can in general take 2 to 3 grains several times daily. For babies, 1 grain is sufficient (Runck).

Bromural is more rapidly absorbed when given dissolved in hot water sweetened with a little sugar. Some very delicate patients, however, objected to this, owing to the taste of the valeric acid. I have, therefore, used the following formula instead:—

℞ Bromurali. gr. LXXX
 Elix. Simplex.
 Spts. Vini Rect. aa ʒii.
 Spts. Ment. pip, gtts XX
 M. & Sig: ʒii q. 3. h. (as sedative).
 Vel ʒss on retiring (as hypnotic).

This is more palatable, and was readily taken in every case.

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GUNSHOT WOUND CAUSING RUPTURE OF BOWEL WITHOUT DAMAGE TO PERITONEUM.

BY

J. C. FYSHE, M.D.,
2nd Assist. M.O.H., Bangkok, Siam.

The following autopsy is reported with the kind permission of Dr. H. Campbell Highet, M.O.H., of Bangkok.

On February 25th the bodies of two Indian pedlars were sent into the Police Hospital for autopsy. They had been shot by dacoits two days before, when about eighty miles up country. At the time of the assault they were lying down in their boat. The police report is to the effect that they were lying down and that they were taken by surprise.

One of them, whose body was riddled with modern, high velocity bullets, died at once. The body of the other, who lived for about thirty-six hours, presents the following wounds:—

(1) A large punched-out wound with blackened edges, on the right side of the abdomen, just below the costal margin, in the anterior axillary line, in size about one inch by three-quarters of an inch.

A probe passes in for about one inch but does not enter the abdominal cavity.

(2) A small punctured wound, one-quarter inch in diameter, four inches below the left nipple and just internal to it. Probing this wound shows it to be in direct communication with (3) a large irregular wound with everted blackened edges surrounded by much cutaneous discolouration on the anterior wall to the right of and slightly above the umbilicus.

(4) To the right of this again are two longitudinal abrasions with dried blackened blood at the edges and blue discolouration about them. They look like "grazes."

(5) A penetrating punctured wound of the left arm. There is no noticeable difference between the entrance and exit wound in this case. Very slight laceration of the muscle tissue between them.

On opening the thorax the pleurae are found clear, no fluid, no adhesions, the lungs are large and healthy and the heart apparently normal.

The abdomen shows free bowel contents. The omentum is shoved over to the right side. The gut is reddened throughout and shows a recent plastic exudate. There are a few slight adhesions between the coils of small intestine, but not of any great extent or firmness.

With the exception of a few epiperitoneal extravasations in regions corresponding to wounds (1) and (3) and (4), the parietal peritoneum

is intact. Its continuity is nowhere destroyed. The small intestine is found ruptured clean across at right angles to the long diameter, ten feet from the pylorus. All the abdominal organs are normal. A solid mass felt in the right lower, anterior abdominal wall is found to be a large leaden slug, three-quarters inch long, embedded in the tissue of the external oblique muscle, on a level with and just inside the anterior superior spine, its point of entrance being proved by dissection, to be wound No. (1).

In the absence of a history of a hand-to-hand encounter, and in the absence of any abdominal bruising not connected with actual gunshot wounds, the most feasible explanation of the rupture would be that it was caused by the impact of the slug.

Such cases are rather rare, and this is my reason for reporting this one.

Similar cases are noted in Taylor, on Medical Jurisprudence, and in Lyon and Waddell, Medical Jurisprudence for India—but in each of these large reference books one case only is mentioned.

THE SPIROCHÆTE PALLIDA: ITS RELATION TO SYPHILIS, A REVIEW OF THE LITERATURE.

BY

R. P. CAMPBELL, B.A., M.D.,

Surgeon to the Out-patient Department, Montreal General Hospital; Demonstrator in Pathology, McGill University, Montreal.

In trying to place the present position of the spirochæte pallida before you I cannot begin better than to quote to you at some length, and somewhat liberally translated a paragraph from Hoffman's most recent work, dedicated to the memory of his co-worker, Fritz Schaudinn, who died, in June, 1906, a little over one year after his famous discovery.

"Although," says Hoffman (14) "the pathology, diagnosis and treatment of syphilis during the last century had been thoroughly worked over and had reached a high degree of perfection, it cannot be denied that, at the beginning of this century syphilitic investigation was dead. Again and again all efforts to overcome the darkness surrounding the etiology of this, so evidently contagious a disease, had led to failure and disillusion. Many, therefore, of our best workers had turned away from the problem and the conviction became more and more widespread that syphilis was a disease peculiar to mankind, not inoculable to animals, and therefore not suitable for experimental work and that the organism which caused it could not be discovered by the present optical, bacterio-

logical and parasitological means." Very early in the century, however, fresh impetus was given to syphilitic investigation through the discovery by Metchnikoff and Roux of its inoculability to the anthropoid apes. Though previously much work had been done on this subject, notably by Neisser, yet a cloud of doubt hung about all published results, and it was not till a chimpanzee, inoculated on 12th June, 1903, showed a primary sore succeeded by a secondary ulcer, that we obtained the first undoubted case of syphilis in the lower animals. The history of this animal is, perhaps, not out of place here.

A two years old chimpanzee (¹⁴) (*Troglodytes niger*), was inoculated on the prepuce on June 12th, 1906, with the secretion from a hard chancre. Twenty-six days after a vesicle with some erosion and induration—a chancre—appeared at the site of inoculation, followed by typical adenitis in both groins. Fifty-six days after inoculation an exanthematous papule appeared on the belly, and this latter went on to ulceration. Three and a half months after inoculation the ape died, with general glandular swelling and enlargement of the spleen.

Not only then did this prove the inoculability of syphilis to lower animals, but also that the disease was comparable to that in man, exhibiting a period of chancre and primary adenitis, and a period of general infection as manifested by general glandular enlargement—splenic enlargement and exanthem.

Rapidly these findings were confirmed and extended, till, to-day, we know from Metchnikoff and Roux, Neisser (⁴⁸), (⁵⁰), (⁵⁴); Berterelli, Siegel, and many others, not only that the anthropoids are very susceptible to syphilis, but that the primary stage, at least, can be induced in lower apes, such as the *Macacus*, or the *Hapale Jacchus* and Pavian monkeys, and that lesions which may perhaps be regarded as secondary (¹⁴), (⁴⁵), at times occur (Siegel). Not only this, but the secretion from the primary sores can be reinoculated and reinoculated with similar results, and further still, the blood and pieces of the internal organs (⁵²) of syphilitic apes will on inoculation cause a typical primary sore. In fact, as the series of inoculation lengthens the disease becomes more virulent for the monkey, and according to Metchnikoff, less virulent for higher apes and man, so that hopes of establishing an immunity are entertained by these observers. (⁵³)

Still another series of inoculation experiments has been made by Berterelli (⁵⁴), though his priority is questioned. Berterelli succeeded in transferring syphilis to a rabbit's cornea. By taking syphilitic material, scarifying the cornea and rubbing in the material he obtained, after two or three weeks, a parenchymatous keratitis which, after ten

to twenty days, again disappeared. By excising the eye, breaking up the corneo and reinoculating, he was able to cause a successive keratitis through a series of 15⁽¹⁴⁾ or more rabbits, (repeatedly), and from one of these corneæ to cause a typical primary lesion in the macacus. The sheep, dog, and guinea pig have also been proved susceptible to this keratitis.

Metchnikoff and Roux' discovery thus naturally aroused many to further investigation, not only along the above lines of animal inoculation, but also with the result that two microorganisms came upon the field as the possible cause of syphilis. The first of these was described by Siegel⁽³⁸⁾ of the Zoologisches Institut, Berlin, early in 1905, and called by him *cytorrhycles luis*. He considered it a protozoan, found in the blood, organs and lesions of primary, secondary and tertiary syphilis (Berl. Kl. Woch., No. 28, '05). He claims to have worked out a rather incomplete life history. The organism is analogous to the scarlet fever bodies described by Mallory, and a large number of observers have confirmed its existence in syphilitic lesions^{(32), (38), (40), (45), (46), (56), (48), (49), (39)}, and not a few claim to have found it in non-syphilitic cases, and consider that it represents some degeneration form of a normal cell. Siegel also claims to have induced syphilis in monkeys and to have demonstrated these bodies in the lesions. He has thus made out a rather strong case for his bodies and has done much excellent experimental work; his results, however, have not been generally accepted,^{(23), (47), (19), (49), (54)}, and we must await further developments. Siegel and his adherents, Schultze and Saling^{(32), (38), (40), (44), (45), (46), (56), (4)}, have been throughout the strongest opponents of the second microorganism put forward, the *spirochæte pallida*, as the etiological factor in syphilis.

It is said that it was while endeavouring to confirm Siegel's findings that Schaudinn of the Kaiserliche Gesundheitsamte, Berlin, and Hoffman, of Universitäts Klinik für Haut und Geschlechtskrankheiten, Berlin, first discovered the *spirochæte pallida*. Their work was first published in the *Arbeiten aus der Kaiserlichen Gesundheitsamten, Berlin*, April 10, 1905, and in the *Deutsche Medizinische Wochenschrift*, May 4, 1905. It was almost immediately confirmed by Metchnikoff and Roux (*Bulletin de l'Académie de Médecine, Paris*, May 16, '05), who drew attention to the fact that three years before, Bordet and Guigon had observed the same organism in a syphilitic chancre, but as they failed to find it in some secondaries, did not pursue the matter further.

Schaudinn and Hoffman first found the organism in the primary sore, sclerosed and closed papules, enlarged glands, condylomata, and in

the spleen. Buschke and Fischer (⁹), and Levaditi (⁵⁹) very shortly announced its presence in the internal organs of congenital lues. Control examination showed it absent in non-syphilitic lesions. The organism is described as follows (S. and H.). It is 4 to 10 μ long, the average being 7 μ . In width it varies from an immeasurable thinness to $\frac{1}{4}$ to $\frac{1}{2}$ μ ; the number of spirals is 3 to 12, or even 20. It is difficult to see in the fresh state and is extremely refractory to stains, so that special methods are necessary. The poles terminate in sharp ends, there are no flagella and possibly an undulating membrane exists. It is motile and can rotate on its long axis, progress forwards and backwards and bend the entire body. The stain recommended by Schaudinn and Hoffman was the Giemsa malaria stain, and it was on account of its pale staining properties that the name *spirochæte pallida* was given it.

From all over the world (⁸), (¹⁰), (¹¹), (¹⁶), (¹⁷) (¹⁸), (¹⁹), (²⁰), (²¹), (²³), (²⁴), (²⁶), (²⁸), came confirmation of Schaudinn's findings, and many modifications of technique for the discovery and staining of these bodies, so that while in April its discoverers had expressed themselves most moderately as to its etiological significance, so great was the confirmation that by October (⁷) they did not hesitate to state that they believed the cause of syphilis had been discovered, and to-day the scientific world accept the fact that in syphilis a spirochæte with the above characteristics is to be found with remarkable constancy. Let me illustrate its occurrence from some of the earliest publications. Siebert (Deut. med. Woch., p. 1642, 1905) of Breslau, examined 125 individuals, 73 were syphilitic, 6 doubtful, and 46 suffered from other diseases. Of the 73 syphilitics, 6 were tertiary, and showed no spirochæte *pallida* was found. The 46 controls were all negative. On this side of the Atlantic, Flexner, in June, 1905, found spirochæte *pallida* in three syphilitics, and none in three non-syphilitics..

Muhlens in 20 chancres found the *treponema pallida* in all, while 9 controls were negative. Of 7 glands examined, 6 gave positive results. In one case, where syphilis was not suspected, spirochætæ were found, and the patient later on developed positive signs of the disease. In 31 foeti, which came from unknown sources, he was able to make a diagnosis of syphilis from the presence of this microorganism in 15, and to confirm his findings later by comparing them with the clinical histories. The remaining cases were not syphilitic with one partial exception.

These are merely picked at random from over a hundred papers which appeared between May and October, 1905, "most of which were confirmatory," as Hoffman says (⁷).

It should be mentioned, however, that Schaudinn and Hoffman (4) at the time of their first communication also described a second spirochæte, larger, thicker, staining more darkly and of a somewhat different shape which has no relation to syphilis, but was found in various ulcerated lesions, and which they named spirochæte refringens. Attention being called to this little studied group of organisms many others at once came into prominence (4), (5), such as sp. buccalis, plicatilis, the sp. of ulcerating cancer; of Yaws, the most like the sp. pallida; of Vincent's angina, sp. dentina, etc. Naturally, from its widespread occurrence the spirochæte refringens caused the first controversy as to the etiological significance of spirochæte pallida. Siegel and Schulze, among others, claimed that these two were identical, but gradually, as observers became more proficient in discovering the pallida, this view has lost ground. To a practiced observer the difference is striking, nevertheless at times confusion may arise. The essential differences are the many curves and their small size, and corkscrew-like appearance, the pointed ends, and the pale staining properties of the pallida.

At first the sp. pallida was only found in primary lesions, in glands in condylomata and mucous patches, but rapidly observer after observer discovered it in all secondary lesions and in congenital syphilis, and, finally, it has been reported in tertiary lesions (51), (14), so that at the present time it has been found in all syphilitic lesions except the parasyphilides, such as Tabes, etc. (see Hoffman's Atlas (14)). Here, however, we come to an important point. In a thin smear it is difficult to find the spirochæte, stained in tissue it is extremely difficult, so that while it has been frequently found in tissue by Giemsa's stain (17), the majority of the tissue work has been done through staining by silver nitrate as put forward by Levaditi (27), (36), (19), (33), (52), (42), (and modifications). It is on this point that the second controversy has arisen. Those who oppose (1) the etiological significance of the spirochæte pallida claim that the silver stained spirochætæ are not spirochæte, but artifacts representing stained nerve and tissue fibre altered by the syphilitic process. The evidence is, however, too strong for such a view (30), (47), (60), (34), (23), as these forms bear a remarkable relationship, not only to the presence of syphilis, but also to its degree and virulence, so that on the whole the question has rather established the value of the silver spirochæte.

In all lesions the spirochæte tends to be found in certain situations. In the primary it is perivascular (30) or in lymph spaces; in roseola (14) it is in the deeper layers of the skin between and in the cells; in lymph

glands, in lymph spaces, and in the trabeculæ, rarely in the cells, in the spleen; in the liver (¹⁴), in and about the liver cells, so with the adrenal (cortex) and kidney. They have repeatedly been seen in blood cells, and have on some occasions been stained from the circulating blood. In the lung they occur about the vessels and bronchi, and in the alveolar septa, and in epithelium, and they are found between the fibres of the heart. In short, in the lymph spaces, perivascular, in trabeculæ and in the epithelium are the chief sites where they are to be looked for. In gunmata they were long sought for without success, but it now seems that they do actually occur, but not in the ulcerated area (hence, the non-infectious character of these), but in the fibrous periphery. If, then, we accept the silver spirochæte there is no gap in its distribution.

We can go still further. In all the experimental lesions in apes, monkeys, rabbits, sheep, etc., which we have already described, it is possible by the methods above described, and also in the fresh unstained state, to demonstrate it in its living motile state. (²³). This is a fact of enormous importance, but though it strengthens the case of the *sp. pallida* enormously, it does not yet clinch the argument. The great desideratum in this respect is that we may be able to grow the organism outside the body, and this up to the present has not been accomplished.

Certain claims have been put forward that the organism has been grown in celloidin capsules, etc., but the evidence is not sufficient. When this is done, and when, with a pure culture we can cause the lesions in animals, as above described, and recover our spirochæte, then the argument will end. Till then we must remember no matter what our hopes and leanings may be, that the Giemsa spirochæte may be some extraneous organism, the silver spirochæte an artifact, that the presence of spirochæte in inoculated animals does not necessarily mean that it is the cause of the lesion, and though we must recognize that the spirochæte *pallida* has been found in all lesions of syphilis in the internal organs, and in the blood, and by those accustomed to work with it with astonishing frequency and constancy, that it is present in the syphilitic lesions of apes, monkeys, rabbits, etc., that in numbers it corresponds with the virulence of the disease, disappearing as the disease becomes milder, and disappearing with mercury and atoxyl treatment. Though all this is most important and demands our interest and expectation of fuller proof, yet to be truly scientific, we must refuse to go farther, we must remember the fate of the Lustgarten bacillus, which also had a considerable following. Yet the proof seems almost complete.

From one other source can proof, perhaps, come. This is not the place to go into the Bordet and Guigon reaction or fixation of the complement, etc., but inasmuch as the test promises another method of diagnosis of syphilis among other diseases, it is not impossible that its accordance with the presence or absence of the spirochæte pallida will suffice to add another link in the chain of evidence.

That I may put the position of those who have most studied this question clearly before you, let me quote the words of Neisser: "If one collects all these facts, which alone and by themselves are, perhaps, inconclusive, that skilled examiners can almost without exception find spirochæte in the secretions, blood and tissues of both hereditary and acquired syphilis, in man and in apes, their occurrence in ape chancre, the result of blood inoculation, and their absence in non-syphilitic blood inoculation, their constant and characteristic form, then we must admit the probability of the etiological relationship, although the conclusive evidence, the causation of syphilis by pure culture, is still wanting (¹⁸).

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EDITED BY

A. R. CHARLTON.

Librarian, McGill University Medical Faculty.

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A. D. BLACKADER,
G. GORDON CAMPBELL,
F. G. FINLEY,

WILLIAM GARDNER,
H. A. LAFLEUR,
JOHN McCRAE,
F. J. SHEPHERD,
J. W. STIRLING

ANDREW MACPHAIL, MANAGING EDITOR.

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MAY, 1908.

No. 5.

POST GRADUATE COURSE.

The Medical Faculty of McGill University announces that arrangements have been made for a more extended course of study for graduate students, during the coming summer, than has hitherto been offered.

During the months of June, July and August, the wards, laboratories, theatres, post mortem rooms and outdoor departments of the Montreal General Hospital, the Royal Victoria Hospital and the Montreal Maternity Hospital, will be utilized by the members of the Teaching Staff of the Faculty exclusively for the benefit of graduates desiring clinical and pathological work.

In the Department of Surgery the following is offered in each Hospital: A daily theatre clinic in which the cases for operation will be discussed and opportunity given for a study of Operative Methods and Technique; in the wards a special opportunity is offered for Surgical Diagnosis and the study of Post-Operative Treatment; in the outpatient departments there is abundance of material.

In the Department of Medicine, visits to the wards will be made daily at regular stated hours and the Diagnosis and Treatment of interesting cases will be discussed. Ample opportunity will also be afforded for the personal study of the ward cases. There is also a large outpatient clinic in each hospital daily.

In the Special Branches of Gynæcology, Ophthalmology, Otology and Laryngology, large out-patient clinics will be offered in both hospitals,

in which special opportunity will be given for the examination of the cases presented. In each of these branches there are weekly operative clinics.

There is also abundance of out-patient material in Diseases of the Nervous System, Dermatology, Pediatrics, Orthopædics and Genito-Urinary Diseases.

In the post mortem room and laboratories of each hospital a large number of post mortem examinations are performed, and much pathological material is systematically examined, an excellent opportunity being thus afforded for studying autopsy methods and examining the pathological material sent from the operating rooms.

In Obstetrics the daily visits of the attending physician to the Hospital will be utilized for the purpose of instruction and any special operations will be made available to the attending graduates.

No fee will be charged for these courses, but graduates who do not possess a perpetual hospital ticket will be required to pay the regular fees of the hospitals for student attendance, viz.: \$5.00 for each hospital.

Special Laboratory Courses and Classes in Clinical Subjects may be arranged through the Registrar of the Faculty, and for these classes moderate fees will be charged.

In order to enable the Faculty to conduct this course on a business basis and to restrict the opportunities offered to *bona fide* graduates in medicine, applicants will be required to register their names and addresses, etc., with the Registrar of the Faculty. For this a Registration Fee of \$5.00 will be charged, which will entitle the applicant to a ticket admitting him to all the privileges of the course, together with a timetable of the attendance at the different hospitals.

The course will be so arranged that graduates may enter upon it at any time, take up such subjects as they please and leave whenever they desire to do so with disadvantage to themselves.

MEDICAL RECIPROCITY.

The authorities who have had to deal with the question of Medical Reciprocity between the Province of Quebec and Great Britain are to be congratulated upon the successful issue of their endeavours. Reciprocity is an accomplished fact. His Majesty the King in Council has issued an order to apply Part II of the Medical Act (1866) to the Province of Quebec.

We append extracts from the official public document (No. 299) of the British Medical Council, wherein is a detailed report of the pro-

ceeding on the question of Reciprocity up to the point of the issuing of the order by His Majesty the King in Council.

The Clerk of the Council.
Privy Council Office, London, S. W.

December 12th, 1907.

Referring to my letter of the 20th ult. (99,523), and to previous correspondence, on the subject of the proposed application of Part II of the Medical Act, 1886, to the Province of Quebec, I am directed by the Lord President of the Council to transmit to you the accompanying copy of a despatch from the Governor-General of Canada forwarding an amended Resolution adopted by the College of Physicians and Surgeons of Quebec establishing the conditions upon which medical practitioners of the United Kingdom will be allowed to practise in the Province.

The Lord President will be glad to be favoured in due course with the opinion of the General Medical Council upon the Resolution as amended.

I am, Sir,

Your obedient servant,

A. W. FITZROY.

The Registrar,
General Medical Council.

(Copy of despatch.)

Copy No. 465.

Government House, Ottawa,
November 26th, 1907.

My Lord,

In continuation of my despatch No. 260 of the 15th June last, relative to the request of the Province of Quebec to have Part II of the Imperial Medical Act, 1886, made applicable to that Province, I have the honour to enclose herewith copy of an approved Minute of the Privy Council, enclosing copy of the amended resolution adopted by the College of Physicians and Surgeons of Quebec, establishing the conditions upon which medical practitioners of the United Kingdom will be allowed to practise in the Province, which completes the information required by His Majesty's Government.

I have, &c.,

(Sd.) GREY.

The Rt. Hon. the Earl of Elgin.

Sir,

P. C. 1744 M.

Extract from a Report of the Committee of the Privy Council Approved by the Governor-General on November 21st, 1907.

The Committee of the Privy Council have had under consideration a despatch dated November 14th, 1907, from the Lieutenant-Governor of the Province of Quebec, forwarding copies in English and French respectively, of a resolution adopted by the College of Physicians and Surgeons of the said Province, completing the information required by the Home Government in regard to application of the Province of Quebec for the issue of an Order by His Majesty the King in Council for the application of the second part of the Medical Act, 1886, as amended, to the said Province.

The Committee, on the recommendation of the Secretary of State advise that His Excellency be moved to forward a copy hereof and of resolutions attached, to the Rt. Hon. the Secretary of State for the Colonies.

All of which is respectfully submitted for approval.

(Sd.) RODOLPHE BOUDREAU,
Clerk of the Privy Council.

Hôtel du Gouvernement,
Québec, 14 novembre 1907.

Monsieur,

Référant à votre dépêche No. 1111 du 30 mai 1907, j'ai l'honneur de vous transmettre une copie anglaise et française de la résolution adoptée par le Collège des Médecins et Chirurgiens de la province de Québec, complétant les informations demandées par le bureau colonial, au sujet de la mise en force de l'acte médical impérial dans notre province.

J'ai, &c.,

L. A. JETTÉ,
Lieutenant Gouverneur.

L'Honorable Secrétaire d'Etat, Ottawa.

College of Physicians and Surgeons of the Province of Quebec.

Extract from the proceedings of the regular meeting held at Quebec on the twenty-fifth day of September, 1907.

Resolved, that Article V. of Chapter IV. of the by-laws of the College of Physicians and Surgeons of the Province of Quebec be repealed and replaced by the following ones:

Those whose names are inscribed in the Medical Register of the United Kingdom of Great Britain and Ireland, pursuant to the Imperial Medical Acts, or to any amendments thereof, shall be entitled upon producing proof of such inscription and establishing that they are of good character, and upon payment of the fee for the time payable on the issue of the license to practise medicine, surgery and obstetrics in the Province, to which a license and to registration thereof without undergoing any examination, provided they establish to the satisfaction of the Provincial Medical Board, either:

1. That four years at least before their inscription in the Medical register of the United Kingdom, they had obtained from the Provincial Medical Board a brevet or certificate of admission to the study of medicine, or

2. That they were inscribed in the Medical Register of the United Kingdom, and became qualified to practise their said profession in that country in the course of a period of not less than five years, during the whole of which they resided out of the Province of Quebec.

This by-law to take effect only when and so long as the same privilege is granted in the United Kingdom to holders of a license or diploma granted by this college, giving right to practise medicine surgery, and obstetrics in this Province.

Resolved that the following proviso added to the Resolution relating to British reciprocity and adopted at the meeting of September last, be by these annulled. "Provided that those who having obtained the British registration will apply for the license of the College of Physicians and Surgeons of the Province of Quebec, have previous to their British Registration, satisfied all the exigencies of our medical law for the obtaining of the license."

(True copy.)

LOUIS P. NORMAND, President.
Secretary of the College of Physicians and Surgeons,
C. R. PAQUIN.

*This communication was acknowledged by the President on December 16th, 1907, with the promise that it should be considered by the Executive Committee at its next meeting, and the expression of a hope that the delay thus caused in forwarding the reply would not occasion any inconvenience.

Resolved: That the President be requested to send to the Lord President of the Privy Council a reply to the following effect:—

The Executive Committee have considered the amended by-laws now in force in the Province of Quebec, establishing the conditions under which medical practitioners registered in this country will be allowed to practise in that Province. The Committee find that in all essential respects these

conditions correspond to those laid down in Section 11 of the Medical Act, 1886, for the admission to the Medical Register of practitioners possessing a recognised colonial diploma, and legally entitled to practise in a British Possession to which the Medical Act applies.

By the enactment of the amended by-laws, and the repeal of a provision which unduly restricted the admission of British practitioners to the Provincial Register the Medical Authorities of the Province of Quebec have, in the opinion of the Committee, provided an equitable basis for the establishment of reciprocal relations with the mother-country in respect of medical registration.

The Committee would therefore welcome the application to Quebec as a separate British possession, of Part II of the Medical Act, 1886, should His Majesty in Council be pleased to issue an order for that purpose.

We are sure the whole medical profession in the Province of Quebec will hail with delight the passing of this legislation, for to them accrue nearly all the benefits concerned therein. Although Reciprocity implies a certain amount of give and take on both sides, still, on thinking over the various phases of the question, we cannot help remarking that nearly all the advantages, and very few of the disadvantages, are on the side of Quebec.

At the very outset it is well nigh a physical impossibility for an equal number of interchanges between the medical professions in Quebec and Great Britain—there is absolutely no room for British practitioners in the Province of Quebec—they positively could not earn a livelihood if they came to settle and practise here, from the conditions appertaining to medical practice in this Province—whereas, on the other hand, there is every inducement for Quebec practitioners to register in Great Britain. Besides opportunities for actual practice in the British Isles, Quebec medical men have now the entrée to all Crown Colonies, the Army and Navy, the Indian Medical Services, and the Mercantile Marine.

At the present day there are many of the younger graduates who, finding the medical profession a little crowded in Canada, and having a leaning towards a life in one of the services, have hitherto been debarred from entering therein, except by the expenditure of a great deal of additional time and money in obtaining a British qualification. Now all this is altered, and we feel sure that some of these younger men will avail themselves of the opportunities thus afforded them and will undoubtedly prove in the future both a credit to themselves and to the medical schools in Quebec.

Again, we have it on very good authority that in those Provinces where reciprocity is established, two commissions in the Army Medical Service will be placed at the disposal of those provinces, and this in addition to the right of all British registered practitioners to compete in the regular Service Examinations. Lastly, besides opening up to graduates such vast fields as India and South Africa, we must not forget

that all other British Colonies, and Italy as well, are partners in the reciprocity scheme, thus requiring only an agreement between Quebec and these other colonies to institute reciprocity in these cases.

HONOUR TO DR. GEIKIE.

As a testimonial of the work of Dr. Walter B. Geikie, formerly dean of Trinity Medical College, in advancing medical education in Ontario and in founding and building up Trinity Medical College, his portrait in oil was unveiled at the Medical School of Toronto University, April 7th, in the presence of a large number of medical men. The picture, which is the work of J. W. L. Foster, was accepted by Dr. Geikie and presented to Toronto Academy of Medicine.

Dr. George A. Bingham made the presentation on behalf of the graduates of Trinity Medical College. In his address he referred to the fifty-one years of service of Dr. Geikie in the teaching of medicine. He started his career in 1856, and from that year to 1860 Dr. Geikie filled two chairs of the medical faculty of Victoria University. His health then broke down and he removed to Aurora. While there he attended to a large practice and came to the city to deliver daily lectures. In 1869 he was appointed to the chair of Anatomy of Victoria University. In 1870, Dr. Ralph, dean of the Medical Faculty of that institution, resigned, and Dr. Geikie left with him, founding Trinity Medical College, in 1871, where he was professor of medicine. In 1877 Dr. Geikie became Dean of Trinity Medical College, and this position he occupied till the amalgamation with the faculty of medicine of Toronto University in 1903. Until 1907 Dr. Geikie was one of the medical examiners of the University.

Dr. Geikie, in accepting the honour conferred upon him, expressed his deep gratification, especially as it represented the warm feelings entertained towards him by the graduates of his old college. Of the fifty-one years spent by him as medical educationist, thirty-two years, from April, 1871, until June, 1903, were specially devoted to the founding, establishing, on as firm a foundation as possible, and the building up of Trinity Medical College with his utmost energy. In those years he ever kept in view and promoted, as far as he could, the best interest of every student who entered its doors. So Dr. Geikie highly appreciated this testimonial of his graduates. It vividly recalled the many pleasant years, periods of continuous delight to him, he enjoyed in meeting his classes daily. With all his heart he thanked every graduate who had a share in the presentation, who was as loyal to his college as he, and who now cherished as sincerely as he its memory.

During 1907 over two hundred papers, lectures and pamphlets were published in Europe and America concerning alcoholism and inebriety from a purely scientific point of view. Many of the authors complain that these papers were practically lost, because they did not reach medical men interested in the subject. The Scientific Federation Bureau organized in Boston two years ago, for the purpose of collecting and disseminating the facts concerning the alcoholic problem, proposes to secure a list of medical men who are interested in the scientific study of the alcoholic problem. The list will be valuable for authors and students, who wish to address a special audience of physicians, not only to increase their interest, but to stimulate more exact studies of the subject. Such a list will enable the Bureau to extend its work of accumulating papers and reprints of all that is written and keep authors and readers familiar with the work that is done. All physicians who are interested in the scientific study of the alcoholic problem and research work, and the studies of medical men at home and abroad, are urged to send their names and addresses to Dr. T. D. Crothers, Hartford, to be registered, and receive copies of papers and abstracts from authors and from others who may wish to have their papers read by interested persons.

We are informed that the medical staff of the Toronto Free Hospital for Consumptives, at Weston, Ontario, are engaged in forming a medical library, and feel sure that many members of the profession would be willing contributors by sending books associated with the good work which is being done in that hospital. If those who are interested in the treatment and prevention of consumption would abandon such high sounding phrases as "crusade against the white plague" in "this Canada of ours," we believe that they would appeal more nearly to men who love moderation in expression.

The annual meeting of the *American Medical Editors' Association* will be held at the Auditorium Hotel, Chicago, on May 30th, and June 1st. An extensive and interesting programme has been prepared and every member of the Association is urged to be present and editors of medical magazines, not now affiliated with this Society, are also invited to meet with them.

Obituary.

REV. PROF. WM. WRIGHT, M.D.

Died, April 15th, 1908, Aet. 81.

There has lately passed from amongst us a man who, at one time, took a leading part in the medical affairs of Montreal, and who was well known to the older men of the profession, but who was a stranger to almost all the younger graduates. His name may, perhaps, have been heard by them occasionally in connexion with the traditions of the Chair of Materia Medica, which he held for so many years in the University, but his memory was a mere name.

Although on the list of consulting physicians to the Montreal General Hospital for twenty-five years, and latterly the senior consultant, but few even of those on the staff of the hospital knew of his existence. Yet he was attending surgeon and physician for thirty years, and formerly did much good work in the hospital, being regarded as a most advanced and excellent teacher. He performed many operations successfully, which, at that time, were considered unusual and hazardous, especially cases of ligature of the great vessels at the root of the neck for aneurysm.

Dr. Wright, during the thirty years he was a professor in the Medical Faculty of McGill University, taught many of the older medical men throughout the country. When in his prime he was a very able lecturer and was much admired for the purity of his diction, the polished elegance of his sentences, and his great fluency. He exhibited a marvellous memory, never in his lectures using any notes. His knowledge of his subject was vast and accurate, and his great attainments won him the respect of the students.

In later years, having retired from practice and entered the Church of England as a clergyman, he failed to keep up with the times, and his lectures, though good of their kind, were not up-to-date, and caused trouble with the students who had to be



REV. PROF. WILLIAM WRIGHT, M.D.

examined on them. This led to his retirement from the college in 1883, and to his being placed on the list of Emeritus Professors.

He began his medical career as a pupil of the late Dr. James Crawford, who was then attached to the staff of the Montreal General Hospital, and was professor of Clinical Medicine in the University. Dr. Wright graduated with the class of 1848; being a few months under the required age of twenty-one, he went abroad for some two years, spending his time chiefly in Dublin, London, Paris and Edinburgh, in which latter place he passed the examination for the L.R.C.S. Returning to Canada, he almost immediately became connected with the Medical Faculty of McGill, first as Demonstrator of Anatomy and Curator of the Museum, and later as professor of Medical Jurisprudence, and in 1854 as professor of Materia Medica and Therapeutics, a position which he held for twenty-nine years. For many years also he was the librarian of the college. He was an attending physician and surgeon to the Montreal General Hospital for thirty-one years, retiring in 1883. For six years (1854-1860) he edited, with the late Dr. D. C. McCallum, the *Medical Chronicle*, and in this journal published many papers, chiefly on therapeutics. About this time he wrote an elaborate article on the treatment of innominate aneurysm, citing a case of his own treated by ligation of the common carotid. The aneurysm tumour solidified and the case was quoted in all the surgeries of that date, and appeared in Erichsen's Surgery as late as 1869.

Professor Wright was the last of the men who for twenty-five years, between 1850 and 1875, did so much to bring up the standard of the Medical Faculty of the University by their teaching in the college and their excellent clinical work in the hospital; men such as Geo. W. Campbell, Wm. Fraser, R. P. Howard, Geo. Fenwick, D. C. McCallum and Robt. Craik—men of wide learning, strong individuality, and great enthusiasm, who impressed themselves on the students they educated. For some years past Professor Wright has led a very retired life, not being in good health, having had a stroke of paralysis some two years ago. The writer has visited him often during these past few years and has been much entertained by the fund

of information he dispensed regarding medical Montreal fifty years ago and the history of the McGill Medical Faculty.

Dr. Wright had a caustic tongue, a pretty wit, and a great command of language, never using a short word when he could use a long one. His disposition was most sensitive and retiring coupled with the strictest sense of humour. He often performed acts of kindness of which but little was known, and he much appreciated any little attentions shown him. He was a widower, having married Miss Margaret Harbeson of Quebec, in 1864, and leaves two sons, both clergymen of the Church of England.

This fragmentary notice may very properly be concluded by a quotation from an address given by him to the students in 1872, on the opening of the then new medical college, in the college grounds, and which can be applied to himself:

“Let your life be as a sun of wisdom shining out upon the world to which your influence extends; let it be unsullied by a cloud of suspicion against your worth and sincerity; and when the crimson of the sunset sky paints the evening, when you shall no more go forth to work, then in the night that follows the bright stars that have treasured up the light of the past will shine forth to welcome you home to the ‘mountain of myrrh and the hill of frankincense.’”

F. J. S.

Reviews and Notices of Books.

THE DIAGNOSIS and TREATMENT of PULMONARY TUBERCULOSIS. By FRANCIS M. POTTENGER, A.M., M.D., Medical Director of the Pottenger Sanatorium for diseases of the lungs and throat, Moravia, Cal.; Professor of Clinical Medicine, University of Southern California, etc., etc. New York; William Wood & Company, 1908. Pages 377. Price \$3.50 net.

The author goes fully into the subject of early pulmonary tuberculosis, its symptoms, signs, and diagnosis, and emphasises its essential differences from the advanced stage. The former, he says, is the disease, the latter the result of that disease. He lays stress on the importance of a carefully recorded two-hourly temperature chart in doubtful early cases, and is a firm believer in the value of tuberculin, both in diagnosis and treatment, and in its practical freedom from danger when intelligently used. He is convinced that in most cases of pulmonary tuberculosis there is a long latent period following the original infection, which probably takes place in childhood. This apparently latent period, however, is not altogether devoid of symptoms, the significance of which is usually not recognised at the present day. But the author is confident that further study and observation will, in the not distant future, enable the careful physician to diagnose the disease with reasonable certainty at a much earlier stage in its development than is at present possible.

The details of physical examination are carefully gone into. Illustrations are given of a very accurate and convenient form of chart for recording findings. The author urges the examiner to familiarize himself with the several methods of percussion, the auscultatory, direct, and Ebstein's touch percussion, and to make use of them all, in addition to the usual method, in every case; each having its advantages. He gives a new method of his own, a description of which he recently published. It consists in eliciting sounds by striking the chest with short pieces of soft or firm rubber tubing. Amongst the special advantages he claims for it are the following: it does not set the long thorax in vibration, obscuring the lung note, and so the stroke can be made across the ribs just as well as parallel to them; slight differences in density are more clearly manifested by change of tone, especially when the firm rubber is used; and it is of particular value in outlining cavities.

Rather less than half the book is devoted to treatment, which he deals with in a broad, rational, and scientific manner. The rôle of the bone

bacillus in human tuberculosis, and its important bearings on the success of the vaccine treatment, and on prognosis, according to Spengler, the author fully subscribes to. There is a full appendix dealing with the duty of the state, the time and manner of infection, and giving a critical study of tuberculin and allied cultural products.

The author's style is excellent, and the book is well illustrated, of convenient size, and well printed. Altogether, we can thoroughly recommend it, not only as a helpful book of reference, but as affording interesting reading on this ancient, but fortunately to-day most hopeful and important disease.

W. W. F.

INTERNATIONAL CLINICS. Edited by W. T. LONGCOPE, M.D., Philadelphia. Volume I, Eighteenth Series, 1908. Philadelphia and London: J. B. Lippincott Company; Montreal: Charles Roberts.

The current number of "International Clinics" is a volume of over 300 pages, and deals with the whole range of medicine and surgery. The opening article upon the "Sanatorium," by Lawrason Brown, M.D., contains every vice of writing known to the present reviewer. The possession of a degree in medicine does not necessarily qualify a man for authorship, but an editor is expected to remedy the defect. Though the writer makes free use of brackets to prevent his sentences from falling apart, his thought is so involved that only a reader can follow it who has plenty of time at his disposal. One would like to know where the writer found the word "anamnesis," which only a Greek scholar will understand means the patient's account of his sickness as a basis for diagnosis. It is worth quoting a few phrases in illustration of that form of writing, not confined to this article alone, which makes the reading of so many American books an impossibility to a person whose taste is not entirely dulled by the process: "In large buildings the more stories gotten under one roof, the cheaper is the cost,"—"The floor of rooms and halls should be deadened. The open windows render this useless for the walls,"—"It is difficult to provide each room with a veranda without blanketing the rooms below,"—"Separate structures vary greatly in cost of construction, being the cheapest (tents, shacks, lean-tos, chalets, etc.) or the most expensive (elaborate pavilions or cottages),"—"Open fireplaces are valuable spring or fall,"—"The septic tank or sewage disposal beds are probably the best systems,"—"Upholstering (unless leather or removable and washable) is not to be used." The article is written in the jargon of a house surgeon's case book, and it receives mention here not because it is singular, but because it is typical of much which goes to make up "medical literature."

ATLAS and TEXT-BOOK of HUMAN ANATOMY. By Dr. JOHANNES SABOTTA Professor of Anatomy, Wurzburg University. Edited with additions by J. Playfair McMurrich, Vol. III. Vascular System, Lymphatic System, Nervous System, and Sense Organs. 297 Illustrations mostly in colours. W. B. Saunders Company, Philadelphia and London, 1907. \$6.00 per volume.

The third volume of this magnificent work from the German keeps well in line with its predecessors. The illustrations are its chief feature and show all structures most plainly. There is no ambiguity and the student and practitioner will learn anatomy with the eye as the panorama of coloured pictures passes by. It is the next best thing to dissecting. The brain is well and even beautifully illustrated as are also the organs of the special senses. With the great advance of modern surgery much more attention is devoted by anatomists to the sympathetic system, and the distribution of glands and lymphatics is well illustrated in this volume, especially those of the axilla and neck. We can heartily recommend this work as an atlas and textbook; as an aid to the practitioner in recalling his fading knowledge of anatomy it will be invaluable.

A LABORATORY HANDBOOK OF BACTERIOLOGY. By DR. RUDOLF ABEL, Medical Privy Councillor, Berlin. Translated by DR. M. H. GORDON, M.A., M.D. (Oxon.) B.Sc. London: Henry Frowde, Oxford University Press; and Hodder & Houghton; Toronto: D. T. McAinsh & Co. Price, \$1.50.

This book, which has already reached the tenth edition, is a standard laboratory book in Germany, and gives a complete account of every important technical detail employed in the bacteriological laboratory. The translator has added an account of those methods which have proved of value in the examination of the air. A special article has been written by Dr. Houston of the Metropolitan Water Board, on the examination of water for sewage contamination. An article has been written by Dr. Horder on the examination of organs, and an account of present methods with regard to opsonins is included. The success of the book is assured by the great pains the author has taken and the attention he has given to every practical detail. The book appears in the Oxford Medical Publication Series, a comparatively recent venture by the famous Oxford Press.

A TEXT-BOOK of PRACTICAL GYNECOLOGY. By D. TOD. GILLIAM, M.D., Second Edition. F. A. Davis & Co., Publishers.

The first edition of Dr. Gilliam's book was published only four years ago and the call for a second one so soon shows that it was appreciated

by those for whom it was intended. The present edition is a complete revision of the former one and has been brought thoroughly up to date, additions to the reading matter and illustrations having been made.

One feature which will serve to recommend it to students in particular is a regional index of symptoms, showing the diseases to be especially watched for when any one symptom is present.

The book is well written and the illustrations are both numerous and clear. The teaching is sound but, in a book published especially for the use of students, it is a pity, that, in describing the operations for cancer of the uterus, Werder's method is not more fully explained and in ordinary vaginal hysterectomy for the same disease no mention is made of the necessity of scraping away all of the diseased tissue and closing the cervix before proceeding with the removal of the organ. It is hoped that these deficiencies will be remedied in the third edition which will doubtless soon be called for.

F. A. L. L.

CONFESSIO MEDICI. By The Author of "The Young People." The Macmillan Company of Canada, Toronto.

"When I meet a long Latin word in a line of quiet English, I stop it and ask to see its root;—a mere animal noise, the cry of an ape courting an ape;—at a time when most medical practice was still strutting or shambling along the old paths;—they wear on their foreheads, like a phylactery, the University arms;—too busy to be interested in their accomplishments;—the *genius loci* of the hospital garden;—accounted for nature by magnifying her belongings;—provisional beginning of learning;—everything is just as easy to Nature as everything else, she prices her goods all at the same value, all her processes are one process, all her facts are one fact;—the random talk which calls itself psychology;—the world will no more ask the advice of psychology in matters of conduct than it would ask the gentlemen at Greenwich to stop the next earthquake;—the chief use of psychology is to satisfy the examiners in psychology;—substituted one set of illusions for another;—Juvenal's prayer;—found no rapture in the contemplation of the country, nor in the destruction of the lower forms of life;—reckons his losses amongst his accomplishments."

When one comes casually upon such phrases as these in a book which bears no author's name, he is impelled to seize upon it and drag it to his secret place and consider further of the matter. The very title, "Confessio Medici," allures one, especially when it is set forth upon a book so correctly printed and so comfortable to the eye and hand. The information about the book is nothing more than that it is printed by

Maclehose, of Glasgow, who never by any chance seems called upon to print a bad book; that it is published by Macmillan and Co.; that it is forwarded by the Macmillan Company of Canada, and is written by the author of "The Young People." One must respect the reticence of an author; and yet one cannot refrain from wondering what manner of man wrote this book; for, written it is by a man, and not pieced together by a machine with random words out of a dictionary. An author cannot conceal himself entirely, since, as Walter Bagehot said of Shakespeare, a writer does not keep a machine to do his work. Therefore, one need not be a sorcerer to discover that the writer is a surgeon more than a physician, a consultant rather than an operator, a graduate of Oxford[see page 13], probably from Christ's; and, as all Christ's men go to St. Bartholomew's Hospital, probably a "Bart's man." Certainly, the description of the *genius loci* fits in well with the garden of that ancient foundation. Finally, the unconfessed author appears to be as wise as Solomon would be if he were yet alive, and as gracious as that other Preacher who gave his heart to search out by wisdom all things that are done under heaven, and wrote a book which by a perversion of exegesis has been accounted of the saddest, instead of the most amiable and amusing. The "Confessio Medicorum" shall also be a secret for the present. The elect will search it out for themselves and obtain relief from the reading of books with shiny pages and loathsome pictures. It is a book of gravity, reticence, and authority, as the writer himself says of Prudens.

A. M.

A MANUAL OF THE DISEASES OF INFANTS AND CHILDREN. By JOHN RUHRAH, M.D., Baltimore. Second Edition. Philadelphia and London: W. B. Saunders Company, 1908; J. A. Carveth & Co., Toronto. Price, \$2.00 net.

This is a book of 400 pages, comfortable to the hand and eye, and contains an amazing amount of information well selected and well set forth. Every word is weighed and every paragraph measured. It would be hard to suggest a better book for students or one which will serve better in practice.

NERVOUS AND MENTAL DISEASES; for Students and Practitioners. By CHARLES S. POTTS, M.D. Second Edition, revised and enlarged. Illustrated with 133 engravings and 9 plates, 570 pages. Published by Lea and Febiger, Philadelphia and New York, 1908.

In this, the second edition, the author has incorporated most of the important advances that have been made in the study of diseases of the

nervous system since the first edition appeared. While in a book of this size it is obviously impossible to treat the various subjects exhaustively, still one is struck with how much there really is. The book is concisely written with no unnecessary "padding." The text is large and clear, and the illustrations good.

The section on Mental Diseases is, perhaps, a little too short. However, throughout the book reference is made to various authorities where the subjects can be found more exhaustively dealt with.

C. K. R.

Medical News.

ONTARIO MEDICAL ASSOCIATION PROGRAMME.

The twenty-eighth annual meeting of the Ontario Medical Association will be held in Hamilton, from May 26th to May 28th. The following is the programme:—

TUESDAY MORNING, MAY 26TH.—*Medical Section, 10a.m.*—(1) Vaccine Therapy in Medicine and Surgery, W. L. Silcox, Hamilton. (2) One Year's Experience with the Therapeutic Inoculation of Bacterial Vaccines of the Toronto General Hospital, George W. Ross, Toronto. (3) The Oponic Treatment of the Diseases of the Skin, D. King Smith, Toronto; discussion on bacterial vaccines to be led by W. Gibson, Kingston. (4) Neurasthenia from the Ætiological Standpoint, H. B. Anderson, Toronto; discussion to be led by J. A. Bauer, Hamilton. (5) Rare Complications of Pregnancy, with report of a case, A Dalton Smith, Mitchell; discussion to be led by G. S. Glassco, Hamilton.

Surgical Section, 10a.m.—(1) Conservative Surgery of the Tubes, with report of five cases, L. W. Cockburn, Hamilton; discussion to be led by T. Shaw Webster and S. M. Hay, Toronto. (2) Method of Treatment of Sprained Ankle, J. Sheahan, St. Catharines; discussion to be led by F. N. G. Starr, Toronto, and T. H. Balfe, Hamilton. (3) Obstruction due to Cancer of the Large Bowel, H. A. Bruce, Toronto; discussion to be led by W. Gunn, Clinton, and Henry Howitt, Guelph. (4) The Surgical Treatment of Compression Paraplegias, A. Primrose, Toronto; discussion to be led by A. B. Welford, Woodstock, and L. W. Cockburn, Hamilton.

Section of Preventive Medicine, 10 a.m.—(1) Diphtheria Antitoxins as Prophylactic and Curative Agents, W. Goldie, Toronto. (2) Medical Inspection of Schools, Helen MacMurchy, Toronto. (3) Control of Minor Contagious Diseases, H. Sinclair, Walkerton. (4) Precautionary

Measures Necessary to Prevent Infection in Typhoid Fever Patients, J. A. Amyot, Toronto. (5) Sewage System for Towns and Smaller Cities, T. Aird Murray, C.E., late of Leeds, England. (6) Anti-Variolous Vaccines, Charles A. Hodgetts, Toronto.

TUESDAY, NOON.—Clinic and luncheon at the City Hospital.

TUESDAY AFTERNOON.—*General Session, 2.30 p.m.*—(1) President's Address. (2) Ballot for the Committee on Nominations, and appointment of scrutineers. (3) Symposium—Arterio Sclerosis: (a) Pathology, J. J. Mackenzie, Toronto; (b) Cerebral Manifestations, Colin K. Russell, Montreal; (c) Ocular Manifestations, Hermon Sanderson, Detroit; (d) Aortic Arch Manifestations, Thomas McCrae, Baltimore; (e) Muscle Manifestations, Harry C. Buswell, Buffalo; (f) Visceral Manifestations, J. A. Bauer, Hamilton; (g) Treatment, A. McPhedran, Toronto. (4) Report of scrutineers.

Meetings of Committees, Standing, Temporal, and Special.

TUESDAY EVENING.—Smoking Concert at the Yacht Club, Hamilton Beach. The Committee on Arrangements are providing an entertaining programme.

WEDNESDAY MORNING, MAY 27TH.—*Medical Section, 9.30 a.m.*—(1) Remarks on the Duties of Medical Examiners in Life Insurance, G. S. Glassco, Hamilton. (2) Remarks on the Fees for Life Insurance, Norman Walker, Niagara Falls; discussion on life insurance to be led by W. H. Merritt, of St. Catharines, J. H. Howell, of Welland, E. M. Hooper, of St. Catharines, and T. F. McMahon, of Toronto. (3) Non-Alcoholic Cirrhosis of the Liver, R. J. Dwyer, Toronto. (4) Some Points in the Treatment of Puerperal Septicæmia, A. H. Wright, Toronto; discussion to be led by H. S. Griffin, Hamilton. (5) Addison's Disease and Adrenal Insufficiency, Benson Cohoe, Baltimore. (6) The Estimation of the Pressure of the Cerebro-Spinal Fluid, R. D. Rudolf, Toronto. (7) The Medical Superintendent, Charles O'Reilly, Toronto.

Surgical Section, 9.30 a.m.—(1) Exstrophy of the Bladder, report of a case, F. N. G. Starr, Toronto. (2) Report of an extraordinary case of foreign body in the bladder, Edwin Seaborn, London; discussion to be led by E. B. O'Reilly, Hamilton, George E. Armstrong and A. E. Garrow, Montreal. (3) The Hyperæmic Treatment, H. P. Lyle, New York City; discussion to be led by V. P. Gibney, New York, S. H. Westman, Toronto, and E. B. O'Reilly, Hamilton. (4) Ulcer of the Stomach, W. E. Olmsted, Niagara Falls. (5) Duodenal Ulcer, A. E. Garrow, Montreal; discussion to be led by J. W. Edgar, Hamilton, G. A. Bingham, Toronto, and Robert Lucy, Guelph. (6) Mechanical Ileus, Operation, Recovery—Remarks on the Diagnosis and Treatment,

George T. McKeough, Chatham; discussion to be led by P. Stuart, Guelph, H. P. Lyle, New York, and A. E. Garrow, Montreal. (7) The Surgical Aspect of Hæmophilia with special reference to Hæmarthrosis, Beverley Milner, Toronto; discussion to be led by V. P. Gibney, New York, Clarence Starr, Toronto, and George E. Armstrong, Montreal.

Section for the Eye, Ear, Nose and Throat, 9.30 a.m.—(1) Lateral Sinus Suppuration and Cerebellar Abscess, J. P. Morton, Hamilton. (2) Tubercular Uveitis, J. W. Stirling, Montreal. (3) Glaucoma, R. A. Reeve, Toronto. (4) Clinical Measurement of Relative Accommodation, Lucien Howe, Buffalo. (5) Accessory Sinus Disease, Perry Goldsmith, Toronto.

WEDNESDAY AFTERNOON.—General Session, 2.30 p.m.—(1) Address in Surgery, Charles L. Scudder, Boston. (2) Gangrene and Abscess of the Lung, George and E. Armstrong, Montreal. (3) Results of the Bier-Klapp Treatment of Tuberculous Sinuses and Joints at the Hospital for the Ruptured and Crippled, New York City, Virgil P. Gigney, New York, and C. E. Preston, Ottawa.

Business Session.—Reports of committees, election of officers, etc., 4.30 p.m.

WEDNESDAY EVENING.—The annual dinner to be given in the Royal Hotel, at which the members will be the guests of the medical men of Hamilton.

THURSDAY MORNING, MAY 28TH.—Medical Section, 9.30 a.m.—(1) Mouth Breathing, John Hunter, Toronto. (2) Report of a Case of Cerebro-Spinal Meningitis, Recovery, A. R. Gordon and Alan W. Caulfield, Toronto; discussion to be led by G. S. Glasco, Hamilton. (3) A Plea for Rational Therapeutics, George Acheson, Galt; discussion to be led by V. E. Henderson, Toronto. (4) The Treatment of Appendicitis, G. R. Cruickshank, Windsor; discussion to be led by G. D. Farmer, Ancaster, D. H. Arnott, London, and H. A. Bruce, Toronto. (5) Some Points in the Diagnosis and Treatment of Diabetes Mellitus, Campbell Howard, Montreal; discussion to be led by Graham Chambers, Toronto. (6) Rheumatism, J. C. Meakins, New York; discussion to be led by J. T. Fotheringham, Toronto, and R. Y. Parry.

Surgical Section, 9.30 a.m.—(1) Pyelonephrosis and Pregnancy, J. F. W. Ross, Toronto; discussion to be led by Henry Howitt, Guelph. (2) Transplantation of the Omentum in Hepatic Cirrhosis, Edmund E. King, Toronto; discussion to be led by T. H. Balfe, Hamilton. (3) Pancreatic Cyst, D. E. Mundell, Kingston; discussion to be led by George E. Armstrong, Montreal, and Clarence Starr, Toronto; (4) Hypodermic Anæsthesia, D. Dunton, Paris. (5) Spinal Analgesia—His-

tory, Technique, Phenomena, Results, Duncan Anderson, Toronto; discussion to be led by G. A. Bingham, F. W. Marlow, and Samuel Johnston, Toronto, and A. H. Perfect, West Toronto. (6) The Third Dimension in the Visualization of Surgical Procedures, N. A. Powell, Toronto. (7) The Treatment of Acute Diffuse Suppurative Peritonitis without Drainage, C. F. Moore, Toronto; discussion to be led by G. A. Bingham, Toronto, W. E. Anglin, Kingston, and Angus McKinnon, Guelph.

Section of Obstetrics and Diseases of Children, 9.30 a.m.—(1) A Fatal Form of Eclampsia, K. C. McIlwraith, Toronto; discussion to be led by J. D. Balfour, London. (2) Obstetrical Technique, Frederick Fenton, Toronto. (3) Some Complications of the Puerperium, report of a case, J. R. Stanley, St. Mary'. (4) Missed Abortion, R. Ferguson, London. (5) Mole Pregnancy, with specimen, C. R. Charteris, Chatham. (6) A Case of Spasmodic Stenosis of the Pylorus in an Infant, with recovery, H. T. Machell, Toronto. (7) Pyo-pneumo-thorax due to a Fusiform Bacillus, Allen Baines, Toronto.

THURSDAY AFTERNOON.—General Session, 2.30 p.m.—(1) Address in Medicine, Charles L. Stockton, Buffalo. (2) X-Ray Diagnosis in Medicine and Surgery, with lantern slide demonstration, Lewis G. Cole, New York. (3) Psychiatry in Relation to General Medicine, C. K. Clarke, Toronto.

MEETING OF THE ASSOCIATION OF AMERICAN TEACHERS OF THE DISEASES OF CHILDREN.

The Association of American Teachers of the Diseases of Children will hold its annual meeting in Chicago at the Great Northern Hotel, corner of Jackson Boulevard and Dearborn, on June 1st.

Requirements for membership in this Association are somewhat unique. To be eligible one must be a regular physician resident in the United States, Canada or Mexico, who is in good professional standing and membership in his country or local medical society and actively engaged as Professor or Associate Professor or Clinical Professor of Pediatrics, or as adjunct to such a chair, or who holds the position of Lecturer on this branch or an equivalent position in a recognized hospital or dispensary staff actively engaged in the treatment of children. All such are invited to join the Association; and all physicians and surgeons interested in children are invited to attend the meeting. Its objects are the study, the teaching and the practice of pediatrics.

The officers of the Association are as follows:

President, Samuel W. Kelley, M.D., Professor of Diseases of Children in Cleveland College of Physicians and Surgeons, Medical Department of Ohio Wesleyan University.

Vice-President, Chas. Douglas, M.D., Professor of Diseases of Children in Detroit College of Medicine.

Secretary, John C. Cook, M.D., Professor of Diseases of Children in Post-Graduate Medical School and Hospital of Chicago (deceased).

Secretary Pro Tem., Robert A. Black, M.D., Chicago.

Treasurer, George G. Cattermole, M.D., Professor of Diseases of Children in Colorado School of Medicine.

Senators W. C. Hollopeter, M.D., Professor of Diseases of Children in Medico-Chirurgical College of Philadelphia; H. M. McClanahan, M.D., Professor of Diseases of Children Medical Department of the University of Nebraska, Omaha; F. R. Gilbert, M.D., Professor of Diseases of Children Kentucky Medical College, Louisville, Ky.

The program for the Chicago meeting is not completed, but in part it is here presented.

Address of Welcome: Arthur D. Bevan, M.D., Prof. of Surgery Med. Dept. Univ. of Chicago, Chairman Council on Education A. M. A.

Address of the President, Samuel W. Kelley, M.D., Prof. Dis. of Children, Cleveland College of Physicians and Surgeons Med. Dept. Ohio Wesleyan University, Cleveland, Ohio.

"The Teaching of Pediatrics as Seen by an Inspector of Medical Colleges," Frederick C. Zapffe, M.D., Secy. American Medical College Ass'n, Chicago, Ill.

"The Fallacy of Attempting to Teach Pediatrics in the Chair of Practice," John A. Witherspoon, M.D., Prof. Practice of Medicine, Vanderbilt University, Nashville, Tenn.

"The Teaching of Pediatrics in the European Schools," H. E. McClanahan, M.D., Prof. of Pediatrics, Univ. of Medicine, Omaha, Neb.

"The Teaching of Pediatrics in The Medico-Chirurgical College of Philadelphia," W. C. Hollopeter, M.D., Prof. Pediatrics Medico-Chirurgical College, Philadelphia, Pa.

"The Doctrine of Difficult Dentition," Theodore J. Elterich, M.D., Diseases of Children, Western Univ. of Penna., Med. Dept., Pittsburg, Pa.

"Anatomical Peculiarities of Infants and Children," Richard B. Gilbert, M.D., Prof. Diseases of Children, Louisville Univ., Louisville, Ky.

"Uncinariasis in the Southern States," J. Ross Snyder, M.D., Birmingham, Ala.

Paper, Wm. W. Butterworth, M.D., Associate Prof. Dis. of Children, Tulane Univ. New Orleans.

"Some Points on Infants' Clothing,"* Alfred C. Cotton, M.D., Prof. Diseases of Children Rush Med. College, Chicago.

Paper, Robert A. Black, M.D., Chicago, Ill.

Paper, Wm. J. Butler, M.D., Chicago, Ill.

Papej J. W. Van Derslice, M.D., Chicago, Ill.

CANADIAN MEDICAL ASSOCIATION.

At the forty-first annual meeting of the Canadian Medical Association to be held this year in Ottawa, on the 9th, 10th and 11th of June, it has been decided to have the following sections: General Medicine; General Surgery; and one session each all going on at the same time, for these: Mental Diseases; Eye, Ear, Nose and Throat; Public Health; Obstetrics and Gynecology; Pathology; Military Surgery. Dr. J. T. Fotheringham, Toronto, and Dr. A. J. Mackenzie, Toronto, are respectively, Chairman and Secretary of this Section; In General Surgery, Dr. Geo. E. Armstrong and Dr. E. W. Archibald, Montreal; In Mental Diseases, Drs. W. H. Hattie, Halifax, and J. C. Mitchell, Brockville; In Public Health, Drs. Chas. A. Hodgetts, Toronto, and Law, Ottawa; Chairman of Obstetrics and Gynecology, Dr. F. A. Lockhart, Montreal; Eye, Ear, Nose and Throat, Drs. Birkett and McKee; Pathology, Dr. W. T. Connell, Kingston; Military Surgery, Dr. G. Stirling Ryerson, Toronto, and Dr. Leggett, Ottawa. The Address in Medicine will be delivered by Dr. Risien Russell, London, England.

The place of meeting will be in St. George's Church, Parish Hall, Metcalfe Street, and the Racquet Court just opposite for Exhibits and Registration; also the Carnegie Library close by for any sectional meetings necessary.

Railway arrangements are completed for all points east of Fort William, in the territory of the Eastern Canadian Passenger Association; and the Standard Certificates plan will prevail. As to Manitoba and west thereof including British Columbia, the General Secretary is in constant communication with the proper people on the subject and hopes to be able to give a definite announcement by May 1st. As early as possible the official circular will be sent out with full information and provisional programme.

The ninth annual meeting of the British Columbia Medical Association will be held in Vancouver on the 20th and 21st of August. A number of papers have been promised, and some interesting discussions

are expected, especially on the question of school hygiene. The officers of the society are:—President, Dr. I. M. Parson, Vancouver; Vice-President, Dr. D. Corsan, Fernie; Secretary, Dr. R. Eden Walker, New Westminster; Treasurer, Dr. J. D. Helmcken, Victoria.

Dr. J. Harris Scammel, of St. John, N.B., died, after a brief illness, from pneumonia, on April 25th. Dr. Scammel was a graduate of McGill in 1894, and had succeeded in building up a large practice in St. John. At the time of his death he was quarantine officer and much respected for his good qualities. He is survived by a widow and family.

Retrospect of Current Literature.

SURGERY.

UNDER THE CHARGE OF DRs. ARMSTRONG, BARLOW, ARCHIBALD, AND CAMPBELL.

HALSTED AND EVANS. "The Preservation of the Parathyroid Glands in Operations on the Thyroid." *Ann. of Surgery*, Oct., 1907.

The parathyroid glands, as is well known, are usually two in number; they are situated in or just behind the posterior capsule of the thyroid and very close to the trachea. At times they may be imbedded in the substance of the thyroid. From their close relation in position and their somewhat similar histology, these two glands have long been thought to have a similar function, but since Gleys' experimental work this view has been set aside by almost all observers. The fact that they are developmentally distinct lends strong support to Gleys' views. Each parathyroid has its own small artery, which comes from the superior and inferior thyroid respectively, or from an anastomotic branch joining these two. The blood supply to the connective tissue around the parathyroids is so poor that one could hardly imagine it replacing a destroyed parathyroid artery. All surgeons are now agreed that complete destruction of the thyroids will cause a fatally-ending tetany, and injury of these to a slighter degree will cause a corresponding degree of tetany.

We have now learned that in the majority of cases of injury of the parathyroids the trouble comes from interference with the blood supply of these glands and not from their removal.

There have been cases, where, with complete excision of the thyroid, all four arteries of the thyroid have been ligated and yet the tetany has not supervened. This can only be explained by the immediate

establishment of a collateral circulation. Mayo's sub-capsular method of thyroidectomy will save both the glands and their blood supply, but it requires the greatest care in its performance. Ultra-ligation in cases of thyroidectomy for Graves' disease is also very necessary.

C. H. MAYO. "Treatment of the Posterior Capsule of the Thyroid Gland." *Tr. A. S. Ass.*, 1907.

The chief interest is the means to save from injury or removal the parathyroids. He states that there are usually two of these on each side. The superior one is at the side of the larynx close to the oesophagus and superior thyroid artery, and the inferior one close to the inferior thyroid artery. He states that tetany is caused by loss of or injury to these. They can usually be recognized, but both their number and position varies greatly. In removing goitres, he prefers, as a rule, general anaesthesia. In diffuse adenomata he differs from Mikulicz who, in such cases, advises removal of portions of the gland on both sides, and advises removal of one lobe as in hyperthyroidism, but with preservation of the posterior capsule. Mayo had only one case of tetany in 375 goitre operations. In the discussion, Halsted stated that tetany comes oftener from interference with the blood supply of the part than from the removal of the parathyroid gland.

Aneurysm.

R. Matas gives further experiences with the radical healing of aneurysm by his method of operation. He gives twenty-one cases of his own and twenty-seven other cases, and shows that the results are almost always good in spite of the fact that there has often been infection of the wound area. Where the entrance and outlet of the aneurysm is not in the same line, he places a soft rubber catheter between the two ends and sutures on this, removing it before the last sutures. If the collateral circulation has been disturbed one does not have good results. Fine needles and silk, as in Carrel's end to end arterial suture, are the most favourable material.

VON DERCUM. "Thyroid Metastases in the Spine." *Jour. of Nerv. and Men. Diseases*, Mar., 1906.

von Dercum describes a case where a colloid struma was removed from a fifty-six year old woman. Histologically there was not the slightest trace of malignancy, but one year later the patient commenced to have symptoms pointing to a pressure paralysis of the spinal cord. Six years after the first operation, the case came to autopsy, and seven tumours in the ribs and spinal column were found. Sections of all

of these showed tissue histologically similar to that of a normal thyroid. There was in no place any histological evidence of malignancy in these secondary growths. He cites seven other similar cases.

WATTS. "The Suture of Blood Vessels." *J. II. Hosp. Reports.*

Watts points out that Hallowell, in 1759, sutured a small lateral wound in the brachial artery successfully for the first time by means of a transfixing pin. Then Schede, in 1882, successfully sutured lateral wounds of the vein walls. Numerous experiments in the suture of lateral wounds of arteries were then carried out, those of Dorfler, in 1899, being especially valuable; he had especially good results in using fine silk sutures that included all the coats. The next step was the circular suture of arteries, or, in other words, the suture of arteries completely divided. Abbé attempted this by tying the arteries over a tube of thin glass, but was not successful. Murphy attempted the same by invaginating the proximal end into the distal but without success. Gluck excised a small section of the artery and slipped it over one end of the divided artery, then sutured the two ends of the arteries by interrupted sutures; he then replaced the excised cuff over the suture line to strengthen it, but this proved a too difficult procedure. Payr united the ends over a prothesis of magnesium, which he hoped would be absorbed before thrombus formation, a wish which the results did not justify. Carrel, in 1902, brought forward a method of circular sutures of arteries which has remained the one method that has given fairly good results. This consists in approximating the ends of the arteries by three stay sutures and completing by continuous silk suture applied with the finest of needles. The suture usually includes the intima. Anastomosis between arteries and veins can be done by this method, and in cases of arterio-sclerotic gangrene of the foot an attempt to switch the arterial blood into the vein has been tried, but without success. Crile has used this method to bring about transfusion of blood with good success.

HALSTED. "Carcinoma of the Breast." *Tr. A. S. Ass., 1907.*

Halsted states that 23.4 per cent. of his cases, where the axilla was apparently free, died from metastases. He does not think that any case where the cervical glands were involved has ever been cured. Halsted agrees with Handley, that cancer always spreads by lymphatics or by continuous growth along planes of fascia, and that when cancer cells enter the blood stream, they always excite thrombus formation which later destroys these cancer cells. He thinks cancer cysts the most frequently overlooked form of cancer, as the contents may be clear fluid

and even the wall may be almost smooth. If the nature is not recognized at the first operation, the case invariably ends fatally, as the metastases are early and widespread. In the early diagnosis of carcinoma he lays great stress on the limitation of the movement of the breast under the skin. He thinks that all operations of an incomplete nature for cancer should be made with the actual cautery, as then local metastases are less likely to develop. He refers to the fact that one occasionally gets cancerous axillary glands without a demonstrable cancer in the breast.

FINSTERER. "Sarcoma of the Female Breast." *D. Z. f. K. C.*, Jan., 1907.

Finsterer refers to the relative rarity of sarcoma of the breast, and refers especially to the so-called cysto-sarcoma of the breast. This latter form, may be roughly described as epithelial-lined cysts lying in a very sarcomatous-like stroma. Mueller described this form first under the term Cysto-sarcoma phylloides. Virchow counted these as sarcomata and stated that the cysts were due to the dilatation of the already present ducts and acini. Billroth gives these tumours a special place and states that they rarely give rise to metastases. Schimmelbusch counts them as fibro-adenomata and states that they represent a more advanced stage and that they are in no way related to the sarcomata. Schmidt and Gabele consider them sarcomata. Out of the author's eighteen such cases, only one gave metastases, and in this case no details are given. There were several recurrences or newly developed tumours. However, in these as in all other sarcomata the author advises as radical an operation as with carcinoma.

OEHLER. "Experiences with 1,000 Cases of Spinal Anæsthesia." *Beit. z. Kl. Ch.*, Bd. 55, 1907.

Oehler first emphasizes the fact that it is Bier we have to thank for this discovery. He states that their injections are made between the third and fourth, or second and third lumbar spines, and they endeavour to replace an amount equal to the fluid that escapes. He states that occasionally, owing to change in form of bones, or to excessive fat, one is unable to enter the spinal canal. He states that the anæsthesia usually comes on three to five minutes after the injection. The upper limit of the anæsthetized area varies, and he thinks by raising the pelvis one can increase the height. He states that nausea and vomiting are occasionally seen, due partly to the injection and partly to the operation. He has used the method on patients as young as seven and as old as eighty years. He has used stovain, novokain, alypin, and tropococain.

Of all these he prefers the last. He uses 1 to $1\frac{1}{2}$ cm. of 5 per cent. freshly made and sterilized solution to which has been added one drop of the ordinary adrenalin solution to the cc. The persistence of the anæsthesia varies from one-half to five hours, but on an average about three-quarters of an hour. Pain, nausea and vomiting are the late bad results. One is never sure of anæsthetizing the parietal peritoneum. Septic processes are a distinct contra-indication.

KUSTER. "Spinal Anæsthesia." *Tr. A. S. Ass.*, V. 25, 1907.

Kuster first refers to the fact that cocain can not be used, as with sterilization it usually becomes decomposed. Stovain had a fatal action in a case reported by Fritz König. Kuster states that the only suitable drug is novocain which is mixed with a minute quantity of suprarenin. He states he has used it for operations as high as the umbilicus. He injects the solution, when possible, with the patient sitting up and bent forward. He endorses the fact pointed out by Ryall of London, that if 15 cc. of spinal fluid are first withdrawn the patient will probably escape the usually severe headache. He uses 2 cc. for the low operations and 3 cc. for the high. The head obstruction, as demonstrated by Donitz, can increase slightly the upper level of the anæsthesia. Five to ten minutes usually is sufficient for the anæsthesia to be complete. Headache follows in about 14 per cent. of cases, but this is relieved by withdrawing 10 cc. of spinal fluid. He combats the statement of the Breslau clinic that pneumonia is as frequent after spinal as after general anæsthesia. He refers to the statement that spinal anæsthesia might cause late degeneration of the spinal cord.

C. B. K.

MEDICINE.

UNDER THE CHARGE OF DRs. FINLEY, LAFLEUR, HAMILTON, AND HOWARD.

THE OPHTHALMO-REACTION IN THE DIAGNOSIS OF TUBERCULOSIS.

The Muenchener Med. Woch. devotes several papers to the consideration of this subject. Although there are occasional exceptions and contradictory results, the test promises to be of considerable value in the diagnosis of active tubercular lesions.

The test is performed by instilling a drop of $\frac{1}{2}$ to 1, or even 2 or 3 per cent. of a watery solution in the conjunctiva. Calmeth recommends a solution free from glycerine which he regards as a possible irritant, an assumption which has since been shown to be erroneous. If kept in a cool dark place the solution remains good for four to six days.

The first change in the eye is a dilatation of the pupil, taking place in $1\frac{1}{4}$ to $1\frac{1}{2}$ hours. The dilatation may be extreme and the light reflex may be lost. Whether the pupillary change is more marked in severer reactions is yet undecided. The reaction itself appears in 3-4 hours or sometimes later 15 to 24 hours, and these late reactions may be very intense. As a rule, if the patient can only be seen once a period of 15 to 20 hours should be chosen. Letulle distinguishes three grades of the reaction. In the slightest the caruncle is swollen and reddened and the conjunctiva only slightly reddened; in the second form there is marked reddening of the caruncle and conjunctiva with lachrymation, whilst in the most severe form in addition to marked reddening there is purulent secretion, and sometimes œdema of the lids, ecchymosis and intolerance of light.

Cases also occur in which the result remain in doubt, particularly when the conjunctiva is vascular as in old people in febrile states.

In adults when local changes in the eyes are present the test cannot be employed, as the result may then remain in doubt.

Hypersensitiveness of the conjunctiva is induced by the use of tuberculin, so that a larger proportion of cases react to a second test, and by repeated doses a positive reaction may occur even in non-tubercular individuals. This local hypersensitiveness may persist for several weeks and the reaction is more severe and appears earlier in proportion to the number of instillations. It is particularly severe when the first test is positive. The reaction, if negative at the first trial, appears more readily in tubercular than non-tubercular cases, in whom 3 or 4 repetitions of the test are necessary to obtain a reaction. A sharp line, however, cannot be drawn between the two classes, and repeated tests cannot be used as a diagnostic aid. Experience in children shows that the quantity used plays a part in the reaction and a weaker solution $\frac{1}{2}$ per cent. should be employed. Concentrated solution 2-3 per cent. and a large drop of 1 per cent. solution may even produce reaction in non-tubercular, a result corresponding to experiences in animals. It is thus necessary to avoid concentrated solutions, a large quantities or repeated observations in the same eye to obtain reliable results.

The local changes are more marked when the test is repeated after a subcutaneous inoculation of tuberculin, and the reaction is more marked after a previous subcutaneous injection, and may appear in non-tubercular individuals even when weeks elapsed between the subcutaneous and ocular tests. The occurrence of the reaction has been noted by Calmeth in non-tubercular animals after the use of tubercular.

Blum and Schlippe found a reaction in 13 per cent. of non-tubercular or doubtful cases, in 60 per cent. of very suspicious cases, and in 80 per

cent. of cases certainly tubercular. In severe and rapidly advancing cases the test may fail. Thus in a caseous pneumonia of three weeks duration it was negative. In another severe case a very slight reaction was present two months before death, and absent eight days before the fatal event. The absence of reaction in severe cases corresponds with the results of animal experiments. Schröder and Kauffmann, however, found a positive reaction in severe and unfavorable cases, although advanced hectic cases react only slightly if at all.

Blum and Schlippe found an absence of reaction in some very chronic cases and on the other hand noted its presence in tuberculous meningitis (2 cases) 24 and 48 hours before death. In two cases of tuberculous pleurisy it was absent. 219 patients in whom tuberculosis was absent or improbable showed a positive result in 31. Of the total number 43 had febrile disorders in which 2 or 9 cases of scarlatina and 2 of 8 pneumonias reacted.

In typhoid, Krauss, Lusenberger, and Kress found a positive reaction in 11 of 12 cases, and conversely a reaction occurred in tubercular cases to typhoid toxin. They concluded that the reaction was not specific, but the expression of sensitiveness to toxins in general. Of eighteen cases of typhoid tested by Blum and Schlippe one of nine only showed a reaction during the fever and the 3 of 9 in the febrile period. Bourget also records positive reactions in a case of hemiplegia and of acute peritonites without tubercular lesions at autopsy, whilst Massary and Weilan found a reaction in a general carcinomatosis. Blum noted a positive reaction in three cases of pernicious anæmia and in two cases of apoplexy.

Schröder and Kauffmann have collected the cases hitherto published in the literature and find 11.5 per cent. of tuberculosis cases do not react to the tests, some of these being of a severe character. In suspicious cases of tuberculosis a negative result was found in 48.6 per cent., and in non-tuberculosis cases 87.3 failed to react.

In the non-tubercular cases 8 of 12 cases of typhoid were positive, a fact which Cohn regards as due to hypersensitiveness to bacterial albumen in general.

Compared with the subcutaneous injection of tuberculin, the ophthalmic reaction is decidedly less certain. Fraenkel and Beck found that suspicious cases reacted in 85 to 92 per cent., which only 48.6 per cent. of such cases reach to the ophthalmic tests, and the positively tuberculous cases always reacted.

ORTHOPAEDICS.

UNDER THE CHARGE OF DRs. FORBES AND TURNER.

FRACTURES AND JOINT INJURIES.

The Arthritides

In reviewing the work for a time past there has been some decided advance in this department. A decided move for the better in the nomenclature is being generally adopted which assists in the classification. Arthritis is adopted as a class name with proper subdivisions, and the term Rheumatism should be confined to that specific entity, Acute Rheumatic Fever. More especially in the chronic forms this should be noted, and give some meaning to that indefinite class, the chronic rheumatisms. Goldthwaite and Osgood by means of excellent radiography have shown many of these joints to have synovial membrane and bone involved in a very similar manner to those giving a definite history of some previous infection such as gonorrhœa, and suggest the name of "Infectious" to be given to this class in general. This would include, besides those following definite infections, as typhoid, pneumococcus, gonococcus, etc., that type of arthritis showing chronic involvement of a joint or joints when, at times it is referred to some tonsillar or pharyngeal infection, at times none such, and yet giving a definite clinical course and the radiograph findings as above. If Infectious be not accepted, at least the term "arthritis chronica" might be adopted. This is invading a very general field and yet the interest in the classification is essential.

Among points of interest in some special regions one must mention some of those affecting the vertebral column. The recognition of typhoid spondylitis is of distinct value; and though not very common the recognition is important. McCrae of Baltimore, has given a good account of the same. The condition again emphasizes one of Dr. Osler's maxims, "examine the back." One of the assistants from Litten's Klinik in Berlin cites cases. In these in the early convalescence "back pain" was complained of, very severe in character. On examination definite spondylitis was noted. Radiographs showed actual destruction of tissue of the bodies of vertebræ and the intervertebral disc, causing deformity. The treatment consisted in supporting the column to relieve reflex spasm, to prevent deformity and at the same time pressure to be relieved as much as possible, as the condition is extremely painful. As far as could be judged by the radiograph the bone infection resembled an osteo-myelitis without any special extraosseous abscess formation. Another form of spondylitis which gives rise to many "back symptoms" is the osteo-arthritis—the small osteo-

phytes, almost needle-like in form, running out in the spinal ligaments. Signs of osteo-arthritis elsewhere and the X-rays are the essential for diagnosis. Chute, of Boston, reports two cases which had been observed for some time, renal calculus being the cause supposed.

Spondylitis tuberculosa.—Here the advance is considerable and the nursing of the active condition has been much aided by the moulding of a plaster of Paris bed to the patient. This extends from the cranium to well down the sacrum with straps across the patient's body to keep him well splinted. Patients are very comfortable and the regulation of the bed pan and general cleanliness is simplified. An additional benefit is the doing away with complicated extension apparatus. In infantile cases, carrying-straps may be added and the child carried around as in a basket, thus getting the additional benefit of fresh air, etc.

This is the present customary mode of treatment in the Lorenz and Hoffa Clinics, and the number of bed-ridden children is much diminished, and the general condition of the patients appeared to be better than in some of the American clinics when recumbency and extension were practised. Hoffa followed this method in 210 cases. A great advance where active disease is present is the gradual (very gradual) correction of the deformity when the plaster beds are changed. Throughout treatment the skin is kept in good condition by means of strips of muslin next to the skin, by means of which the skin may be well rubbed frequently during the day.

Tuberculosis of the joints.—As to diagnosis, much greater attention is being paid to early diagnosis. In nearly all the great clinics the terms "chronic sprain" and "chronic rheumatism" are being much eliminated. The work of Werndorff in Vienna last year has been a decided stimulus. He strongly urged that every joint case giving a history of chronic pain, disability, partial or complete, after a thorough examination should be radiographed. In fact, it was a part of the routine examination with him. This has served to show that the percentage of cases of joint tuberculosis, primarily synovial in origin, is much greater than was formerly supposed. Besides it has been of cardinal importance to differentiate whether the case should have radical or conservative treatment. Naturally where the plate presents a solitary focus of infection, removal of the same is indicated, otherwise the conservative method is the one.

WERNDORFF. "Pathology of Tuberculosis of the Hip Joint." *Centralblatt für Chirurgie*, July 21st, 1906.

Speaking of the pathology of Coxitis it is difficult to decide whether it should be treated by operation or conservatively. By the use of

X-Rays we have a method which not only shows us the status præsens but enables us to study the progress of the disease. Werndorff, in a series of cases, came to the following conclusions:

1. In the earliest stages the synovial type can be positively diagnosed by means of the radiograph.

2. The most important and only symptom in the early stages is regional atrophy.

3. The early appearance of the regional atrophy, in one case as early as the second week of the disease.

4. In the beginning of the disease, almost imperceptibly the contour changes in the line between the head of the bone and the shaft of the so-called "femur-neck" line, which remains stationary on the corticollis for a long period of time. This change does not extend beyond the capsule.

5. The destruction of the cartilage cannot be demonstrated in the onset when the articular space becomes indistinct, but it can be recognised much earlier than the changes in the contour of the epiphysis of the head, which must not be confused with normal growth disturbance.

6. In the adjoining part which becomes affected by tubercular atrophy the regional atrophy becomes typical when there is greater involvement of the joint.

7. The clinical impression gained from the radiograph, even though a beginning destruction of the cartilage is demonstrable, accounts for the pathologic condition of limb-abduction, even though the trochanter major is not above Nelaton's line.

8. The clinical changes from abduction to adduction can be explained by means of the X-Rays.

9. The synovial type of the disease is most frequent.

10. Friedlander's observation that certain localised tubercular areas caused partial limitation of motion, was confirmed by Werndorff. He was able to localise tubercular areas without the use of the radiograph by this method. He also calls attention to two important symptoms—(a) Limited motion; (b) the atypical pathognomonic position—adduction.

11. The X-Ray examination is not only important at the onset but should be made systematically whenever the dressing is changed, for it will positively aid in the diagnosis of the synovial type of the disease. Therapeutically the X-Ray examination is an important factor deciding whether a case should be operated on or handled conservatively.

Further, in the question of healing, Dollinger and other men have shown that fibrous ankylosis is almost the regular event and not bony.

Very frequently this last, but especially the occurrence of sequestra follows the addition of mixed infection to the previously existing tubercular one.

In the question of treatment, this comes under two main heads: radical and conservative. The former is adopted when an isolated focus is determined or where the conservative trial has proven a failure. The method adopted is extirpation of the focus, resection or erosion. This treatment was carried out in every case of joint tuberculosis in the Mosevig clinic in Vienna. After removal of the disease he filled in the cavity with a preparation of Iodoform wax. His preparation of the cavity was remarkably good and before pouring in his wax it was well chiselled out and thoroughly dried. His primary results in the way of healing were good, but later results, i.e., after six months, were not obtainable. One fact was noted—the considerable disability in ankle joint cases, where he always extirpated the astragalus, thus quite destroying the firm lateral support of the joint. The various other great clinics are firm for the conservative primary treatment, except that some differ in the case of the elbow joint.

Conservative treatment comes under the heads of Tuberculin, Marmorck's serum, Extension, Fixation and Bier's Hyperæmia treatment. With Tuberculin Ridlon of Chicago, Tunstall Taylor, Steward of London and others, have been following observations in selected cases. The first named in ten cases concludes that the results are somewhat encouraging though in no way conclusive. A low tuberculo-opsonic index with joint symptoms suggests tuberculosis. In radical treatment a low tuberculo-opsonic index somewhat contra-indicates. Perhaps there appeared to be a slightly greater tendency to abscess formation. Where auto-inoculation is present Tuberculin is contra-indicated.

With Marmorck's serum.—Hoffa's statement that "the serum has a curative action on tubercular processes practically specific" is a great exaggeration, and having personally seen a number of his observations the chance of error is considerable. The conclusions arrived at by one man (whose name I have unfortunately forgotten) reporting "There is no reason to believe any harm may come from the remedy," suggest the quite inconclusive state of opinion at present.

Fixation by the Thomas' splints or plaster of Paris.—The effectiveness of this treatment is seen in the fact that it is the accepted continental method. It is very generally adopted in England, though many of our American colleagues are still loyal to the extension methods of Taylor. Bennie of Melbourne, has given a very good summary and results following the treatment of Thomas, of Liverpool, slightly modified. Plaster of Paris is the method in the great Continental clinics.

Before referring to Bier's hyperæmic methods it would be wise to mention the question of treatment of tubercular or cold abscess. The danger of incision and drainage is now fully recognised, and this should be more emphasized in our teaching. Secondary infection is almost the rule. Throughout the Continent, the majority of the leading Englishmen, and many of the American surgeons adopt the principle of aspiration, or incision removing all possible and then tightly sewing up. The surgeons at Great Ormond Street, in addition, sew up fascia and skin in layers, thus providing an additional precaution against sinus formation, also using interrupted sutures when doing the same.

Bier's hyperæmic treatment:—This is being much used, with the rubber bandage, glass cup, the vacuum chambers and hot air. Schmieden, Bier's first assistant, gave little new in his last articles except the great value of the "Stauungsbinde" in gonorrhœal arthritis. There has been no loss of confidence among the followers of this method.

Injuries to bones or joints.

In connection with this subject attention is drawn to a further aid in the diagnosis of certain shoulder joint injuries. Codman of Boston and Baer, of Baltimore have presented the fact that many of the supposed shoulder joint disabilities are really quite extra-articular and due to inflammation of the sub-deltoid bursa. This bursa extends normally at least $\frac{1}{2}$ an inch or more under the acromion and over a finger's breadth below the same. Thus any inflammation causing adhesions in the bursal sac will easily cause extensive disability of the arm, especially abduction and rotation disability. When one appreciates this and how frequently it is exposed to trauma the occurrence is by no means an uncommon one, and the relief much simpler than in an articular condition.

Attention should be called to a paper by Jones, of Liverpool, written in 1906 "On certain injuries associated with displacement of the head of the humerus" in which the writer presents 26 cases. It is a valuable contribution accompanied by radiographs which illustrate the variety of conditions which may occur. The importance of early reduction of the dislocation is impressed; and this should be accomplished before the fracture is treated. The writer found that the method found most useful consisted in powerful vertical extension and at the same time pushing up of the lower fragment.

Bardenheuer, of Cologne, at the German Othopædic Congress, 1907, presented a paper on the "Prophylactic treatment of Joint Injuries against ankylosis," and called attention to the fact that in these injuries hæmarthrosis is almost to be expected where any dislocation or fracture

occurs. Gräsner who presents the best X-Ray plates I have seen, reports that in 48 dislocations 24 or 50% presented some fracture usually of the greater tuberosity. Naturally in a hæmarthrosis fibrin deposit or adhesions are to be avoided, and for this purpose extension is advised. This extension is carried vertically above the head and after 2-3 weeks, passive movement and light exercise are practised. In cases like those cited by Jones he carries the extension at right angles from the body. The results are certainly gratifying. Where the injury has been elbow or lower arm he uses an extension splint, very ingenious and yet very practical. Previous to the splint being applied or while waiting, the arm was kept flexed at an acute angle. Both he and Alexander find that this position is very valuable, and especially so, because any fragment tends to work out from between the articular surfaces and reduction is obtained. The experience gained from 212 cases furnishes the conclusions.

Jones, in an article on elbow joint injuries, declares that every one of such, except fracture of the olecranon he puts in the acutely flexed position. His clinical experience confirms the cadaver experiments of Cotton of New York, who found that this position reduced the fracture and prevented displacement. Scudder also confirms this in his book on fractures.

As to fracture in general the extension treatment by Bardenheuer is much used in Germany. Arbuthnot Lane applies in as many of his cases as possible small steel plates and screws.

Jones routine treatment is: the arm remains acutely flexed for 2 weeks, held there by means of a neck ring and wrist cuff joined. If the elbow has been progressing favourably he lowers the hand 1 to 2 inches. If the progress has been satisfactory the patient next day should be able to raise the hand the 2 inches. If not the elbow is again acutely flexed.

Hennequin of Paris uses 4 fingers thickness of wadding as a first dressing in simple fractures until the swelling has subsided somewhat and then splints. Elastic pressure is carried out by means of this thick dressing with very beneficial results in the first stages of treatment.

Society Proceedings.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

The tenth regular meeting of the Society was held Friday evening, February 21st, 1907, Dr. Wesley Mills, President, in the Chair.

A. E. GARROW, M.D., exhibited three living cases which he had operated on:

1. Extensive Necrosis of Tibia.
2. Bone Cavity filled with Mosestig-Moorhof Preparation. (Illustrating this with X-ray plates of other cases treated in this way.)
3. Carcinoma of the Breast.

This case resembled very much a chronic cold abscess, though it proved to be a medullary carcinoma; no recurrence after one year.

G. E. ARMSTRONG, M.D.—This method of dealing with bone cavities is one which I have employed in a number of instances with great satisfaction. While on a visit to Germany, Moorhof assembled for us some sixteen or eighteen cases in the various stages of repair, with skiagrams taken at different times, which were very interesting. There were two elements upon which he depended for success, apparently, and one was the securing of a sterile field. To obtain this he scraped thoroughly, removed all infected soft tissue, and then applied one per cent. solution of formalin, which he found most satisfactory.

The other element was the securing of a perfectly dry cavity. This he obtained by the use of a hot air apparatus, similar to that used by dentists, only much larger, specially constructed for himself. So far I have dried these cavities with the point of the thermo-cautery carried to a white heat and passed along the walls. I think though to get the best results we should have a better way of drying these cavities. The element of dryness is almost as important as the one of sterilization. One case of death from iodoform poisoning was reported from a neighbouring province, in which a cavity in the femur had been filled. I had a full account of the history of the case and the symptoms certainly pointed to this and I could find no other cause. There was also a similar case reported in an American journal. Moorhof, however, used it extensively, and he assured us that he had never seen any trouble arise from its use.

A. E. GARROW, M.D.—I had the opportunity of seeing quite a number of Moorhof's cases and seeing him work. I adopted the plan of drying out the cavity with absolute alcohol, allowing a certain amount of time for evaporation. In extensive cavities I have had invariably a breaking down and extrusion of the preparation with in a few cases a successful closure, but in the majority of these cases they have to be scraped out on more than one occasion before closing.

PERIPHERAL ATROPHY OF THE CORNEA.

J. W. STIRLING, M.D., exhibited this case.

W. F. HAMILTON, M.D.—I would like to ask if this condition has anything whatever to do with Arcus Senilis, and, further, if Dr. Stirling knows of any nervous change accounting for the condition.

J. W. STIRLING, M.D.—The first few cases which were reported, occurred in elderly people, and it was thought that it must be associated with arcus senilis. The pathological changes are fatty degeneration of the substantia propria, such as occurs in arcus senilis, but in the disease under consideration the degeneration proceeds further, the tissue breaks down and undergoes absorption. Cases, however, have been reported in young people, in whom arcus senilis does not occur and hence all that can be said is that it is a similar condition to arcus senilis. As to a nervous cause being at the bottom of it, I am unaware of any proof of it.

A CASE DEMONSTRATING A METHOD OF TREATMENT FOR LUMBAR POTT'S DISEASE, WITH SHORT NOTES ON THIS METHOD.

A. MACKENZIE FORBES, M.D.

A. E. GARROW, M.D.—I would like to ask Dr. Forbes if the application of the bandage in this position is meant practically and entirely for the early stages, that is, before deformity and fixation. Otherwise, it seems to me a pretty trying position to force the child's spine into, if the case is anyway advanced. This position is one which is adapted for the treatment of early stages of lumbar disease. •

W. F. HAMILTON, M.D.—I would like to ask if the patient is so fixed that she can walk around and enjoy change, fresh air, etc., or if this position is for the complete rest in bed treatment. My experience with these cases is that they are only successful when complete rest in bed has been enjoined.

A. MACKENZIE FORBES, M.D.—In answer to Dr. Garrow's question. The child had had lumbar Pott's disease for from eighteen months to two years. As to the method, I may say that it is very much to be preferred for the early cases, though it is advantageous in the older cases as well.

This child has a marked deformity, which might easily have been seen had I arranged my jacket in the usual way, that is, by cutting a window over the deformity.

The method may be advantageous in sub-acute and chronic cases because, as we know, in the majority of cases of tuberculosis of the spine there is more fibrous repair than bony, and it is quite possible that if we can hold the spine in good position and allow time to elapse bone may fill in the space which is left by the disease.

I agree with Dr. Hamilton that general rest is essential in the treatment of tuberculosis of the spine. The trouble is that we cannot get this in all cases, especially with the poorer classes. I would suggest as the best treatment for patients suffering from spinal disease that they

be treated by a jacket and kept in bed all the time in the open air. In those cases where this is not followed we put them in some form of ambulatory treatment, say in jackets, and trust that they will get as much rest and fresh air as possible. The treatment carried out here is a treatment for use in bed and for ambulation.

JAMES BELL, M.D., read the paper of the evening, entitled,
EXCESSIVE LENGTH OF THE SIGMOID FLEXURE AND ITS SURGICAL SIGNIFICANCE.

F. M. FRY, M.D.—Hirschsprung, of Copenhagen, who first described congenital dilatation of the colon, reported no less than one hundred cases. He demonstrated an interesting point in the morbid anatomy, viz., atrophy or absence of the longitudinal muscular fibres of the bowel with extreme hypertrophy of the circular fibres. Thus, the more the colon contracted, the more obstinate was the constipation. In the large German clinics practically only one treatment was adopted, viz., daily copious irrigations of the entire large bowel.

A. E. GARROW, M.D.—With the exception of one or two cases of acute intestinal obstruction due to volvulus of the sigmoid my experience is limited to a single case, which came under my observation during the last three weeks. The patient was brought into hospital for severe vomiting and profuse diarrhoea, which had existed for five weeks. During the summer and autumn of 1907 she had had two such attacks lasting from two to three weeks. A year previous she had been in hospital for some pulmonary condition, but was discharged quite well. On examination of the case the whole abdomen was more or less distended and there was visible peristalsis. Under rest treatment and the use of enemata the distension largely subsided, the peristalsis disappeared and the patient's condition seemed to improve. I distended the bowel from below with gas, thinking that probably the scar from a previous operation for appendicitis might be the cause of the obstruction. Immediately a transverse tumour, three or four inches in diameter, made its appearance just above the pubes. On removing the rectal tube this rapidly disappeared. I now looked upon this as the transverse colon. Next day, on opening the abdomen, the small intestines were found contracted and an enormous dilated sigmoid was found running from twenty to twenty-five inches across. The cæcum was adherent, it was true, to the old scar by a slight, somewhat short, adhesion, but there was no evidence of obstruction here. The cæcum and the transverse colon descending colon were uniform in size, probably contracted to about 1 or 1½ inches in diameter, whereas the sigmoid ran from 2½ to 3 inches in diameter. Having had no experience with the radical

operation, it was believed that we could do for the patient equally well by providing for a large anastomosis and brought the proximal distal loops together making a three inch anastomotic opening by suturing between the proximal loop and the distal loop with a purse-string suture drawing up the end into a very small mass and closing up the bag lying between the anastomosis and the sigmoid so that by no possibility could the small intestine get in through and become strangulated. On the second day the patient's bowels moved normally, and so far as I could judge the treatment has been quite satisfactory. There is no distension, and the patient has improved so far as her indigestion symptoms are concerned by taking to food readily, and the general abdominal condition has been much improved. This is the only case I have met with of the so-called giant sigmoid.

Geo. E. ARMSTRONG, M.D.—Dr. Bell has brought before us a very interesting subject indeed, and one very timely, as it is occupying much attention at the present time. It would seem as if we were really dealing with two conditions, one which is congenital, and a second acquired condition. One remark in Dr. Klotz' report is of interest, namely, that where there is lots of room, where the lower end of the descending colon does not come too far down and is not too fixed, there is very little danger. The danger arises when the long fixed end of the descending colon and the upper fixed end of the rectum are near together. When these two points are close together and fixed, then volvulus may occur. In the second class, possibly more common in adults, it has seemed to me that the teachings and demonstrations of Mr. Lane in regard to the formations of bands are sound. Mr. Lane has published two papers, one in the *British Medical Journal*, and another in the *Chicago Journal of Surgery, Gynecology and Obstetrics*, where he figures all the conditions—the formation of bands, the distension, and the fixed points. In the hepatic flexure, the colon is tied up under the liver, and in the splenic flexure, it seems to be tied up in the peritoneum extending to the diaphragm. It seems to me that this paper illustrates pretty well the aetiology of the condition as arising in some cases, at least in adults, from chronic colitis, causing bands which first hold the gut down or at most obstructing its movements. One of my cases was a young man, practically an imbecile, in which the condition was very extreme and had been going on practically all his life. The sigmoid here occupied the whole of the hollow of the diaphragm and the apex of the heart was visible and palpable in the second intercostal space. The volvulus had occurred in the usual way, and lay across the transverse colon. There was a large distended hepatic flexure, a large distended splenic flexure with this distended sigmoid

occupying the whole of the diaphragm. I brought down the sigmoid and unravelled it. The obstruction, however, in these cases is not always due to volvulus. In some instances the largely distended sigmoid seems to fall down producing a sharp kink at the upper end of the rectum, and this again results in a complete obstruction. In a case which I reported before the Society here, the obstruction was the result of an enormously distended sigmoid, falling downwards and kinking in this way. The man was fifty years of age, and gave a history of alternating constipation and diarrhoea since early childhood. In this case the obstruction was complete. A lateral anastomosis was made between the two arms of the sigmoid. This, however, did not prove to be a satisfactory arrangement. Gas accumulated at the end of the sac—hardened faeces lodged there so that I was obliged later on to remove the distended end altogether. After that the patient did very well. These cases may sometimes be recognized from the fact that they are relieved for the time being by the passage of a high rectal tube. In these cases, when of long standing, the changes in the walls of the bowel are of interest. In some cases there seems to be accompanying the distension a very considerable hypertrophy of the muscular coats, particularly of the circular parts. In others the coats are thinned to an extreme degree.

What influences determine whether the hypertrophy be of the concentric or eccentric variety may be difficult to determine. Possibly the eccentric may be a later stage of the concentric. The presence of concentric hypertrophy certainly suggests an obstructive condition as one of the etiological factors. Mr. Lane's cases are very interesting, and his results in cases where medical remedies seem to have failed altogether, cases in which there was present inveterate constipation with a marked degree of toxæmia are wonderfully good. I had the pleasure of watching him perform two or three of these operations during the past summer, and of seeing some of his cases a considerable time after the operation, and their condition, according to their own statement, was wonderfully improved.

JAMES BELL, M.D.—In reference to Dr. Fry's remarks, I may say that I was probably a little too sweeping in my statements with regard to operation; I quite see that if one could recognize these cases sufficiently early, washing out daily of this tract would be of benefit. There is a large element of the acquired in these cases in children, although there is probably a larger element of the congenital. The bowels should be kept evacuated and the general health and nutrition maintained, but once the condition in which the child was is reached, it is quite impossible to restore the function to the sigmoid and the statement that

excision is the only satisfactory treatment refers to such cases as that and not to the early ones.

PATHOLOGICAL SPECIMENS.

TWO CASES OF TUBERCULOMA OF THE BRAIN.

OSKAR KLOTZ, M.D.—The first specimen, which I wish to present, is the brain of a woman aged thirty-five years, in which a solitary tuberculoma is found in the left hemisphere. The lesion is situated immediately below the lower end of the post-central gyrus. The focus is 3.5 cm. in diameter, and lies external to the internal capsule in this area. It involves, to the greater extent, the white matter pressing this asunder, but, no doubt, involving also the fibres. There is a small margin of cortical substance also included in the lesion. Some fibrosis has taken place in the centre of the mass, but the greater portion consists of a greenish, cheesy material, which, when fresh, was more or less mucoid. Tubercle bacilli were isolated from the lesion. There was no meningitis present.

The interesting features of the case are that during life no localizing symptoms were manifest. The history dates back some six months, when occasional vomiting and double vision were complained of. There was also some paresis of the left external rectus. Further than this no impairment of the motor nerves was noted.

The second specimen was obtained from an infant seven months old, in whom a tuberculous meningitis was demonstrated during life; the child had suffered from an acute middle ear disease which had been operated on some months previously. Just previous to death some signs of a localized lesion of the brain became evident.

At autopsy, there was an extensive tuberculous meningitis over the hemispheres, with considerable exudate at the base. On cutting the brain a small tuberculous nodule, 1 cm. in diameter, was found in the left optic thalamus in the region of the pulvinar. The tuberculous process could be followed from the base of the brain along the vessels of the posterior perforating space to this lesion in the optic thalamus. No tuberculous process was evident in the ventricles.

ENLARGED THYMUS.

This specimen is from a newborn male infant, who had lived only five hours. At birth the thick neck attracted attention.

At autopsy the thymus was found to occupy the greater part of the pleural cavities, and, at first sight, resembled partially dilated lungs. The right lobe was 6 cm. long and 4 cm. wide, while the left was 4.75 x 3 cm.. The thymus extended from the enlarged thyroid to the diaphragm below the pericardium. There were some enlarged glands

along the vertebral column of the neck. Otherwise the lymphatic system showed no change. The thyroid was large and lobulated, and there were three good sized parathyroids found. There was an excessive deposit of fat in the tissues and along the inner surface of the intercostal muscles.

The case has the features of status lymphaticus, save that the mesenteric glands, spleen and Peyer's patches were not enlarged.

HYPOSPADIAS.

This specimen of hypospadias was obtained from a new born infant. The specimen is the commonest type which occurs of this lesion. The penis is small and has a cleft on the under surface lined by mucous membrane. The cleft denotes the ununited edges of the urethra and opens at the root of the organ. In this case the two halves of the scrotum have joined. The genitalia are otherwise normal.

ANENCEPHALIC MONSTER; FIBROID UTERUS.

LAPTHORN SMITH, M.D., showed for Dr. McGovern, an anencephalic monster which the latter had delivered the night before, and which had puzzled him a good deal. On examining the patient he had felt a soft bag leading everywhere to a bony ring. As the bag of membranes had been ruptured some time, he came to the conclusion that he had a breech presentation, and that this was the scrotum and that the bone he felt was the outlet of the child's pelvis. He called a neighbouring doctor in, and he also came to the same conclusion. As labour was going on nicely they decided to wait a little, and in due time this child was born dead. It has a hare lip and absolutely no brain as far as can be felt, through the flabby sac which represents the scalp. The scalp has not been opened for fear of spoiling it as a museum specimen. The scalp feels exactly the size and consistency of a scrotum, and it is no wonder that Dr. McGovern was puzzled when he felt it presenting through the os uteri.

Dr. Laphorn Smith also showed a fibroid uterus which he had removed that morning, and which presented great difficulties owing to its being not only impacted in the pelvis by its size but also adherent. Owing to the impossibility of reaching the arteries the hæmorrhage at first was profuse, until he thought of Kelly's advice in such cases, to cut boldly down through the middle of the uterus and roll the two halves out in turn. From that moment there was no more hæmorrhage, and the operation became very easy.

The eleventh regular meeting of the Society was held Friday evening March 6th, 1908, Dr. Wesley Mills, President, in the Chair.

SUPPOSED CURE OF TABES: LIVING CASES.

D. A. SHIRRES, M.D.

C. K. RUSSEL, M.D.—I do not think any apology is needed in introducing cases of Tabes to the Society. Their interest from a physiological point of view is sufficient. This first case is extremely interesting but I should have liked Dr. Shirres to have given us more of the points on which he made the diagnosis of Tabes, on account of the patient's practically complete recovery. One knows that multiple neuritis may very closely simulate Tabes and the Argyll Robertson pupil is found in other conditions besides Tabes. In one of the cases Dr. Shirres referred to which I showed to the Society a short time ago the patient was neurotic but I look upon that rather as a hindrance in the re-educative treatment than as a favorable condition. One point however could not be considered as a neurosis and that was the incontinence of urine, and this has been favourably influenced by the re-educative treatment. No electrical treatment was used for this and it seems to me in view of Edingers theory this treatment is more rational and certainly less open to danger than electrical applications to the sphincters and bladder.

The worth of this treatment I think is established. It is an educative treatment not of the fibres that are sclerosed but of other fibres to take on the functions of those that are dead:

DIAGNOSIS OF GONORRHOEA IN THE FEMALE.

F. B. GURD, M.D., read the paper of the evening.

W. W. CHIPMAN, M.D. I wish to thank and congratulate Dr. Gurd upon his excellent paper. He has put before us a subject of great interest. He has done so clearly and succinctly, and has furnished us with the latest word in bacteriological methods. There are in this paper a number of points in which I am especially interested. Gonorrhoea in women is oftentimes a disease difficult of detection, and any new light that may be thrown upon the subject, or any new means that may be provided to enable us more easily to detect the organism itself is of special value. The first point that Dr. Gurd has brought out in his paper is that the ordinary staining methods of detecting the gonococcus are more or less unreliable. To be sure of the organism with which we are dealing we must have recourse to the cultural methods and to these only. His own work in this respect has been thorough and painstaking. He gives a history of 113 cases wherein extensive bacteriological examinations were made. Of these 113 cases, 50% were definitely positive, that is, both by staining and cultural methods, in 50% of the cases the gonococcus was definitely distinguished. This of course is a fairly large percentage, and speaks for itself of the

thoroughness of Dr. Gurd's work. Nevertheless there remains half the number of cases which are pronounced bacteriologically more or less doubtful. It is just in these doubtful cases also that the great difficulty of making a clinical diagnosis arises. In these cases we meet with the clinical signs of the disease, and yet we cannot find and isolate the organism. In these difficult cases I consider that the ultimate appeal must always be to the clinical aspect of the case; that we cannot say that because we do not find the organism, therefore the disease is not gonorrhœa. We all know how difficult it is, how oftentimes impossible, in typhoid fever to secure the Widal reaction: and in cancer to recognise the early histological picture. In the question of cancer one may go even further, and say that even the complete histological picture does not always mean the presence in a clinical sense of malignant disease. So that, in these 50% of doubtful cases we are more or less deserted of everything save the clinical picture of the disease before us. I would like to ask Dr. Gurd as to the morphology of some of the degenerate forms of organisms found in the vagina, and as to the variety of degeneration which in his experience the gonococcus therein undergoes; whether it is always possible to isolate and distinguish Weichselbaum's diplococcus, and the so-called pseudo-gonococci of Bum and Lustgarten. Again I wish to thank Dr. Gurd for his paper, and to congratulate him upon its excellence.

A. LAPHORN SMITH, M.D.—Dr. Williams and I carried out a series of experiments five years ago at the Montreal Dispensary on just this point of the bacteriological examination for the gonococcus. We collected some 60 or 70 cases and my impression is that about 10 percent were found positive by culture. Some of the cases that I had diagnosed as non-gonorrhœal showed the organism, while others clinically positive gave no gonococci. From this I fell back on my old plan of working on the clinical basis. I would be glad to hear that Dr. Gurd has persevered with his researches until he will be able to give us a positive opinion in cases which we sometimes have, where a woman comes to us demanding to know whether she has gonorrhœa or not. If by the methods he has described we could do this it would be a great step in bacteriology.

J. C. CAMERON, M.D.—If it is true, as Dr. Gurd's observations seem to show, that the gonococcus is to be found in the vagina of pregnant women much more frequently than we have commonly supposed, without even producing symptoms which would cause discomfort or arouse suspicion, it strikes me very forcibly that the old-fashioned and much maligned prophylactic douche was not such a bad treatment after all

and that we might sometimes save our patients many risks and dangers, if we used it more frequently. As regards morbidity after confinement I am under the impression that we had better results in hospitals when the prophylactic douche was used sedulously and vigourously in all suspicious cases, than we have had since we have acted upon the theory that, if let alone, the vagina is capable of protecting itself against infective organisms and that consequently a prophylactic douche is not only unnecessary but even injurious.

To my mind the point of greatest clinical importance in this paper, from the obstetrical point of view, is that although the vagina seems to be capable of protecting itself against the organism when it is whole and sound, yet it loses that power when invaded by the gonococcus and weakened thereby.

Another clinical point of value is that on account of the unreliability of smear preparations in the matter of diagnosis, we must fall back upon the cultural method. Now practically, as general practitioners, how does this affect us? Smears are easily made but are unreliable as a diagnosis; cultures are the only safe and sure way of getting trustworthy results, yet the most of us have neither the time, nor the facilities nor the experience to carry out this method. In hospitals, well equipped laboratories are at command and diagnosis should be easy, but in private practice what facilities are available? Of what use is it to us clinically to know that a diagnosis of the presence or absence of gonococci in certain suspected secretions could be made bacteriologically, if we do not have access to a laboratory? It seems to me that this is a matter for this society, that it would be quite within the Society's rights to propose the establishment of a clinical laboratory open to all, a civic laboratory or government laboratory if you will to establish the diagnosis of diphtheria, typhoid etc., and also to help those engaged in obstetric practice to work out these interesting and important problems.

C. W. DUVAL, M.D.—I followed Dr. Gurd in his work at the laboratory for the past year and I wish to say that I regard his paper as a most excellent and painstaking piece of work. I do not think, however, that Dr. Gurd lays quite enough stress upon the unreliability of the smear preparation as a means of diagnosis, and also not enough stress upon the ease with which the gonococcus may be isolated. If the food stuff and the reaction of the medium are correct, the gonococcus is an easy organism to cultivate.

(To be continued.)