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THE

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## Original Communications.

### IMPERFECT TRANSITION OF THE TESTIS, WITH NOTES OF AN UNUSUAL CASE.*

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*Mr. President and Gentlemen,*—The testicles lie in the lumbar region of the abdominal cavity until the sixth month of fœtal life is completed; they are there in close relation to the kidney, and are suspended in position by a fold of peritoneum—the mesorchium. During the last three months of fœtal development, the relations of the testicles become altered, and these organs are gradually transferred from the abdominal cavity into the scrotum—one testicle is usually in the scrotum during the eighth month, and they are both found in that position during the ninth month, *i.e.*, at full term. The cause and mechanism of the descent of the testicle has afforded a subject for much discussion.

The testicle may be retained or its descent delayed. It has been stated† that the gland is delayed in its descent until the first year after birth in 1 in 5 infants. Sir Astley Cooper has often seen the gland descend between the ages of 13 and 17, sometimes 21. If it does not descend before puberty, it rarely descends after. Humphrey has recorded a case in which testicle descended at the age of 40, and Fenwick reported a case before the Medical Society of London in which the gland descended into the scrotum, at the age of 49.*

The testicle, as it lies in its normal position, has certain coverings which surround it in the scrotum. The infundibuliform fascia can be traced upwards, and is found to be continuous with the transversalis fascia of the abdomen, while the spermatic fascia is a prolongation from the intercolumnar fascia on the surface of the external oblique. Between these, the cremasteric fascia envelopes the cord and its coverings; the muscular loops of the cremasteric fascia are continuous with the fibres of the internal oblique muscle. The most important covering for us to consider in the present connection is the tunica vaginalis. The peritoneal pouch, known as the processus vaginalis, descends into the scrotum in advance of the testicle. It is impossible that the peritoneal protrusion is formed by the advancing testicle, because it can be plainly demonstrated that the processus vaginalis exists whilst the testicle is still in the abdomen. It is the advancing peritoneal pouch which carries before it the coverings derived from the abdominal parieties, which ultimately surround the testicle in the scrotum.

At the fifth week of intra-uterine life, the rudimentary testicle and the Wolffian body lie at the lower and outer part of the kidney; as development proceeds the kidney ascends, and the testicle attains a position between the lower

* Read before the Toronto Medical Society.

† Holmes' System of Surgery, Am. ed., vol. ii., p. 894.

* *Lancet*, Dec. 12, 1885, p. 1,096.

end of the kidney and the internal abdominal ring. During the third month, the important structure, which John Hunter called the gubernaculum testis, makes its appearance; this is a band which stretches from the internal abdominal ring to end above, by being attached to the epididymis and body of the testicle, and to the peritoneum of the posterior wall of the abdomen; this band seems sufficient to hold the testicle near the abdominal ring, and to prevent its ascending with the kidney. During the sixth month the testicle and epididymis begin to acquire a double fold of peritoneum, constituting a mesorchium, and thus the gland becomes free in the abdomen; the lower fold of the mesorchium terminates in the tube of peritoneum, known as the processus vaginalis, which descends into the scrotum; the fibres of the gubernaculum blend with the extremity of the processus vaginalis, and are probably accountable for the formation of this peritoneal pouch.

We must look upon the gubernaculum testis as the probable cause of the descent of the testicle into the scrotum. This structure is composed of a central band of unstriped muscular fibres, and a number of striped fibres prolonged upwards from the abdominal wall. We have seen that it is attached above to the testicle and the epididymis, and we wish now to study its inferior attachments. Some of its fibres have been demonstrated piercing the abdominal wall and extending into Scarpa's triangle; others are found attached to the pubes and the root of the penis. At a later period of development, fibres of the gubernaculum are found running on to the bottom of the scrotum, while in the eighth month several of the fibres pass into the perineum, and end over the tuberosities of the ischium, or may blend with the sphincter ani.

The shortening of the gubernaculum, or that portion of it which is attached above to the testicle and below to the bottom of the scrotum, is probably the cause of the descent of the testicle into the scrotum; the striped muscular fibres, which I alluded to as constituting part of the gubernaculum, when they are transferred by the descent of the gland into the scrotum, constitute part of the cremasteric fibres, as found in the coverings of the cord.*

* For further details concerning these structures, I must refer you to the interesting lectures by Mr. C. B. Lockwood, published in the *Journal of Anatomy and Physiology*, vol. xxii., No. 38, pp. 461-502.

In the female, the gubernaculum is attached above, close to that part of the genital cord which becomes the uterus; below it passes down the inguinal canal, and persists, in the adult, as the round ligament of the uterus. We also have in the female a process of peritoneum which corresponds to the processus vaginalis in the male; this process of peritoneum in the female passes down the inguinal canal, and is known as the canal of Nuck. These facts might suggest to us the possibility of the gubernaculum having an attachment to the ovary, similar to that of the testicle, and in such a case the ovary might be guided into the inguinal canal, just as the testicle is caused to descend into the scrotum. In April, 1888, I saw Mr. Bland Sutton operate on a woman aged 35, in the Middlesex Hospital, London. She had a tumor in the right inguinal region and right labium. She had been wearing a truss, but it caused her pain and induced vomiting at times. The tumor enlarged at the menstrual periods, but menstruation went on without any inconvenience. An incision was made over the tumor, and on opening the sac the ovary and Fallopian tube were found in the canal of Nuck. The ovary and tube were removed through the inguinal incision, and the neck of the sac ligatured.

The relations of the ovary in this case are not similar to the relations of the testicle in the scrotum, because in the case of the testicle the gland passes down behind the processus vaginalis, whereas the ovary was actually within the pouch of the peritoneum forming the canal of Nuck; nevertheless it is conceivable that the ovary, through the agency of an unusually attached gubernaculum, should be guided towards the inguinal canal and there fixed; having been placed in that position, it might readily be forced down into the canal of Nuck by any increase of the intra-abdominal pressure.

We have now to consider the factors which have to do in the production of the condition of retained testis.

1. The action of the gubernaculum testis may be deficient. Lockwood* describes a case in

* *British Medical Journal*, 1886, vol. i., p. 444.

which he found that the gubernaculum, instead of being attached to the epididymis or vas deferens, ended in a brush of fibres lying free in the peritoneal cavity, the testicle in this case remaining in the abdomen. Again, the fibres of the gubernaculum attached to the scrotum may not exercise sufficient traction to cause the descent of the testicle.

2. Some obstacle in the inguinal canal, *e.g.*, a plug of fat, may prevent the passage of the testicle, or the mere narrowness of the canal has been alleged as a cause.

3. Adhesions to the viscera or the abdominal wall, consequent on peritonitis, as in a case recorded by Mr. Wood.

4. Shortness of the vas deferens or of the spermatic vessels.

5. Fusion of the two testes—synorchism.

The testicle in some cases, although not retained in the abdomen, may take up some abnormal position outside of that cavity. The most extraordinary, perhaps, is that in which the testicle occupies a position in the perineum. Williams* has published an analysis of twenty-five cases of this abnormality, of these seventeen were of the right testicle and eight of the left. Bryant† published a case in which he alludes to the fact, as possibly more than a mere coincidence, that the father of the child had had one of his testicles removed before marriage. The gland may remain in the inguinal canal, or it may be found lying over Poupart's ligament at the base of Scarpa's triangle. It may pass through the crural ring into the crural canal, and thence mount through the saphenous opening.

Compare with these facts the statements which have been made with regard to the lower attachments of the gubernaculum testis. These were:

1. Abdominal wall and extending into Scarpa's triangle.

2. To pubes and root of penis.

3. Several fibres pass to perineum, and tuberosity of ischium.

4. To the bottom of the scrotum.

The last attachment has, of course, to do with the normal descent of the organ into the scrotum.‡

Occasionally the scrotum is not well developed, and this may have something to do with the abnormal position of the testicle. This, however, is by no means a constant condition in these cases; thus Williams found in the twenty-five cases of testis in perineo in only six was there any mal-development of the scrotum observed, in all the others the scrotum was symmetrically developed. In the six cases it was observed that most of them were due to atrophy of the scrotum, from disease, and the condition was not a congenital one. Baudry* records a case of this kind in which the right half of the scrotum appeared to be absent; the raphé was seen on the right side, and from it the skin continued without fold or line of demarcation to the thigh; no sign of the dartos could be found to the right of the raphé, for while cold caused distinct contraction on the left side, none was observable on the right. This case of Baudry's is, however, unusual, and in most cases the scrotum is sufficiently well developed to permit of replacement of the testicle in its proper position. Mr. Annandale† performed the first successful operation of this kind. In his case, the left testicle was in the perineum. An interesting point in Mr. Annandale's case was, that during the operation a fibrous band attached to the bottom of the testis above, and to the tuberosity of the ischium below, appeared to correspond to one part of the gubernaculum, and had to be divided before the testicle could be freed. The gland was placed in its proper position and sutured to the bottom of the scrotum; the result was a successful one.

A very rare condition is that in which both testes have been retained within the abdomen; such a case is recorded by John Hunter and another by Curling.* Of the commoner varieties of retained testis we have conditions in which

* *British Medical Journal*, July 21, 1883, p. 110.

† Guy's Hospital Reports, vol. xiii., p. 419.

‡ Some writers attribute the mechanism of the descent of the testes to other causes than the contraction of the gubernaculum testis. Dr. Bramman thinks that the descent is assisted by the rapid development of the viscera behind the gland, the final descent into the scrotum being probably due to the contraction of a layer of cellular tissue lying on the inner aspect of the gubernaculum and connected below with the tissues of the scrotum.—*Brit. Med. Jour.*, 1884, vol. 2, p. 1288.

Mr. Bland Sutton regards the descent of the testicles as of the nature of a perpetuated hernia. He suggests that the first instance of the descent of a testicle was probably a true hernia of that body, and he places the phenomenon in the category of inherited pathological conditions.—*An Introduction to General Pathology*, p. 372.

* *Lancet*, Sept. 16, 1882, p. 454.

† *British Medical Journal*, Jan. 4, 1879, p. 7.

‡ Curling on the Testis, p. 106, Am. ed.

one testicle (usually the left) is retained within the abdomen, or it may be in the inguinal canal, sometimes it is just beyond the external ring An important question is concerning the possibility of retained testes performing their natural functions. John Hunter considered that, when both testes were retained in the abdominal cavity, the individual was sterile. Curling,* however, differed from this view, and was quite convinced that, if the testicles were in the abdominal cavity, they were quite capable of performing their natural functions On the other hand, if a testicle were retained in the groin, it in all probability would undergo atrophy, and would be functionally useless. If the testicle is in the abdomen, it is protected from injury, and its nutrition is probably well maintained; if, however, it be transferred to the inguinal canal, it is there exposed so that inflammation may be excited in it, or its nutrition interfered with. These remarks would apply equally to a testicle situated in the perineum. We are not justified, however, in assuming that all such glands are functionally useless. Bryant† records a case in which a testis in the inguinal canal was complicated with an encysted hydrocele; he tapped it and drew off fluid containing spermatozoa. Ledwich‡ dissected a testicle which had been implanted in the perineum and found spermatozoa in the ducts. We may conclude that when a gland is in an abnormal position outside the abdomen, it is liable to become atrophied and useless. It may undergo fibrous or fatty degeneration. This result is not so likely to occur when the testicle is retained entirely within the abdominal cavity.

One considerable danger existing in cases of testis retained within the abdomen is, that any inflammation of the organ very readily spreads to the peritoneum, and sets up acute peritonitis.

A retained testicle may be the seat of malignant disease, or it may be complicated by the development of a hydrocele, constituting what Curling called inguinal hydrocele. It is very common to have a hernia complicating the condition. Of 25 cases recorded, by Williams, of testis in perineo, 3 were complicated with hernia. It appears to occur with still greater frequency when the testicle is retained in the groin. It is worthy of note that an inflamed undescended testicle may give rise to symptoms simulating intestinal obstruction.*

In this paper I cannot discuss the treatment or diagnosis of these conditions. Mr. Watson Cheyne has recently devised a very simple apparatus for securing the testicle in the scrotum, after the operation for replacing it in its proper position. A reprint of Mr. Cheyne's paper appears in THE CANADIAN PRACTITIONER for March 17, p. 133.

I will now briefly narrate notes of a case under the care of Dr. Cameron, in the Toronto General Hospital. Dr. Cameron has kindly permitted me to report the case. I assisted him in the operation on March 21st, 1890.

F. W. S., æt. 25, single. Patient has never enjoyed particularly good health; has had measles, mumps and whooping cough; no other serious illness. The family history is good; parents both living; one brother died in 1886; the cause of death was thought to have been consumption.

At 10 years of age he first noticed a lump in the groin, about the size of a hen's egg; he does not know whether it had been there previously; his attention was first called to it by some boys who were "in swimming" with him. He suspected it to be a testicle, and endeavored several times to force it into the scrotum, but without success. About six years ago he accidently discovered a swelling in his scrotum; he does not know how long it had existed, but at that time it was about as large as his clenched fist. He consulted a physician, who thought it was a hydrocele, as it was translucent. When he lay on his back it almost entirely disappeared. On seeking further advice he was advised to wear a truss, but this caused him great pain and annoyance, by pressure on the testicle, and did not prevent the return of the swelling. He then wore a suspensory bandage for a time. He consulted a doctor in Toronto, who advised rest and change of scene. He spent a summer in Muskoka, and subsequently went to England. On his return it was thought that the tumor had somewhat diminished in size, and that his general health had improved, but he was not satisfied with his progress, and was very uneasy about his condition. He consulted Dr. Cameron in March of the present year.

* Curling on the Testis, Am. ed., p. 98.
† Bryant's Practice of Surgery, vol. ii., p. 238.
‡ *British Medical Journal*, 1883, vol. ii., p. 110.

* Holmes' System of Surgery, vol. ii., p. 894 Am. ed.

On admission to the hospital there was a distinct rounded tumor over the inner end of Poupart's ligament of the left side, measuring three inches in diameter. It lay over the anterior face of the external abdominal ring, and extended upwards on the abdomen, outwards towards the iliac spine, and to a slight extent downwards over Poupart's ligament. There was no redness about the swelling, and its edges were ill-defined. The tumor was examined under chloroform.

On percussion, a note of absolute dulness was elicited; the tumor was soft and fluctuating; there was no tension; it could be crowded up so as to diminish its size to a considerable extent, and when freed again it would resume its former size and flaccid condition. It could be made to project downwards into the upper part of the scrotum. The tumor was irreducible, and there was no testicle in the scrotum on the left side. The left side of the scrotum was well-developed, and its rugosity proved the presence of the dartos fibres.

On invaginating the scrotum and pressing upwards in the direction of the inguinal canal, the external abdominal ring was felt. It was of unusually large size, its triangular shape was very evident, and its edges sharp and well-defined. At first it seemed as if there were no structure occupying the ring, but on careful examination a small firm cord-like structure was found between the finger and the pubis; this was supposed to be the vas deferens; nothing else was felt in the ring. The finger could be passed through the ring to an unlimited extent as far as the length of the finger would permit; there was no evidence of any internal ring. In front of the external oblique the tumor was felt, and was bimanually examined. The lax tissue in which the tumour lay was explored; the finger could be passed upwards two inches above Poupart's ligament under the superficial fascia, and downwards over the inner end of Poupart's ligament, where a firm crescentic edge of fascia was encountered; its concavity was inwards and occupying the position of the falciform edge of the saphenous opening in the fascia lata.

An operation was performed under chloroform on March 21st. The pubes had been previously shaved, and the parts thoroughly cleansed by means of an antiseptic lotion. 1-2000 perchloride of mercury. An incision two and a half inches long was made over the tumour. The skin and subcutaneous tissues were divided, and then a firm layer of fascia presented in the wound; this was divided on a director. Still another membranous structure presented; this was carefully divided and proved to be peritoneum, within which was a mass of fat about the size of a duck's egg. A portion of this was lying in the external ring, but freely movable there; when this was drawn out, a narrow pedicle was discovered passing into the abdomen, and adherent to the apex of the ring. The testicle was sought for, but could not be found in contact with the omental protrusion; a search was made for it, and it was found lying at the base of the external ring, quite apart from the omental hernia, and not in the same sack of peritoneum; it readily protruded two inches from the external opening, Its size was a little larger than a hazel nut, and it was attached by a broad long pedicle, which passed up over the pubes into the abdominal cavity. This pedicle might be described as consisting of two portions: 1. An anterior portion, which came down and enveloped the testicle above and anteriorly, and from its relations and appearance seemed to be the processus vaginalis. 2. A posterior portion, consisting of the cord and its coverings, in which were a number of dilated and tortuous vessels; the vas could be felt in it. The epididymis surmounted the testicle. The condition of affairs might be summed up thus:

1. An omental hernia in its sac protruding through the upper portion of the external ring.

2. The testicle with the cord and the vaginal process of peritoneum protruding through the lower portion of the ring.

These structures together formed the tumor occupying the position in the groin already indicated.

Along the neck of the omental hernia, within the sac, the finger could be passed on into the general peritoneal cavity. On examining the fatty mass, a small portion about the size of an almond was found; it had the appearance of the rest of the omental protrusion, but was very much firmer and more tense.

An attempt was made to reduce the omental hernia, but this was only partially successful, and was abandoned. The testicle was removed,

a strong silk ligature was applied just above the organ where the pedicle was transfixed, and a Tait's knot applied. The testicle was then removed by means of scissors. The peritoneum was then carefully stitched by interrupted catgut suture over the omental hernia. A catgut drain was introduced down to the peritoneum, the edges of the skin incision were brought together, and an antiseptic dressing applied.

The wound healed readily. It is too early to pronounce on the success of the operation, as regards the comfort of the patient, but the case is of special interest because of the anatomical relations of the parts.

It is stated in Holmes'* System of Surgery that the hernia in these cases is in the same peritoneal pouch as the testicle. The statement, strictly speaking, is inaccurate, and is an anatomical impossibility. It is quite possible for the hernia to protrude into the patent vaginal process, but it is even then separated from the testicle by the layer of peritoneum forming the visceral layer of the tunica vaginalis; this is the condition existing in congenital hernia, and is the common state of affairs in herniæ complicating retained testis.

In the case just narrated, the omental hernia was quite distinct from the testicle, and was not within the tunica vaginalis, but had a sac of peritoneum entirely separate from the gland.

Mr. Jonathan Hutchinson † has recorded a case in which a large fatty tumor surrounded the testicle in the scrotum, but was not adherent to the gland. These tumors are supposed to originate in the subperitoneal fatty tissue, and subsequently travel down from the external ring into the scrotum. Might not a fatty tumor surrounding the testicle be developed from a piece of omentum forming a hernia? The pedicle of the omental protrusion in Dr. Cameron's case was so very slim that one might suppose it possible to have the omental mass completely separated. The coverings of such a tumor would decide whether it could or could not originate from the extra peritoneal fat. In Mr. Hutchinson's case there was unfortunately some doubt as to the coverings of the tumor.

* Holmes' System of Surgery, vol. ii., p. 806.

† Transactions of Pathological Society, vol. xv., p. 193.

## Selections.

CAMPHORIC ACID FOR NIGHT SWEATS OF PHTHISIS.—Camphoric acid is not pleasant of taste, and is best given in capsules. Leu gave fifty-five doses to thirteen patients who had severe night sweats. When the skin remained absolutely dry the effect was regarded as complete; in sixty per cent. the effect was complete; in twenty-two partial, and in eighteen absent. In most cases the medium dose was 30 grains at night, often increased to 45 or even 75 grains, by giving 30 grains in the afternoon and 30 to 45 in the evening. The effect of the acid sometimes extended even to the succeeding night. To compare the acid with atropine, they were given alternately to six patients. Very large doses of atropine were used, but a complete effect was obtained in only forty per cent. Atropine is thus less efficacious and far less lasting in action than camphoric acid. Moreover, atropine may cause difficulty in swallowing, dryness of the pharynx, great thirst, disturbed sleep, vertigo. The acid does not in any way interfere with appetite or digestion. By some of the patients the return of sleep was ascribed to the camphoric acid; no doubt sleep is favored indirectly by the checking of the sweats.—*Bull. Gen. de Therapeutique, March 30, 1890.*

DIPHTHERIA CONVEYED BY CATS.—Two writers in the *Medical Age* (1889, No. 7) have reported cases of diphtheria propagated from or carried by these domestic animals.

Dr. Lawrence reports two cases. Upon careful inquiry it was found that the first case had not been exposed to the disease, although there were some cases within a mile of her father's house. He incidentally learned that there was a sick cat in the house, which had been fondled by the little girl some days before. The cat died shortly after its playmate became sick, and a second cat also became sick and was killed. An investigation revealed the fact that one neighbor farmer lost seventeen cats, and another fifteen, with some throat trouble. One of the farmers stated that he had examined the throats of some of the cats, and found them covered with a white membrane. Cats are disposed to run from house to house, and one diseased cat may be the means of carrying diphtheria to

many children whom the parents are taking every means to protect from danger.

Dr. Scott reports four most malignant cases occurring in one family. A kitten came to the house a few days before the disease manifested itself, and was fondled by the children. Through accident the mother discovered that the mouth and throat of the feline were infested with false membranes, and therefore caused it to be killed; but too late to save herself and three little girls from infection.

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CHLORALAMIDE AS A HYPNOTIC.—Mr. Geo. P. Cope, in the *Dublin Journal of Medical Science*, for February, 1890, describes his experience with chloralamide, and says: Chloralamide is undoubtedly a sleep-producing agent. The sleep created varies from five to eight hours, and appears to be sound and refreshing. A dose of 25 to 35 grains was sufficient to cause sleep in patients suffering from melancholia and chronic mania, but in acute mania small doses had no effect, and sleep was not produced by less than from 40 to 50 grains. No recognized evil effects followed the continued use of this drug for eight days, and only one out of twenty-five persons under treatment with chloralamide was noticed to be suffering from gastric disturbances, viz., giddiness and sickness, with dry, brown tongue, which followed six hours after a draught, when no sleep ensued. Chloralamide, as it consists of a combination of chloral, somewhat resembles it in its action. Both induce sleep, lasting from five to eight hours, but possess little analgesic influence unless when they cause sleep. Unlike opium, they will not relieve pain. The time that elapses before sleep is produced varies from thirty minutes to an hour, and the sleep appears to be natural and refreshing. Its action on the circulation is quite the opposite of that of chloral hydrate, which acts directly upon the blood pressure, slowing the pulse and respiration, and producing poisonous effects, by direct action on the cardiac ganglia and respiratory centre, causing paralysis of the heart and cessation of respiration. Chloralamide appears, as far as I have been able to ascertain, to be free from such danger. In five cases—one of pneumonia, one of phthisis, one of cardiac disease, and two of insomnia—I obtained sphygmographic tracings before and after its administration, and the blood pressure was not lowered in any of them, while the respiration and temperature remained the same.—*American Practitioner and News.*

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THE BERLIN CONGRESS.—Dr. Robert Newman, of No. 68 West Thirty-sixth Street, New York, announces that he has made arrangements for certain stated European tours, at reduced rates of travel, for American physicians who purpose attending the Tenth International Medical Congress. His circular, which we presume he is prepared to send to any applicant, gives very full information as to routes, expenses, etc.

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DIET AND HYGIENE IN THE TREATMENT OF CONSUMPTION.—The most important indication in the treatment of phthisis is to improve nutrition. *This must be accomplished or the patient will not survive.* Even if, by improved methods of treatment, we have the power to arrest the suppuration and all the long train of symptoms incident to this terrible affection, we must not stop there, but go on in our good work by restoring the lost tissues, enriching and increasing the blood supply, and improving the vitality and tone of the whole system, by establishing a scientific dietary of our patients.

Beef juices, or raw meat extracts, are very valuable adjuncts in all, and absolutely necessary in most, cases of phthisis, on account of their immense nutrient force in a concentrated form, the small quantity required, its tolerance by the stomach, and rapid and complete assimilation, whereby the strength and vital powers are quickly nourished and maintained. Periods will occur in every case of phthisis when gastric irritation will preclude the use of ordinary food; then our reliance must be placed in these raw concentrated foods. I have used, in my practice, every known raw food extract, but for two years past I have exclusively prescribed a raw meat extract, prepared in this city, and known as *Bovinine*. This article of food is very rich in all the elements entering into the formation of blood and tissue, is easily borne by the most delicate stomach, of excellent taste and odor, and is rapidly and completely assimilated. I am personally familiar with the mode and preparation of this food, and know that the meats

used are from the best parts of the finest beef supplied by the great Chicago stock-yards. I do not wish to appear invidious, but I prefer *Bovinine* above all other raw food extracts for its great nutrient qualities, acceptability, and its large percentage of albuminoids (26.58 per cent.). I usually administer this food three or four times daily, in doses varying from ten drops to one teaspoonful, diluted with four to eight times the quantity of water, milk, or milk and cream mixed. In conditions of great exhaustion and debility requiring stimulants, the raw food may be added to milk-punch or egg-nog.

*Bovinine* contains lactic acid, a normal constituent of the muscular tissues. This acid, in the presence of pepsin or pancreatine, rapidly digests nitrogenous matter, which accounts for the speedy absorption and assimilation of *Bovinine* in cases of impaired digestive functions.—*Edwin F. Rush, M.D., in the Trained Nurse.*

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NOTE ON THE USE OF TURPENTINE IN TYPHOID FEVER.—The most useful articles in a medical journal are not those which are the most original, and certainly if lack of originality be a spice of value, the present note in regard to the oil of turpentine in typhoid fever will be well flavored. The employment of the remedy, I believe, originated with Dr. George B. Wood, and was certainly very strongly inculcated by him, so that it has been amusing and instructive when from time to time, especially in some of the English journals, it has been brought forward as a new discovery by medical writers. Dr. George B. Wood taught that the oil of turpentine acts as a local remedy in typhoid fever, and that there are two stages of the disease in which it is especially useful. The first is at the end of the second week, when the tongue becomes especially dry and glazed, and the abdomen very distinctly tympanitic, with or without the co-existence of diarrhœa. The second period, in which the remedy was especially used by the former Professor of Therapeutics in the University, was during convalescence, when the perpetually recurring diarrhœa, with lack of digestive power, indicated failure of some of the intestinal ulcers to heal. For nearly twenty-five years I have been following the practice of my predecessor, and I am very thoroughly convinced by experience in hospital and in private practice, that many lives would be saved if the oil of turpentine was more freely used in this disease. I do not believe that it is possible to reach the ulcerations in the small intestine with nitrate of of silver, or other similar readily decomposable or readily absorbable remedy. The volatile oils are absorbed slowly and are rapidly vaporized at the temperature of the human abdomen, so that there can be no reasonable doubt that, either in the form of liquid, or more probably in the form of vapor, when given freely by the mouth, that they get into contact with the mucous membrane of the upper intestine. It has become my routine habit to give the turpentine in every case of typhoid fever, beginning about the twelfth or fifteenth day, and I believe if its use were habitual in the profession there would be much fewer cases of intestinal hæmorrhage or other severe symptoms due to a local lesion.

In my own case, convalescence from typhoid fever was exceedingly slow, on account of the perpetually recurring diarrhœa, and when at the instance of Dr. George B. Wood himself, then an old man nearly eighty years of age, the turpentine was exhibited, the local symptoms were relieved immediately. Four or five times I experimented by stopping the turpentine, and when local symptoms had returned, on giving the turpentine again, would see them abate within twenty-four hours. The effect of the drug was scarcely mistakable. The turpentine may be disguised by means of glycerin and a volatile oil made into an emulsion, which is rarely objected to by patients. Ten or fifteen drops should be given every two hours during the day, the patient being allowed to rest at night. The following formula will be found satisfactory:

℞.—Ol. caryophylla . . . gtt. vj.
Ol. terebinth. . . . f℥iiss.
Glycerin, Mucil. acaciæ, aa . . . aa ℥fss.
Syrup, Aquæ, aa . . . aa q.s.ad f℥iij.—M.

Sig.—Dessertspoonful as directed.

*H. C. Wood, M.D., LL.D., in Med. News.*

THE

# Canadian Practitioner

A SEMI-MONTHLY REVIEW OF THE PROGRESS OF THE MEDICAL SCIENCES.

*Contributions of various descriptions are invited. We shall be glad to receive from our friends everywhere current medical news of general interest.*

*When a change of address occurs please promptly notify the Publishers,* THE J. E. BRYANT COMPANY *(Limited), 58 Bay Street.*

TORONTO, MAY 1, 1890.

## ONTARIO MEDICAL ASSOCIATION.

As the Provincial Elections take place on the 5th June, it has been decided to postpone the meeting of the Ontario Medical Association to the week following. The Association will therefore meet in Toronto on Wednesday and Thursday, the 11th and 12th of June.

## CANADIAN MEDICAL ASSOCIATION.

The next meeting of the Canadian Medical Association will be held in Toronto, Tuesday, Wednesday, and Thursday, September 9, 10, and 11. The committee of arrangements appointed at the last meeting at Banff, has been largely increased in numbers, and is now thoroughly organized under the chairmanship of Dr. Canniff There were at first differences of opinion as to the best time for holding the meeting; but after careful consideration it was unanimously resolved to hold it early in the first week of the Toronto Industrial Exhibition. The numbers of strangers in the city during the first week of the Fair are generally not large, and it is not likely that the visiting members will suffer materially from hotel or railway crowding. At the same time those who desire to attend the Exhibition will be able to do so, without making an extra trip to Toronto. Arrangements are being made to entertain the visitors in a way that will be both creditable to the city and pleasant for the members of the Association. Toronto hopes to have a good meeting, and desires a large attendance of practitioners from all sections of the Dominion.

## PROTESTED ELECTION.

We understand that Dr. Cranston, of Arnprior, has entered a protest against the return of Dr. Rogers of Ottawa, in the recent election in the Bathurst and Rideau Division for representation in the Medical Council. The grounds for the protest are: 1st, the names of a large proportion of voters were not written in full according to the directions given by the Council; 2nd, the returning officer Dr. Small, openly canvassed for Dr. Rogers.

No one can deny that a defeated candidate has a perfect right to enter a protest under certain circumstances, especially if there be any doubt about the choice of the electorate, and a probability that a re-election would change the result. As the vote stood, Rogers 74, Cranston 35, there can scarcely be any question about the intention of the voters in this instance. We think therefore that Dr. Cranston would do well to accept the decision as final, and withdraw his protest. At the same time we beg leave to express our regrets that the Council should have lost one of its best members.

## THE MEDICAL FACULTY OF THE UNIVERSITY OF TORONTO.

The re-establishment of a Medical Teaching Faculty in the University of Toronto, three years ago, created considerable interest, and received the hearty support of the majority of the profession in Ontario. Its many friends and its few enemies carefully watched its career, and all will now probably agree that it is a pronounced success. This fact has stimulated a certain amount of opposition from a few who now enunciate the view that the Provincial University should not have a teaching faculty in Medicine. This brings up the important question of the proper functions of this institution. It has been contended in the past that the University should be simply an examining and degree-conferring body in all departments. Such contention, however, has long since fallen out of sight.

Many years ago, while the University was still young and comparatively weak, the opinion was expressed that public funds should not be expended in providing purely professional train-

ing. To what extent this opinion prevailed at that time we do not know, but it was used as a lever by enemies of the University to abolish in 1853 the Medical Teaching Faculty. This Faculty, if left alone, would undoubtedly have grown in strength and influence, and we cannot but think that its abolition was a disastrous mistake, and greatly retarded the growth of scientific Medical education in Ontario.

A glance at the present position of the Government and the Provincial University will show how much public opinion has changed with reference to the higher education of the masses. In recent years, schools and colleges have been established, with the assistance of public funds, in various departments for professional training. The departments thus formed, include engineering, architecture, agriculture, and law. Take for example the School of Practical Science, which has cost the public a large sum of money, and which includes the Department of Engineering. We can conceive of no reason why Engineering should receive such substantial assistance, while Medicine is supposed to be entitled to none. We contend that such subjects as Anatomy, Pathology, Bacteriology and Hygiene, which are of such vast importance to the public, should receive ample endowments, or should receive at least as much consideration as Engineering and Farming.

It was certainly hoped that the Medical Faculty would get some assistance in the higher scientific branches of Medicine. The Government, however, appeared to be thoroughly imbued with the old, narrow prejudices. They could show considerable and commendable zeal in helping certain professions, but they must make a solitary exception in the case of Medicine. They were willing to pay professors in other departments salaries of three thousand dollars or more, while they were quite satisfied to see the Pathologist get the magnificent sum of one hundred dollars per annum, if the fees from the students were sufficient for the purpose. They were quite contented to allow the teachers of the Toronto School of Medicine, who had spent the best energies of their lives in building up one of the largest and most prosperous Medical Colleges in Canada, give up their charter, relinquish their powers, and become practically the servants of the Senate of the University at much smaller salaries than they were receiving under the old regime. They simply gave the Senate the power to establish and conduct a Medical Faculty, with the understanding that the fees from the students would have to suffice in paying the salaries and running expenses.

The members of the Medical Faculty accepted the situation solely in the interests of higher medical education. They saw the vast benefits which would accrue to the students in attending the courses in the Science Department of the University. This Department has been well organized and equipped as required by the terms of the Federation Act. Nothing new has been provided for the students in Medicine. No extra expense has been involved, or in other words, this new Faculty has not cost the country a dollar. The students simply pay for the privilege of attending lectures, which would be delivered if there were no Medical Faculty in the country. The success of the undertaking must depend entirely upon the fees received from the students, and it happens that the amounts of such fees are greater than those charged by any other Medical College in Ontario. The success of the Faculty has surpassed the hopes of her friends, and has been greater than her enemies could quietly endure. Hence ariseth the wail from a few who had confidently expected that the scheme would prove quite "impracticable." One private corporation has seen fit to make an attack, which will either effect nothing or cause the abolition of the Faculty. Whether the interests of the profession, the students and the public are to be sacrificed for the sake of limited private interests remains to be seen.

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## PROGRAMME OF THE ONTARIO MEDICAL ASSOCIATION MEETING.

The programme for the meeting in June, so far as arranged, is as follows:

Discussion in Surgery—Subject, "Hernia": Dr. Sullivan, Kingston; Dr. McFarlane, Toronto; Dr. Waugh, London.

Discussion in Medicine—Subject, "A Plea for a more Liberal and Scientific Spirit of Investigation on the part of the Regular or Rational School of Medicine": Dr. Aylesworth, Col ling

wood; Dr. A. A. Macdonald, Toronto; Dr. W. A. Ross, Barrie.

Discussion in Obstetrics—Subject, "The Prevention of Post Partum Hemorrhage": Dr. Carson, Toronto; Dr. Powell, Ottawa; Dr. Baines, Toronto.

Discussion in Therapeutics—Subject, "Expectorants": Dr. J. L. Davison, Toronto; Dr. Taylor, Goderich; Dr. Gillies, Teeswater.

Discussion in Ophthalmology—Subject, "The Ophthalmoscope in relation to Diseases of the Nervous System": Drs. Ryerson, Palmer, and Wishart, Toronto.

The following papers have also been promised:

2. "Duodenal Ulcer," Dr. Duncan, Chatham.

2. (a) "The management of Club Foot," (b) "Hip Disease," Dr. B. E. Mackenzie, Toronto

3. "Empyema and the mechanical results of opening the Thorax": Dr. A. Smith, New York.

4. "Vomiting of Pregnancy and its Treatment": Dr. W. Irving, Kirkton.

5. "Hydrothorax": Dr. E. J. Barrick, Toronto.

6. "Some cases of Extra and Intra-Peritoneal Inflammation, with and without abcess formation. A plea for the operative treatment of Peritonitis": Dr. J. F. W. Ross, Toronto.

7. "Traumatic Tetanus and its Treatment": Dr. T. R. Dupuis, Kingston.

8. "Report of a case of Hysterectomy": Dr. A. B. Atherton, Toronto.

9. "A Case of Squint": Dr. Osborne, Hamilton.

10. "Paroxysmal Hæmaturia': Dr. H. J. Saunders, Kingston.

11. "Ruptured Perineum": Dr. Smith, Orangeville.

12. "Haemoptyis": Dr. McPhedran, Toronto.

13. "Diagnosis and local treatment of Tubercle or so-called Phthisis of the Larynx": Dr. Chas. Trow, Toronto.

14. "Treatment of Pneumonia": Dr. Addison, St. George.

15. "Peutyphlitic and Pelvic Abcess": Dr. Groves, Fergus.

16. "What I have learned to unlearn in the Dieases of Women": Dr. Wm. Goodell, Philadelphia.

17. "A case of Ichthyosis": Dr. Henderson, Kingston.

18. "Etiology of Puerperal Eclampsia": Dr. Fenwick, Kingston.

Dr. A. J. Johnson, Toronto, and Dr. Olmsted, Hamilton, will also read papers, but, as yet, have not sent in the subjects. The President and Secretary would urgently request any who intend to present papers to notify the Secretary of the fact not later than the first week in May.

## Meeting of Medical Societies.

### TORONTO MEDICAL SOCIETY.

The President, Dr. Atherton, in the chair.

#### PERICÆCAL ABSCESS SIMULATING HIP JOINT DISEASE.

Dr. B. E. McKenzie: On Dec. 20th, 1889, I was asked by Dr. Dawson to see, with him, a case of hip joint disease. I found the patient a strumous boy, five years of age, and of bad family history. His face was anxious, his temperature 103° F. I was told that on Thanksgiving Day he had fallen from a lumber pile. The next day he went to school and made no complaint, but in a day or two he became lame, and complained of tenderness in the right hip joint and in the front of the thigh and down it. He rested badly at night. Dr. Dawson was not called to see him until some two or three weeks had elapsed. When seen, there was great tenderness and infiltration in the anterior portion of Scarpa's space. The leg was flexed to an angle of 120°, both when the boy was lying down and when he was standing up. All motions—flexion, extension, rotation, abduction, and adduction—were limited. Measurements above the knee were the same on each side, but the upper part of the suspected thigh was the larger, contrary to what usually occurs. A Thomas splint, flexed and adjusted to the position of the limb. was applied.

A few days after Christmas it was found that the boy was worse, and wasting, and that there was no marked change in the region of the joint. I became suspicious of the diagnosis, and had the patient removed to the Hospital for Sick Children. He was anæsthetised, and there was found a tumor, fullness and resistance above and parallel to Poupart's ligament, reaching up to the anterior superior spinous process of the ilium, and extending not quite to the symphysis

pubis. Warm applications and opiates were used. When he came into the hospital, my attention was drawn, by the nurses, to the fact that he was constipated. I afterwards learned that before he went there, constipation had been a prominent symptom, although from questioning his parents I had not been able to elicit this information. There was no vomiting. He was taken home by his parents.

A few days after his return home, the tumor was found to be increased in size. I inserted an aspirator and drew off pus; there upon a free incision was made, and about a pint of pus evacuated from below the reduplication of the peritoneum. No foreign body was found; a drainage tube was inserted; the boy recovered quickly, and in two weeks was out of doors.

I have thought this case worthy of note, as I was led into error. I have been unable to find much literature upon the subject. In 1881, Gibney recorded six cases of pericæcal abscess, mistaken for other disease. In one case the condition had been, by several eminent surgeons, diagnosed as a dislocation; but the abscess opened spontaneously. In another case the abscess had been complicated with a hernia, and had been diagnosed as a simple hernia. In four out of six the diagnosis had been hip joint disease.

HYSTERIA IN THE MALE.

Dr. T. Mackenzie related the case of an inmate of the Home of Incurables. Male, 29, Irish, had always lived a steady life, and had no bad habits, but was an inveterate smoker. Some two years ago he became melancholy. It was noticed in the dry goods store in which he was a clerk, that he preferred to do the heavy and dirty work rather than come forward and make sales. He was admitted into the home exactly two years before the date of his recovery. The history was that he came home on a Saturday night and had to be helped to bed. The next morning he came down stairs and gradually became worse, so that at length he could not walk, and had to have his limbs moved for him, but he could stand if supported. After a few days he became motionless. After he came into the home he was never seen to move a limb during the day time, but during the night he would draw up his legs, and turn in bed. Occasionally he would speak; in six months he would speak perhaps as many times, but then only to make a brief request. On one occasion, about six months after he was attacked, he actually broke out into conversation. Before he was brought into the hospital the actual cautery had been tried, but without avail. The irons heated to a white heat had been brought so close to him that he had been badly blistered. Electricity had also failed. Starvation, kept up for ten days, had been equally futile. He was very fond of tobacco and would smoke if the pipe was placed within his teeth. Pipe and tobacco had been placed within his reach, but he had never been known to touch them. Needles had been run into the flesh without producing any movement or complaint. During his stay in the home he became very stout, his appetite and digestion were good, and there was no trouble with either rectum or bladder. On Easter Sunday he asked for crutches, saying that he thought he could walk. Ever since that time he has walked and talked. He had the appearance of one afflicted with dementia—dull, expressionless face, listless eyes, chin resting on the breast. The cutaneous circulation was very poor, the hands and feet cold and blue. His memory is perfect and he is rational in every respect. He was said to have been disappointed in love.

Some twenty years ago, when a medical student, Dr. Price Brown had seen a somewhat similar case. The man had been found in the street in an unconscious condition. He fell into a state of apathy and could not move a limb, even the eyes and eyelids were motionless. After a little while he gained some slight power of motion in the feet. I remember once seeing his dinner placed on the floor before the open fire-place of the ward. He hopped over on one foot to the fire-place, bent down and seized his dinner in his teeth, without making a motion of his hands. Gradually he gained the use of his hands, and was then given a pair of crutches. One day he came down on his crutches to the front door of the hospital, looked around, and the coast being clear, he was seen to throw down his crutches, bolt for the high fence, clear it with a bound, "though lost to sight to memory dear."

PUERPERAL PYREXIA.

Dr. Spencer related the case of a primipara who had been attended for him during labor by a fellow practitioner, a demonstrator in one of

the medical schools. On the 5th day he found her with pinched face, abdominal tenderness, and a temperature of 101° F. On the eighth day pulse 120, temperature 105°. He gave quin. sulph. gr. v., q. 4, h., and washed out the uterus. The next day pulse 90, temperature normal. The question was, is this a case of auto infection, or is it due to the dissecting room. There was a pretty extensive laceration of the cervix.

Dr. Gordon asked whether the discharges were bad before or after the rise of temperature? As the medical schools had now been closed for a month, he did not see how the case could be blamed on the dissecting rooms.

Dr. Primrose inquired if any blood clots had come away when the uterus had been washed out? A blood clot becoming septic would be a good and sufficient cause for the condition.

Dr. Spencer replied that two or three small clots had come away.

Dr. Greig related a case in which a similar pyrexia had occurred on the eighth day of the puerpery. The woman had gone on very well, and he had ceased attendance. On the evening of the eighth day he was sent for. He found the woman complaining of pain, high fever, pulse 125, temperature 104°, and the lochial discharge almost stopped. He could not find any reason for the condition—there had not been any vaginal examination or injections. Quin. sulph. gr. xx., and an intra-uterine injection were resorted to. Next morning the woman was quite well. He was then told that the evening before, the breasts being very full, the husband had taken the nipple, and tried to relieve the breast. This action had caused a rather pleasurable sensation in the woman, she had laughed heartily, and in two or three hours afterwards had been seized with the pain and fever.

HEMORRHAGE FROM RUPTURED HYMEN.

Dr. Doolittle related the case of a young couple who had been married clandestinely. They came back to the house of the bride's mother and were together for about a half hour, when the bridegroom left. In the morning he was sent for and found the girl blanched, and with all the signs of the loss of a great deal of blood. On examination he found the vagina filled with clots; on clearing these away the hymen was found to be torn only to the depth of an eighth of an inch, but at the bottom of this tear there spurted forth a small artery from which the hemorrhage had occurred.

ANEURISM OF ARCH OF AORTA.

Dr. T. E. McKenzie presented a specimen of aneurism of the arch of the aorta, which had caused occlusion of the left carotid.

CALCULUS IN KIDNEY.

Dr. Wallwin: Mr. G.H., age. 32; occupation, ice dealer; was taken sick on Friday, March 21st, with chills, followed by sweats, which he thought was only a cold. On Saturday he was affected with another chill, and his teeth chattered and limbs shook, which was followed by profuse perspiration. This continued until Friday, when I first saw him. His condition then was, pulse, 115: temperature 103½°. His bowels had not moved for eight days previous. Urine scanty, alkaline reaction, and contained both albumen and pus, sp. g., 1008. He then complained of pain in left iliac region. There was dullness on percussion in left iliac region all along descending, transverse, and ascending colon, but not in hypogastric or lower part of umbilical regions. Liver dullness was much increased. Tongue coated, and great thirst. I then put him on strophanthus, quinine, and 20 grains pulv jalap. Next day temperature normal. No rigor during night, and remained so with exception of once until death. Bowels not yet moved, so I gave injection of glycerine ℥iii., and bowels moved once that afternoon and twice during night. On March 30th he was making water, when a stone became lodged in urethra, which was removed on following day, and washed out bladder, bringing away a larger quantity of stringy mucus, which I think was caused by the action of the alkali on the pus. After washing out the bladder clean, the next time he passed urine there was just as much pus as though his bladder had not been washed out, which indicated that the pus was not being formed in the bladder. Upon examination there could be no tumor discovered in the region of the kidney. There was no history of renal colic, no swelling of feet or eye-lids, no ascites, but patient had been passing small stones by urethra ever since 1876, at which time one was cut from the urethra, leaving a fistulous opening in front of scrotum about one inch long. Pus first was seen in urine about two years ago. His health dur-

ing the last fourteen months has been such that he never had to quit work, and was actively engaged in business until March 20th last. After relieving the bowels he was given pil. hydrarg and ex. col. co. iii., which reduced the size of liver. The tongue for the last eight days was bright red, owing to loss of epithelium.

## HAMILTON MEDICAL AND SURGICAL SOCIETY.

Stated Meeting, 1st April, 1890.

The President, Dr. J. W. Rosebrugh, in the chair.

Dr. Cockburn reported a case of

MALIGNANT DISEASE OF BLADDER.

About the latter end of November, 1888, my father came to me complaining of a feeling of discomfort just over the pubes, not severe, which eased at times, but never quite disappeared. During the next four or five weeks it gradually and almost imperceptibly became more palpable, till one day, about Christmas, 1888, a clot of blood was washed out with the urine, which, from its shape, must have been lodged in the urethra. I now began to feel some anxiety, for the sequence of symptoms tallied unpleasantly close with the earliest symptoms of malignant disease of the bladder. On January 7th, 1889, Dr. Leslie saw my father, and took a favorable view as to any vesical trouble, but (if I remember aright) thought he suffered from lithiasis, an opinion afterwards confirmed by Dr. Osler. After this my father went about as usual; he did not complain much, but when questioned always said the pain was getting slowly worse, and small casts of blood were passed from time to time. Still feeling very dissatisfied with my father's condition, I mentioned my suspicions to Dr. Bertram, of Dundas, the family physician, and suggested he should examine per rectum, which was done. Dr. Bertram discovered nothing abnormal and at this time took a hopeful view. On March 26th my father had a sort of hysterical attack, and took to his bed. Under Dr. Bertram's care he improved for a time, but he now began to pass small particles of tissue. These were carefully examined microscopically on several occasions by Dr. Mallock, Osborne, and myself. Their appearance was suspicious but by no means pathognomonic. Some of these shreds of tissue were sent to Dr. Osler, of Philadelphia, who very kindly examined them and (to the best of my recollection) said such particles were often passed by patients suffering from chronic degenerative changes in the kidneys.

The pain gradually increased, but no great change occurred till May 26th, when a considerable discharge of blood occurred at the end of micturition. On May 30th, Drs. Malloch and Bertram met me in consultation over my father's case. A perineal section was suggested pending an examination of the urine. The urine showed a considerable quantity of albumen and the operation was abandoned. From this date my father commenced taking morphia hypodermically. His general condition became worse, the pain over the pubes became more severe, and the whole hypogastric region became intensely tender on pressure. The abuminuria continued to increase, but although the urine was examined for casts by Dr. Malloch and myself on several occasions, none were found.

On August 9th, 1889, Dr. Osler, of Philadelphia, saw my father, in consultation with Dr. Malloch, Dr. Bertram, and myself. (Speaking from recollection) Dr. Osler was unable to detect anything definite by firm pressure over the pubes, and digital examination per rectum gave a negative result. Dr. Malloch examined my father per rectum on his first visit, and both he and Dr. Osler agreed in pronouncing the prostate normal and no pathological condition to be detected. On this occasion my father was sounded by Dr. Malloch with a negative result. To the best of my recollection, Dr. Osler believed it to be a case of gouty kidneys, remarking that the cause of the hæmaturia was obscure. Dr. Osler opposed any operation, and disagreed with me as to the presence of malignant disease in the bladder. This opinion, expressed by so eminent an authority, gave myself and my family great relief, and I began to hope I might be wrong in my view of the case. From this time my father went steadily down hill, the pain became more severe and constant in the regions indicated, blood and pus were constantly being passed. The morphia was gradually increased. As time went on he began to emaciate; blood was constantly passed at the end of micturition, and the suffering on these occasions became intense,

especially towards the close of the act. The pain spread down the penis as in cases of calculus.

Uræmic symptoms appeared from time to time,and the urine became loaded with albumen, but in spite of repeated examinations, no casts appeared. Morphia was given in increasing doses to mitigate the constant suffering. All the symptoms became worse and worse. From time to time large quantities of blood were passed, sometimes mixed with pus. Albumen was always present in large quantities, and the pain in micturition became most intense. On January, 28, 1890, I was telephoned for, as there was some obstruction in the bowel. I found a hard mass blocking the rectum, which was with difficulty removed. Three days later a second mass presented, and was removed under chloroform. The chloroform was pushed to complete anæsthesia, and I then proceeded to explore per rectum. I easily mapped out the prostate, and satisfied myself that it was normal. In the situation of the bladder I was able to make out a hard, irregular mass, movable and, to a bimanual examination, apparently about the size of the gravid uterus at the fourth or fifth week.

I now felt absolutely certain I had a case of malignant disease of the bladder to deal with. From the feel of it I judged it to be most probably scirrhus cancer, involving principally the fundus.

From this time my father began rapidly to sink. The suffering became so terrible that he was kept more or less constantly under chloroform, as the morphia seemed to lose all power, an injection of 4½ grains producing no appreciable effect. He died February 15th, 1890; the duration of the case, from the earliest onset of symptoms, being therefore about one year and three months. From May 30th, 1889, to Feb. 15th, 1890, my father took over 2,000 grains of morphia hypodermically, and that with only partial relief to the suffering.

*Remarks*:—The specimen showed a growth on the posterior wall, which it infiltrated, measuring about 1¼ in. in width, 1½ in. in depth, and 1 in. in thickness. Over its free surface were numerous elongated papillæ which formed a fringe-like covering to the growth. The tumor had not a very firm consistence although it had been in methylated spirits for two weeks.

In the discussion which followed, Drs. Mullin, Malloch, and Olmsted dissented from the view of it being scirrhus.

Dr. H. S. Griffin reported the following case of

OOPHORECTOMY FOR CHRONIC OVARITIS.

Mrs. H., æt. 41, married, multipara; family history poor, several members having died of phthisis. Spare, nervous, menstruation regular.

December 3, 1888, on making an emergent night visit, I found her suffering from intense pain referred to the lower part of the back and extending into the left inguinal region. She gave a history of previous tenderness and uneasiness in the same locality, extending over several weeks, but not sufficiently severe to call for treatment. A vaginal examination discovered a small sized mass posterior to the uterus, movable but intensely tender; making steady pressure in Campbell's position I readily succeeded in placing it above the pelvic brim. This relieved the intense pain, but considerable distress and soreness still remained. She was instructed to lie on the face and side as much as possible.

December 4th to 14th. A few hours after replacing the ovary it again prolapsed, with return of the severe pain. It was quite impossible for her to retain a pessary, but persistent attempts were made to support the ovary with cotton wool tampons, aided by rest and posture. It would, however, invariably descend within twenty-four hours, and have to be replaced with the finger. Nausea and anorexia were prominent symptoms.

December 14. Menstruation occurred with amelioration of her condition. She was able to be up and attend to her household affairs to some slight extent.

January 2nd to 12th. The severe pain returned. All local treatment seemed only to aggravate the trouble and irritate the parts. She had to be constantly visited, and the ovary replaced. Until the beginning of March this condition persisted. Then occurred an improvement, and for two weeks she did not require a single visit.

March 22nd. In response to a call, I found her suffering intensely. Examination showed the ovary firmly pressed down, and so intensely painful that I had to abandon attempts at reduction. Under sedatives and hot water

douches, I was able to replace it on the 28th. I still hoped that patient treatment would succeed in releasing her, but towards the end of April it was apparent that operative measures were necessary. She had become unable to take sufficient nourishment, and loss of rest with continuance of the pain had greatly reduced her.

April 30th. Operated at 11 a.m. Dr. Miller gave chloroform, and Dr. Leslie assisted in the operation. A two inch incision in the usual place enabled me to hook up the left ovary from Douglas' pouch. The pedicle was tied and dropped, the right ovary examined and found normal, and the wound closed. Operation occupied about twenty minutes. On returning to the patient a few hours after, I found her suffering from the most severe retching I ever saw. It was promptly relieved, however, by a half grain hypodermic of morphia.

May 14th. The patient convalesced rather slowly, owing to irritability of the stomach. The temperature, which was 100° on the day of the operation, has never reached that point since, and is now normal.

June 1st. Patient able to leave her room and feeling quite well.

Since then (nearly a year ago) she has enjoyed perfect health, and has never had a pain since the day of the operation. The ovary removed was slightly enlarged, and had three small cysts about the size of marrow-fat peas.

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## NEW YORK ACADEMY OF MEDICINE. SECTION ON ORTHOPÆDIC SURGERY.

Stated Meeting, Mar. 21st, 1890.

V. P. Gibney, M.D., Chairman.

Dr. John Ridlon presented a case for diagnosis.

Dr. Gibney considered it a case of

CERVICAL ROTARY SCOLIOSIS,

with a cyst over the scapula. He had seen one or two cases of cystic tumor in this region; and the diagnosis of scoliosis was made by the position of the right shoulder, the drawing of the head to that side, and on the patient's bending forward, a deviation of the spine to the right.

Dr. Samuel Ketch agreed in the diagnosis of rotary lateral curvature, which he thought was congenital.

Dr. L. Putzel found some enlargement of the spine of the scapula, and muscular spasm of all the muscles inserted into the inner border of the scapula.

Dr. A. B. Judson thought there was evident scolio-is.

Dr. W. R. Birdsall was of the opinion that most of the deformity was the result of muscular spasm. An electrical examination ought to settle the question.

Dr. A. M. Phelps said that in a growing child such a condition of scoliosis was often secondary to muscular spasm.

Dr. Ridlon said that he had been unable to obtain any history which would account for an irritative lesion at birth; and he had only just learned that the child had been etherize l by Dr. Gerster two days ago, and that the swelling had entirely disappeared.

Dr. T. Halsted Myers presented a case of

DOUBLE CONGENITAL MALFORMATION AT THE KNEE, WITH HYPER-EXTENSION AND TALIPES.

The patient was born at term, after an easy labor by a breech presentation. The feet had been closely applied to the head, and the quantity of liquor amnii had been normal. The marked flexion of the thighs had been gradually overcome at the end of eight months; but at the age of sixteen months, the thighs could not be extended beyond the straight position; both legs were hyper-extended to 140 degrees; there was equino-varus, marked on the left side, and moderate on the right. Neither patella could be felt. The inter-condylar grooves were shallow; the tibiæ glided forward into partial dislocation, and there was marged genu-valgum, with abnormal lateral mobility at the knee. The body was otherwise normal, and there were no evidences of cerebral defect. The muscles responded well to the Faradic current, but in a less degree on the right side. The flexors of the thigh were in constant active contraction, and the condition of the posterior leg muscles seemed to be one of structural change. The deformity had been considerably reduced in two weeks, by means of a brace, which maintained flexion at the knee.

Dr. Myers presented brief notes of several cases which had been already reported by some of the members of the section. The absence

of cerebral symptoms in these cases, pointed to the cord as the seat of the lesion. The muscular spasm seemed to disappear about the third year, or even earlier; and the prognosis, as regards the usefulness of the limbs, was very good. There was nothing in these histories, however, to show that the fœtus had maintained the position found at birth. This position approximated the insertions of the anterior thigh group and the posterior leg group, which might very easily account for the structural changes in the muscles and consequent shortening and deformity. Nor was it surprising that the patella, which was practically a part of the quadriceps tendon, should share in this mal-development; but the character of the labor itself ought to have but little influence, as the cartilage of the patella appeared in the third month of fœtal life.

Dr. R. H. Sayre related the history of a similar case, and exhibited photographs, showing the condition immediately after birth, and again six months later. The labor and the quantity of liquor amnii had been normal and no cause could be assigned for the condition.

At the present time the leg could be flexed on the thigh to about forty-five degrees, and extension was possible only to a straight line. The shortening was three-quarters of an inch. No patella had yet been found.

Dr. Ketch said that in a collection of fifty-six cases of congenital dislocation, reported by Dr. Hubbard and himself, there was only one congenital dislocation of the knee, and this was unilateral.

The literature of the subject was still very meagre, Noble Smith being the only author he had found who spoke of the condition at length. The treatment which this author advocated yielded uniformly good results.

Dr. LeRoy W. Hubbard, by invitation, presented the report of a case of

POTT'S PARAPLEGIA TREATED BY SUSPENSION,

after the method suggested by Motchoukowski. The case was one of those untractable ones that had resisted ordinary methods of treatment. Drs. Ketch and Hubbard employed daily suspension for a few minutes, and a decided daily improvement was noticed within a month, but a complete cure had not been established up to the time of the report.

Dr. Putzel said that his pathological studies had led him to believe that the majority of cases of Pott's paraplegia were not due to pressure, but to a transverse myelitis; and his experience with the treatment by suspension had taught him to consider it a method which was, at best, only a temporary relief. Very rapid improvement often followed many methods of treatment. Large doses of iodide of potassium had not yielded him very satisfactory results. It was important to remember that the disease showed a strong tendency to spontaneous recovery.

Dr. Birdsall thought that where Pott's paraplegia was due to myelitis the disease was fatal; but many cases were due, not to a myelitis, but to irritation and pressure on the anterior or posterior roots of the nerves in their passage through the foramina. Among the various theories which had been advanced concerning the action of suspension, he thought that the most plausible one attributed the beneficial action to a slight separation of the vertebræ, with consequent improvement in the circulation of the affected parts, particularly the nerve roots. This was what might be expected from our knowledge of nerve stretching; and on this account, he thought the method somewhat dangerous. For many months after Charcot called attention to the method, the literature of the subject was very extensive; but more recently it had become quite scanty. It was particularly strange that these early investigators had not furnished any later reports.

Dr. L. C. Gray said that excluding those cases which were complicated by organic lesion of the cord, he thought that the etiology of Pott's paraplegia could be explained by reflex causes. Nerve-stretching in this disease was a very different thing from what it was in locomotor ataxia. The latter disease had a very complicated pathology. and embraced several distinct varieties. It was a very significant fact, that the results claimed by Charcot had not been obtained by other observers. He did not think that the treatment by suspension, when properly managed, was dangerous; and where the paraplegia was of reflex origin, he would look for temporary relief, and in milder cases even a cure was not impossible.

Dr. W. R. Townsend reported two cases

which he had treated by extension in bed, according to the method described by Wm. J. Fleming, in the *Lancet* for 1889. He had modified the arrangement for extension, by using a jacket around the pelvis, with straps passing down on each side. Both cases had received large doses of iodide of potassium in addition to extension, and both showed the improvement noted in Dr. Hubbard's case.

Dr. Ridlon said that he had made use of large doses of iodide of potassium, the actual cautery, and of horizontal traction while in bed; but he had been unable to see any favorable modification of the disease by any of these methods. He now kept his patients on their backs, and waited for them to get well. One case recovered perfectly after three years.

Dr. Ketch said that he had suggested the use of suspension in the case reported by Dr. Hubbard, after the paralysis had lasted for about three years, and had not been improved by recumbency, or the use of iodide of potassium.

Dr. R. H. Sayre said that the treatment of Pott's paraplegia by suspension had been practised as long ago as 1828, by J. K. Mitchell, of Philadelphia. Suspension failed to give relief when carried to excess, and it was dangerous if injudiciously applied. These cases should not be left untreated, for their chances of becoming permanently paralyzed were thereby increased. Constant traction by means of the "jury mast," and traction with recumbency, were both very useful methods. By making use of extension with the patient in the "wire cuirass," his father had been able to employ traction with recumbency, without depriving the patient of the benefits of fresh air.

Dr. Phelps considered that the employment of suspension, at a period when the disease was still active, was bad practice; and the great majority of cases recovered, if the spinal column were only fixed.

Dr. Hubbard did not think that pressure on the nerve roots could be of common occurrence, for sensory symptoms rarely appeared, and then only in the later stages.

Dr. A. B. Judson read a paper entitled,

A CRITICISM OF WILLETT'S OPERATION FOR TALIPES CALCANEUS.

He stated that in this affection the deformity was of less importance than the disability, which prevented the patient from resting on the toe in walking—a disability which Mr. Willett sought to remove by shortening the tendo Achillis. The writer demonstrated that the tension on the heel-cord greatly exceeded the weight of the body; and expressed the opinion that the tendon, shortened by operation, would not long endure the strain without yielding He advocated the mechanical treatment of this disability, and presented a brace which was easy to apply, convenient to wear, and inexpensive.

Dr. W. E. Wirt, by invitation, gave a mathematical demonstration, showing that Dr. Judson in his calculations did not make any allowance for the action of the other muscles; and that when these were considered, it was found that the tension sustained by the tendo Achillis was at no time more than 1.4 times the weight of the body.

Dr. Royal Whitman, by invitation, read a paper on the

RATIONAL TREATMENT OF FLAT FOOT,

and showed some plaster casts of cases he had treated.

Dr. Willy Meyer presented two cases of flat foot which he had treated by supra-malleolar osteotomy, and showed photographs and casts illustrating the condition of the patients before and after the operation. He considered the method a most rational one; for it required the patient to step upon the outer border of the foot, so that the weight of the body was transmitted through the cuboid, instead of through the scaphoid bone. Dr. Whitman's results were excellent; but they had been obtained in comparatively young subjects after six months of treatment. The method which he advocated would secure permanently good results in as many weeks.

Dr. R. H. Sayre remarked that Mr. Golding-Bird, who was the first to do these operations, found less frequent occasion than formerly to resort to this method, as he was able by non-operative measures to relieve pain, and in great measure, to remove the disability.

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LEGACY TO THE POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.—Among the legacies of the late Honorable D. B. St. John, of Newburgh, N.Y., was one of ten thousand dollars to the above named institution.

## Hospital Reports.

### REMOVAL OF A LOOSE BODY FROM THE RIGHT KNEE JOINT—CURE.

UNDER THE CARE OF R. B. NEVITT, B.A., M.D., IN THE TORONTO GENERAL HOSPITAL.

O. G., æt. 24, admitted March 24, '90—a strong, healthy, well-built man. On the fifteenth day of last November, while walking, he stepped upon a limb of a tree in such a manner that the limb fitted into the hollow of his foot and caused him to twist his leg; he fell forwards and was unable to rise. He then found it impossible to completely extend his leg at the knee joint. Flexion of the leg on the thigh was possible, and he could straighten it up to a point when the leg formed an angle of 120° with the thigh; further extension was impossible, and all attempts to bring about complete extension caused excessive pain. There was a slight amount of swelling after the accident, but no pain as long as the joint was kept at rest; he walked about without discomfort, save that which arose from the flexed condition of the limb. He consulted a doctor and, following his directions, blistered the knee, he then tried rubbing with turpentine, and subsequently rubbed the joint with oils of various kinds. These forms of relief failed to give him relief until one night, two months after the accident, while rubbing it vigorously with "coon oil" he was able to straighten the limb for the first time. He began to walk on the straightened limb, and then he observed that "a little bone" had come out and lodged on the *left* side of the joint. At night he rubbed the joint with turpentine, and the following morning found the loose body out on the *right* side of the joint. It subsequently kept moving out and in for months; the joint was stiff very frequently, especially when kept at rest for some hours, but, after exercise, movement in the joint became more free. The only pain he suffered was when the loose body came "out," aud it was his constant endeavor to keep it under the quadriceps extensor tendon, where it seemed to lodge without giving the patient any annoyance whatever. He was admitted to the hospital under the care of Dr. Nevitt. There was some difficulty in getting the loose body to appear, and the patient was told that when it did appear he was to fix it in position by applying a pad between the extensor tendon and the loose body; this was done and a turn of bandage held the pad in its place; the loose body at length appeared on the left side of the joint. Dr. Nevitt fixed it by means of a needle and cut down upon it; unfortunately, however, it slipped back into the joint, and could not be recovered; the wound was dressed and the attempt to secure the body was postponed. A few days after, on April 18th, the patient had again fixed the body, this time on the right side of the joint. Dr. Nevitt secured it in position by pressing it firmly with the thumb, the pressure was directed upwards and backwards, so as to force it away from the joint and extensor tendon as much as possible. An incision three-quarters of an inch long was made, and the various structures divided, including the joint capsule, when the loose body slipped out without any difficulty. A stitch was inserted and dressing applied. The wound healed perfectly, and the joint is now perfectly healthy and free from all pain. Most careful antiseptic precautions were taken during both operations, and the wounds were thoroughly aseptic throughout the healing process.

The loose body was a cartilaginous nodule, irregularly pear-shaped, 5/8ths of an inch in length and its greatest width 3/8ths of an inch. The apex of the pear was soft and pliable as if it had at one time been attached by a fibrous pedicle.

## Pathology.

PRIMARY CANCER OF THE GALL-BLADDER AND ITS RELATION TO GALL-STONES AND CICATRICES OF THE GALL-BLADDER.—(*Centralblatt für Klin. Med. Sept. 7, 1889.*)—In cases in which gall-bladders containing calculi are found to be cancerous, clinical observation seems to show that, in the majority, the calculi precede the cancer. Zenker in explaining the causation of the cancer in these cases, follows the lead of Hauser in his investigations on cancer of the stomach, occurring after ulceration. The theory advanced by Hauser is, that the cicatrization of gastric ulcers sets up an abnormal proliferation of the glandular epithelial elements, and this process becoming chronic under prolonged irritation, ends in the carcinomatous growth. In the case of the gall-bladder, the

calculi cause ulceration, and after cicatrization has begun, supply the chronic irritant which excites the irregular epithelial growth.

J. C.

THE GERM OF DISTEMPER IN DOGS.—Probably the latest discovery of a pathogeuic microbe is that of the bacillus of distemper in dogs, by Mr. Everett Millais of St. Thomas Hospital, London. A full account of his experiments is given in the *British Medical Journal* of April 12, 1890. In addition to isolating the germ which produces the specific catarrhal symptoms of distemper, Mr. Millais has shown that the pneumonia, which is so frequently a cause of death in this disease, in all likelihood depends upon a micrococcus found along with the bacillus. The micro-organisms were found to be present in both the sero-mucous discharge from the nasal passages of the dogs, and in the internal organs examined, viz., lungs, liver, spleen and kidneys. Experiments with attenuated virus, to bring about protection, were quite successful.

J. C.

## Correspondence.

*Editor of* CANADIAN PRACTITIONER.

DEAR SIR,—At a meeting of the Ottawa Medico-Chiurgical Society, held on Friday evening last, the 11th inst., the following resolution, a copy of which I am directed to forward you, was unanimously passed: "Moved by Dr. John Sweetland, seconded by Dr. A. J. Horsey, that this society desires to express its sincere hope that Dr. Edward Playter, of this city, be appointed a member of the Provincial Board of Health, not only because of his well known and acknowledged ability as a sanitarian, but also because there is no representative on the said board from the whole of the eastern portion of the Province of Ontario. It is further resolved that a copy of this resolution be sent to the Honorable Charles Drury, Minister of Agriculture, Toronto; E. H. Bronson, Esq., M.P.P., the *Canada Lancet* and the CANADIAN PRACTITIONER." I am, dear sir, yours truly,

A. F. ROGERS, M.D.,
Ottawa, 14th April, 1890. *President.*

## Book Notices.

*Wood's Medical and Surgical Monographs.* Vol 5, No. 1, Feb., 1890. Wm. Wood & Co., New York.

In the February number of this well known publication are contained, "Action of Uric Acid in the Causation of Disease," by A. Haig, M.D.; "Initial Stages of Consumption, their Nature and Treatment," by Horace Dobell, M.D., London; "Ectopic Pregnancy and Pelvic Hæmatocele," by Lawson Tait, M.D.

*Practical Electricity in Medicine and Surgery.* By G. A. Liebig, Ph.D., Assistant in Electricity, Johns Hopkins University; G. H. Rohé, M.D., Professor of Obstetrics and Hygiene, College of Physicians and Surgeons, Baltimore. F. A. Davis: Philadelphia.

The fundamental principles of electricity involved in its application to medicine and surgery are stated concisely and without unnecessary technicalities. After a brief discussion of the various forms of electrical apparatus used by the physician, the effects of electric currents upon the healthy body, and their application to the treatment of disease are considered. The object of the authors, as stated in their concluding paragraph, is worthy of all praise:

"Less attempt has been made to include everything written upon the subject than that nothing untrue should be contained within the covers of this book."

*The International Medical Annual and Practitioners' Index for 1890.*—Edited by P. W. Williams, M.D., Secretary of Staff, assisted by a corps of thirty-six collaborators—European and American—specialists in their several departments. 600 octavo pages. Illustrated. $2.75. Wright & Co,, Bristol; E. B. Treat, 5 Cooper Union, New York; J. A. Carveth & Co., Toronto.

This *Medical Annual* now has a world-wide reputation. From year to year its popularity has been steadily increasing, and the eighth volume, which is now offered to the profession, is probably the best of the series. It presents a *resumé* of all the most important points in connection with new remedies and new treatment that have been published during the past year. The list of contributors is a most admirable one, including, as it does, the names of distinguished

men well known to the medical word. It is really a digest of the best articles and the best books published during the past year in all departments of medicine. It will enable the busy practitioner, in the easiest possible way, to keep well abreast of the times. We have much pleasure in advising our subscribers to obtain the book as speedily as possible.

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*Diseases of Women and Abdominal Surgery.*—By Lawson Tait, F.R.C.S., Edin. and Eng., LL.D., Professor of Gynecology in Queen's College, Birmingham, etc. Vol. I. Philadelphia: Lea Brothers & Co.

This work has been looked for with considerable interest for some time. It will give the profession much pleasure and profit to read the first volume, which may now be obtained from the booksellers. It will probably be generally admitted that Lawson Tait is the greatest of abdominal surgeons. In this comparatively new field he has, to a certain extent, revolutionized surgery. He has reached the summit amidst, perhaps, the strongest opposition that has ever been shown by the high and mighty surgeons of big London against any upstart in a provincial town. His aggressive pugnacity is quite equal to his surgical skill. He dearly loves a fight, and pines for it when it comes not frequently.

Mr. Tait is original as a surgeon, a pugilist, and a writer. No one exactly like him has ever lived—he will likely never be reproduced. We need scarcely introduce him to our readers. Everybody knows him. What he writes is the experience of Lawson Tait—there is no mistake about that; what he tells us are the opinions of Lawson Tait—there can be no difference of opinion about the matter. This work is Lawson Tait's book, written after the style of Lawson Tait. This is about the best description we can give of it in a few words, and we will not attempt to write anything like a review.

## Births, Marriages and Deaths.

### BIRTHS.

BRAY.—At 411 Parliament street, Toronto, on Sunday, March 30th, the wife of Dr. James Bray, of a daughter.

### MARRIAGES.

NATTRESS-DENISON.—In Toronto, on April 10, at St. Anne's church, by the Rev. George Nattress, assisted by Rev. J. MacLean Ballard, W. Nattress, M.D., to Julia A., third daughter of Lieut.-Col. George T. Denison, Heydon Villa.

NEWMAN-SCOTTEN.—At St. Paul's church, Detroit, April 15th, by the Right Rev. G. D. Gillespie, Bishop of Western Michigan, assisted by Rev. Rufus Clarke, Rector, R. Addington Newman, M.D., Detroit, to Bessie, only daughter of Mr. Daniel Scotten, Sunnyside, Detroit.

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### DEATHS.

CLAPP.—April 22nd, suddenly, at his residence, 185 Church street, Toronto, Dr. J. C. Clapp, in his 61st year.

CRAIG.—On April 19th at the residence of her son-in-law, T. Millman, M.D., Toronto, Mary, relict of late John Craig, of Woodstock Ont., in her 68th year.

DOHERTY.—On Monday, April 14, Rev. Albert Doherty, Presbyterian minister, youngest son of Dr. Doherty, Markham.

## MEDICAL EXAMINATIONS.

The results of the recent Examinations in Medicine in the University of Toronto were as follows:

FIRST EXAMINATION.

Anatomy—Class I.—R. J. Hastings, T. B. Futcher, J. B. Peters, T. E. South, J. N. Harvie, B. Kilbourn, W. Elliott, F. Martin, H. W. Hill, J. H. Austin, F. A. Dales, W. C. Freeman, F. E. Harvey.

Class II.—C. W. Thompson, F. E. Grant, F. J. Ball, F. Blanchard, C. J. Laird, H. A. McCullough, J. King, S. H. McCoy, W. C. Beemer, J. J. Williams, R. J. Smith, J. M. Rogers, J. E. Lehmann.

Class III.—J. H. Shouldice, W. E. Olmsted, C. J. Taylor, R. D. Alway, F. G. Pearson, W. P. Thompson, D. McAlpine, W. H. Lambert, J. A. Malloy, D. Marr, H. F. McKendrick, J. D. McLean, H. D. Pease, S. G. Story, G. S. Glassco, J. H. McGarry, W. D. McNab, J. M. Armstrong, J. A. McNaughton, E. A. Fraser, K. C. McIlwraith, F. W. Pirritte, A. H. Tegart, S. H. Large, W. F. Park, G. H. Towner, J. R. MacKenzie, A. F. Rykert, J. H. Hudson, T. Coleman, C. W. Webb, F. H. Moss, F. B. Wakefield, A. E. Douglas.

Physiology—Class I.—E. E. Harvey, Hill, Rykert, Harvie, South.

Class II.—Rogers, McAlpine, Pease, Hudson, McNaughton.

Class III.—McCullough, Malloy, Peters, Dales, Ball, Martin Hastings, Elliott, McIlwraith, Pearson, Pirritte, Lehmann, J. R. Mackenzie, Fraser, A. E. Leitch, Taylor, Futcher, McNab, Tegart, Park, McLean, Smith, King. Thompson, McGarry, Williams, Austin, Marr, Story, Coleman, Olmsted, Laird, Armstrong, Thompson, Wakefield, Glassco, McKendrick, Shouldice, Beemer, Alway, Blanchard, Lambert, Large, Freeman, Grant.

Zoology (only)—Class III.—S. D. Day, J. J. Gee.

Chemistry—Class I.—Harvie, Lehmann, E. E. Harvey, Hastings, Hill, Park, Smith, South.

Class II.—Futcher, Austin, Rykert, Alway, Malloy, Taylor, Elliott, McCullough,

Class III.—Ball, L. H, Campbell, Pearson, Hudson, Marr, Martin, McGarry, Glassco, Laird, Williams, McAlpine, Story, Coleman, McNaughton, Rogers. Tegart, Wakefield. Dales, J. Farrow, Lambert, Large, Towner, Douglas, Leitch, Mc-

Ilwraith, Blanchard, Pease, Thompson, McKendrick, Thompson, Webb, Olmsted, Armstrong, King, Fraser, Grant, Shouldice, J. R. MacKonzie, Pirritte, Beemer, Moss.

Biology.—Class I.—South, Thomson.

Class II.—McCullough, Ball, McAlpine, Futcher, Harvie, Taylor.

Class III.—McIlwraith, Martin, Pease, Smith, Grant, E. E. Harvey, Blanchard, Hastings, Austin, McNaughton, Rykert, Towner, Peters, Rogers, Thompson, Miss M. Foster, Freeman Olmsted, Dales, Laird, Miss E. H. Paterson, Tegart, Alway, Beemer, J. R. McKenzie, Pearson, Pirritte, Hill, Hudson, Lehmann, Elliott, McNab, J Farrow, Glassco, Maclean, Coleman, King, R. M. Caider, Marr, Shouldice, Large, McKendrick, Story, Armstrong, Fraser, Williams, Malloy, Lambert, McGarry, Park, Leitch, Douglas, Webb.

C. H. Bull obtained third-class standing in anatomy, physiology, and biology.

E. Hambly obtained third-class standing in anatomy and chemistry.

G. A. Harvey obtained first-class standing in chemistry, and third-class in anatomy, physiology and biology.

J. D. Leith, M. E. Kiteley and J. R. Hopkins obtained third-class standing in each subject.

W. J. McKenzie obtained first-class standing in anatomy and second-class in physiology, chemistry and biology,

W. J. Smuck obtained second-class standing in physiology and chemistry, and third-class in anatomy and biology.

P. D. Tyerman obtained first-class standing in anatomy, second-class in chemistry and third-class in physiology and biology.

F. C. Whitelock obtained second-class standing in anatomy and physiology and third-class in chemistry and biology.

To be allowed to proceed on passing at the supplemental examinations in September next, as follows:—

Anatomy—Leitch. Physiology—Douglas, Hambly, Towner, Webb. Chemistry—Bull, Freeman, Maclean, McNab. Biology—Hambly, Wakefield.

SECOND EXAMINATION.

Anatomy—Class I.—H. A. Bruce, J. A. Wilson, T. H. Middlebro, G. W. Gould, C. C. Richardson, J. F. Ross.

Class II.—R. H. Gowland, R. H. Green, B. Kilbourn. J. H. Youell, J. McAsh, H. J. Way, P. McG. Brown, J. A. Evans, A. Montgomery, L. N. McKechnie, J. A. Hershey, H. M. Lloyd, J. N. Brown, D A. Clark, F. H. Heming, Miss E. H. Paterson, F. H. Hagerman.

Class III.—F. K. Armstrong, *J. Farrow, J. A. Cowper, W. Crawford, J. Dargravel, G. H. Bowles, W. Chambers, R. F. Forrest, S. H. McCoy, J. J. Harper, E. G. Smith, Miss M. Foster, R. J. Teeter, W. A. Campbell, H. A. Wardell, W. H. Tye, F. H. Moss.

Physiology—Class I.—Middlebro, Bruce.

Class II.—McAsh. Richardson, Gould, J. A. Wilson, R. H. Green, Youell, Miss E. H. Paterson.

Class III.—J. N. Brown, Kilbourn. McKechnie, Armstrong, Crawford, Forrest, L. H. Campbell, Lloyd, McCuen, Montgomery, P. M. Brown, Chambers, Gowland, Cowper, Hagerman, W. A. Campbell, Ross, Evans, Hemming, Harper, Clark. Hershey, Tye, Teeter, Miss M. Foster, Moss, Smith, Wardell, Way, Bowles, G. K. Shirton.

Medical Chemistry (only).—Class I.—McCoy, T. E. Bennett.

Class III.—J. S. Agar.

Materia Medica—Class I.—J. A. Wilson, Richardson.

Class II.—Lloyd, Cowper, R. H. Green.

Class III.—Heming, Kilbourn, Gould, Ross, Forrest, Middlebro, P. M. Brown, McAsh, Bruce, Youell, Miss E. H. Paterson, Chambers, T. H. Jamieson, Evans, Armstrong, H. H. Oldright, Clark, W. A. Campbell, Gear, Harper, Bowles, McCoy, J. N. Brown, Montgomery, A. E. Awde, McKechnie, Hagerman, Smith, Farrow, Gowland, Crawford, Tye, L. H. Campbell, T. H. Henry. F. T. Green, Way, S. Blackney, Wardell, W. I. Senkler, Miss M. Foster, Teeter, Hershey, McCuen.

Chemistry (Organic and Medical).—Class I.— Bruce, Middlebro, Armstrong, Cowper. Kilbourn, Gowland, Lloyd, P. M. Brown, J. A. Wilson, Youell, Gould, R. H. Green, W. A. Campbell.

Class II.—J. N. Brown, Chambers, Miss E. H. Paterson, McAsh, Tye, Moss.

Class III.—Clark, Forrest, McKechnie, Way, Harper, Hershey, Crawford, Farrow, Montgomery, Miss M. Foster, Ross, Bowles, Heming, Wardell, Evans, Hagerman, T. H. Henry, Smith.

Organic Chemistry (only)—Class III.—D. McLean, W. I. Senkler, A. E. Awde, A. Boultbee, Shirton, F. T. Green, J. Forrest. J. Dargavel, S. Blackney.

Histology—Class I.—Middlebro, Bruce, Richardson, Ross, McAsh.

Class II.—Youell, Gowland, R. H. Green.

Class III.—Gould, Cowper, Armstrong, J. N. Brown, Lloyd, McKechnie, Teeter, J. A. Wilson, Kilbourn, Tye, Forrest. P. M. Brown, Miss E. H. Paterson, Bowles, W. A. Campbell, Heming, Chambers, Hagerman, Way, Harper, Clark, Crawford, Miss M. Foster, Hershey, S. Blackney, Montgomery, Smith, Moss, Evans.

To be allowed to proceed upon passing at the supplemental examinations in September next, as follows:—

Physiology—Farrow. Materia Medica—Moss. Histology—Farrow, Wardell.

W. F. Brown obtained first-class standing in anatomy and chemistry, and second-class in physiology, materia medica, and third-class in histology.

H. Gear obtained first-class standing in chemistry, second-class in anatomy, third-class in physiology, histology, and materia medica.

G. L. McBride obtained third-class standing in materia medica, anatomy, physiology, chemistry, and histology.

A. Skippen obtained second-class standing in physiology, third-class in anatomy, materia medica, chemistry, and histology.

W. T. Wilson obtained third-class standing in anatomy, physiology, materia medica, chemistry, and histology.

THIRD EXAMINATION.

Medicine—Class II—J. E. Hett, J. Dow, *D. F. Webster, J. R. Arthur, *A. Boultbee, *J. W. Edgar, *O. Teeter.

Class III.—J. A. Amyot, G. Boyd, *W. I. Senkler, A. E. Clendenan, M. Dunning, W. F. Langrill, G. McGorman, *A. E. Awde, W. N. Barnhart, P. Bollen, *T. E. Bennett, P A. Gillespie R. C. Griffith, *G. McKenzie, R. J. Crawford, J. Watson, A. S. Blueglass, R. H. Mason, *H. P. Millard, R. J. Dwyer, *J. H. Clossen, S D. Day, *J. Forrest, J. H. Wasley, *B. E. Thompson, *T. H. Henry, *D. McLean, A. W. Heaslip,

Clinical Medicine—Class I.—McGorman, Barnhart, Langrill, Dwyer, Amyot.

Class II.—Bollen, *McCullough, Boultbee, Boyd, Crawford.

Class III.—Bennett, Day; McLean, Arthur, Dow, McKenzie, Heaslip, Wasley, Dunning, Forrest, Webster, Gillespie, Clendenan, Hett, Millard, Watson, Thompson, Griffith.

Surgery—Class I. —Bollen, Dunning, McGorman, Barnhart, Watson, Langrill, Wasley, Amyot, McCullough, McKenzie, *F. H. Wells, Webster.

Class II.—Thompson, Henry, Senkler, Boyd, Hett, Clendenan, Forrest, Edgar, Gillespie, Griffith, Awde, Dow.

Class III.—Crawford, Arthur, Millard, Teeter, McLean, Day, Bennett, Heaslip, Closson, Dwyer, Boultbee.

Clinical Surgery—Class I.—Barnhart, Bollen, Day, Amyot, Griffith, Boyd, Hett, Teeter.

Class II.—McCullough, Watson, McGorman, Millard, Wells, Clendenan, Closson, Boultbee.

Class III.—Dwyer, McLean, Awde, Dow, Langrill, Arthur, Heaslip, McKenzie, Gillespie, Webster, Dunning, Forrest, Henry, Wasley, Crawford, Edgar.

Surgical Anatomy.—Class I.—Barnhart, Arthur, Bollen.

Class II.—McGorman, Dow, Langrill.

Class III.—McKenzie, Heaslip, Boyd, Dunning, Crawford, Thompson, Boultbee, Hett, Wasley, Watson, Amyot, Henry, Bennett, Closson, R. Shield, Clendenan, Gillespie, Griffith, McCullough, Millard, Teeter, Day, J. E. Forfar, Wells, T. Russell, Dwyer, Senkler, Edgar, Awde, Forrest,

Obstetrics.—Class I.—Bollen, McGorman.

Class II.—Dunning, Boyd, Barnhart, Teeter.

Class III —Crawford, Arthur, Dwyer, Bennett, Griffith, Day, Heaslip, Edgar, Hett, Amyot, Wasley, McCullough, Senkler, Dow, Forrest, Boultbee, Wells. Thompson, Watson, Langrill, Webster, Henry, Millard, R. H. Mason, Awde, Clendenan.

Pathology and Pathological Histology—Class I.—Bollen, McGorman, Amyot, Barnhart.

Class II.—Griffith, Edgar, Arthur, Langrill.

Class III.—Watson, Day, Hett, Dunning, McCullough, Thompson, Boultbee, Boyd, Wells, Wasley, Teeter Gillespie, Webster. Henry, Dwyer, Clendenan, McKenzie, Bennett, Awde, Dow, Crawford, Millard, McLean Heaslip.

Therapeutics—Class I.—Boyd, McGorman, Barnhart, Bollen, Crawford.

Class II.—Langrill, Amyot, Bennett, Arthur, McLean, McKenzie, Wasley.

Class III.—Day, T. H. Henry, McCullough, Millard, Dow, Gillespie, Clendenan, Dunning, Griffith, Thompson, Hett. Forrest. Dwyer, Heaslip, Senkler, Watson, Teeter, Wells, Webster.

To be allowed fourth year standing upon passing at the supplemental examinations in September next as follows:—

Medicine—McCullough, Wells.

Clinical Medicine—Awde, Closson, Edgar, Henry, Senkler, Teeter, Wells.

Clinical surgery—Bennett, Senkler, Thompson.

Surgical anatomy—McLean, Webster.

Obstetrics—Closson, Gillespie, McKenzie, McLean.

Pathology—Closson, Forrest, Senkler.

Therapeutics—Awde, Boultbee, Closson, Edgar,

Organic chemistry of second examination—Millard.

R. J. Chrystal obtained second-class honours in clinical surgery, pathology, and therapeutics and pass in remaining subjects.

E. P. Gordon obtained first-class honours in obstetrics, second-class in surgery and clinical surgery, and pass in medicine, clinical medicine, and pathology.

C. F. McGillivray obtained first-class honours in surgery, clinical surgery, surgical anatomy, obstetrics, pathology, and therapeutics, and second-class in remaining subjects.

FOURTH EXAMINATION—FOR M.B. DEGREE.

Medicine.—Class I.—L. F. Barker, T. S. Cullen, W. McGillivray, W. C. Morrison, M, T. McFarlane, D. Archer, A. R. Gordon, D. H. Hutchison, T. Russell.

Class II.—A. V. Michell, W. M. Pugh, C. B. Carveth, W. W. Baldwin, F. Zwick, G. T. Bigelow, J. E. Forfar, J. A. Robinson.

Class III.—J. H. Burger, W. H. Philp, E. F. Irwin, A. S. Bueglass, J. L. Smith, C. L. Starr, J. A. Macdonald, R. Shiell.

Clinical Medicine.—Class I.—Barker, Cullen, Philp, A. R. Gordon, Morrison, Zwick.

Class II.—Starr, Forfar, Irwin, Macfarlane, Russell, Smith.

Class III—Michell, Pugh, W. McGillivray, Shiell, Archer, Carveth, Bueglass, Hutchison, Macdonald, Burger, Robinson, Bigelow, Baldwin, W. J. Earley.

Surgery.—Class I.—Barker, Macfarlane, Morrison, Cullen, Baldwin, Philp, Shiell.

Class II.—Zwick, Pugh, Bigelow, Carveth, A. R. Gordon, W. McGillivray, Starr, Forfar, Michell, Burger, Irwin, Russell, Smith.

Class III.—Macdonald, Archer, Bueglass, Hutchison, Robinson.

Clinical Surgery.—Class I.—Barker, Cullen, W. McGillivray, Bueglass, Hutchison, Russell, Philp, Zwick, Michell, Starr.

Class II.—Archer, A. R. Gordon, Forfar, Macfarlane, Bigelow, Baldwin, Macdonald, Pugh.

Class III.—Carveth, Smith, Shiell, Morrison, Irwin, Burger, Robinson.

Gynecology.—Class I.—Barker, Carveth, Baldwin, Philp.

Class II.—Bigelow, Starr, Macfarlane, Archer, Smith.

Class III.—A. R. Gordon, Hutchison, Cullen, Michell, Macdonald, Pugh, Bueglass, Zwick, Burger, Irwin, W. McGillivray, Robinson, Forfar, Shiell, Russell, Morrison.

Forensic Medicine.—Class I.—Barker, Michell, A. R. Gordon, Macdonald, Macfarlane.

Class II.—Hutchison, Zwick, Bigelow, Morrison.

Class III.—W. McGillivray, Philp, Pugh, Forfar, Cullen, Robinson, Irwin, Archer, Carveth, Baldwin, Smith, Shiell, Starr, Burger, Russell, Bueglass.

Hygiene.—Class I.—Barker, Zwick, Morrison.

Class II.—Forfar, Starr, Macfarlane, Smith, Philp, Cullen, Archer, Hutchison, Michell, Carveth, W. McGillivray.

Class III.—Robinson, Bueglass, A. R. Gordon, Russell, Pugh, Baldwin, Bigelow, Burger, Irwin, Macdonald, Shiell.

Medical Psychology.—Class I.—Carveth, Irwin.

Class II.—Forfar, Starr, Shiell.

Class III.—Baldwin, Barker, Bueglass, Zwick, Hutchison, Cullen, Archer, Morrison, Macdonald, Bigelow, A. R. Gordon, Philp, Pugh, Smith, W. McGillivray, Russell, Michell, Macfarlane, Burger, Robinson.

R. J. Chrystal obtained second-class honours in surgery, clinical surgery, and gynecology, and pass in remaining subjects.

E. P. Gordon obtained first-class honours in gynæcology, second-class in surgery, clinical surgery, and hygiene, and pass in remaining subjects, with exception of clinical medicine, in which he has to pass a supplemental examination before being entitled to a degree.

C. F. McGillivray obtained first-class honours in medicine, surgery, clinical surgery, and hygiene, second-class in clinical medicine and gynecology, and pass in remaining subjects.

FINAL EXAMINATION FOR M.B. DEGREE.

(Medicine, clinical medicine, surgery, clinical surgery, surgical anatomy, obstetrics, gynecology, pathology, therapeutics, hygiene, forensic medicine, and medical psychology)—J. S. Agar, *M. A. Armstrong, *W. J. Blewett, W. L. Bond, W. F. Bryans, C. E. Flatt, W. N. Hay, D. L. Heggie, W. C. Herriman, A. T. Hobbs.

*Without surgical anatomy or therapeutics.

E. H. Adams and D. Smith, to take surgery at a supplemental examination, passed in other subjects.

W. A. Baker to take gynecology and hygiene at a supplemental examination, passed in other subjects.

J. H. Ginby to take surgery, gynecology, and forensic medicine at a supplemental examination, passed in other subjects.

A. T. Watt to take surgery and clinical medicine at a supplemental examination, passed in other subjects.

Granted degree with ægrotat standing, R. A. Hardie.

PRIMARY EXAMINATION.

Anatomy, Physiology, Materia Medica, Chemistry, Biology, and Histology—T. Beath, R. B. Potts.

Starr Gold Medal—L. F. Barker.

## TRINITY UNIVERSITY.

PRIMARY EXAMINATION FOR M.D.C.M.

Class I.—Honor certificates—D. Beattie, 1st silver medalist; H. L. Barber, 2nd silver medalist; H. B. Anderson, H. C. Parsons, R. G. Wallace, J. J. Thompson, W. E. Matthew, D. McEachren, A. S. Tilley, A. Quackenbush, W. Cousens, T. M Williamson, W. E. Brown.

Class I.—J. W. Brien, A. P. Chalmers.

Class II.—W. H. Mullen, R. M. Mitchell and W. S Switzer, equal; W. E. Ogden, H. J. Orchard, R. M. Curts, W. Northrup and D. C. Jones equal; W. Potter, J. A. Mitchell, R. E. Cooper. W. M. Robertson, Miss J. Gray, H. Morell, E. B. Blaine, G. K. McDowall, D. A. McPherson, Miss E. R. Gray, Miss A. Chambers, H. Robins, F. L. Switzer, E. F. McCullough, A. W. Allingham, W. O'Connor.

Class III.—D. B. Alexander, T. M. Allan, W. J. Awty, E. O Bingham, R. A. Buck, A. M. Cleghorn, G. W Davidson, Miss B. Diamond, R. G. Feek, A. Flath, J. G. Jardine, A. P. McClaren, L. C. Merritt, A. L. Murphy, F. C. Spilsbury, W. A. Macpherson, J. A. Ogilvie,

Passed in materia medica, practical and general chemistry and toxicology—D. B. Bently.

Passed in physiology, anatomy, practical and general chemistry and toxicology—J. W. White.

FINAL EXAMINATION.

Gold medalist and certificate of honor—F. R. Clarke.

Silver medalist and certificate of honor—R. M. Hillary.

Certificates of honor—A. Gaudier, R. Hill.

Class I.—R. J. Niddrie, E. J. Boyes and A. J. Murchison equal; J. W. S. McCullough, A. Ross, J. R McDonald, C. McCue, C. B. Oliver.

Class II.—C. A. D. Fairfield, A. H. Speers, J. Lockridge and J. F. Dolan, equal; H. H. Gray, Miss S. P. Boyle, L. E. Rice and J. M. Sifton equal; J. F. Wren, T. B. Richardson, Mrs. J. Lynd and C. B. Coughlin, equal; H. T Arvale, J. H. Bell, E. T. Boyes, J. F. Ewing and Miss M. J. Hutton, equal; A. P. Ardagh, Miss M. Agar, O. E. McCarty, M. McClelland, E. R. Morton, R. F. Hay, D. McLeod W. S. Ferguson, G. Harrison, R. D. Langstaff, F. Preiss, H. W. Welch, equal; G. J. Tweedlie, J. C. Bell, W. Wright.

Class III.—F. A. Drake and E. H. Webster equal; L. E. Morgan, W. A. Gray and J. Housberger, equal; J. F. B. Rogers, W. J. Fletcher, W. C. B. Murray, G. Wright, T. E. Watts, W. A. Jones, J. A. Dinwoody and D. R. McQueen, equal; J. A. McGregor, J. C. Auld, A. C. Beatty and J. D. Berry, equal; H. S. Smith, J. W. Dixon, D. A. Coon, W. A. Camero, W. J. Alexander and J. D. Reid, equal; T. J. Todd, J. A. Mills, W. A. Sargent, J. J. Gee, W. O'Connor, T. P. Camelon, M. Claverley, C. W. Morey, H. E. Strathy.

## VICTORIA UNIVERSITY.

DEGREE OF M.D C M.

Class I.—J. D. McNaughton and R. J. Niddrie, equal; T. B. Richardson.

Class II.—E. J. Boyes, A. G. Aldrich, J. F. Uren, E. P. Gordon, C. Sheppard, T. E. Kaiser, H. H. Gray.

Class III.—J. Lockridge, W. J. Blewett, W. Wright, G. Harrison, S. Douglass, E. F. Irwin, W. A. Baker, and J. J. Gee, equal; R. J. Crystal and A. T. Watt, equal; E. H. Adams, A. C. Aylesworth, E. T. Boyes, J. C. Bell, R. Rowan, E. V. Bray, J. H. Gimby, W. C. B. Murray, M. A., V. Armstrong.

Passed in jurisprudence and surgery—A. S. Bueglass.

Primary examination—O. McCullough, B.A., J. F. Pinkham.

HONOR LIST.

Medicine—Class I.—McNaughton, Aldrich, E. J. Boye Niddrie, Sheppard, and Kaiser, equal.

Class II.—Adams, Gimby, Richardson.

Surgery—Class I.—Watt, Richardson, and Gray, equal; E. J. Boyes, Bell.

Class II.—Lockridge, Kaiser, Aldrich, Sheppard, and Niddrie, equal; Gee, McNaughton.

Midwifery—Class I.—Richardson, McNaughton and Uren equal; Lockridge, Niddrie and Blewett equal.

Class II.—Kaiser.

Surgical Anatomy—Class I.—E. J. Boyes, Sheppard,

Class II.—Baker, Watt.

Medical Jurisprudence—Class I.—Aldrich, Gordon, Niddrie, Uren.

Class II.—E. J. Boyes, McNaughton, Richardson, Harrison and Gray, equal; Chrystal.

## WESTERN UNIVERSITY, LONDON.

First year.—W. S. McDonald, J. J. Wilson, G. R. Pogue, P. B. Wood, H. Sanderson, with honours. J. W. Nixon, J. McIntosh, F. Guillemont, F. Hoag, B. Lees, passed.

Second year.—H. F. McDonald, T. J. Gowan, W. H. McEwen, T. J. McBlain, R. W. Shaw, with honours. J. Parker, O. H. Patrick, J. MacGregor, G. H. Cook, R. M. Gubbins, J. Halliday, W. T. Banting, passed.

The following failed only in practical chemistry:—A. T. Hughes, A. Fraleigh, J. Hanson, W. H. Woods, J. McGinnis, S. Gibson.

Third year.—J. B. Kennedy, R. Ferguson. D. G. McNeil, T. P. McLaughlin, F. McCrimmon, with honours. M. Sharpe, J. W. Leninger, W. O. Murray, L. N Ardiel, H. Wilson, passed.

Fourth year.—A. N. Hayes, E. M. Copeland, A. T. Hobbs, D. K. Stenten, D. Smith, E. Macklin, G. Gibson, R. Ferguson, with honours. J. A. McEwen, F. Gust, J. H. Shoebottom, S. E. Hooper, W. Baker, passed.

The first year scholarship was won by W. S. McDonald; second year scholarship, H. F. McDonald; third year scholarship (one year's residence in hospital), J. P. Kennedy.

Silver medal, fourth year, E. M. Copeland; gold medal, A. N. Hayes.

## Miscellaneous.

A. PAGE, M.D., Rushmore, O., says: I have prescribed Aletris Cordial (Rio) in preference to all other similar preparations for a period of two years with no failure in a single instance. I also spoke of its merits in our last meeting of the Northwestern Ohio Medical Association, in a paper which I read before that body. I treated a case of a young lady of twenty-three, who had been troubled with excessive menstruation for five years, amounting almost to a hemorrhage at each period, and lasting ten days. Prescribed Aletris Cordial to be taken in drachm doses four times a day, commencing five days before each period; the first bottle reduced the discharge perceptibly and shortened the duration from ten to six days; ordered it to be taken during the interim of the next period, and the result was almost magical, the second period being reduced to four days, which was normal, and the discharge the same. The patient has now been eight months without any treatment, and she, as also myself, considers the case permanently cured.