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## Original Communications.

### SOME OBSTETRICAL NOTES.

By A. LAPHORN SMITH, M.D., M.R.C.S. ENG., *Gynæcologist of the Montreal Dispensary, Surgeon to the West-corn Hospital, Fellow of the American Gynæcological Society.*

During the last 20 years some interesting cases of midwifery have come under my notice, some of which I have never yet reported, and which may prove of interest to the busy practitioner, who is most likely to meet with similar ones. The following two cases of hydrocephalus were puzzling,—the first one to myself, occurring as it did in the beginning of my practice; and the second to the family physician in connection with whom I was called to see the case.

CASE I was a multipara of some 30 years of age, who sent for me to attend her in her confinement. In due time the os became fully dilated, the bag of waters

broke, but the head did not engage in the pelvis.

On careful examination the pelvis was found to be of normal size, but the child's head seemed very large. After waiting several hours, labor going on furiously and no progress being made, I decided to apply my long Baudeloque forceps, the only one I ever use, and the best forceps, in my opinion, that have ever been made, and made prolonged and forcible efforts at delivery, but was unable to make the head descend. I went in search of my friend Dr. Kennedy, who also tried to deliver with forceps, but with no better success. He then introduced his hand above the brim of the pelvis, and perceived that it was a case of hydrocephalus, when he quickly punctured the fontanelle, and allowed what appeared to be an enormous quantity of water to escape, when the head quickly descended, and the child was born within a few minutes, but of course dead.

In this case the force used in our ineffectual efforts at delivery with the forceps had considerably bruised the cellular tissue

surrounding the uterus about the brim of the pelvis, with the result that the woman had a genuine pelvic cellulitis, or, perhaps more properly, a necrosis of the cellular tissue; an abscess formed and pointed at Poupert's ligament, where it was evacuated, and she made a rapid recovery.

CASE II.—I was called early one morning a few months ago to go in consultation with the family doctor at a small town 5 or 6 miles from Montreal. On arriving at the house, I found the attendant worn out with all night attendance, when he informed me that he had been called in the afternoon of the day before, and found the patient in active labor. She was in great pain, and screamed most of the night; but for some reason he could not explain, the labor had made no progress, and thought that this was due to its being a breech presentation, as he could feel no bones of the head, and on the contrary he felt a slight dent in the centre of a soft mass which he thought must be the anus. On examination, however, although this dent was somewhat misleading, I had no difficulty in diagnosing a case of hydrocephalus, and by manual palpation, I ascertained that the child's head was of enormous dimensions. The mother informed me that she had thought all along that she had twins, as she had never been so large before.

I placed her under an anæsthetic, and introduced my hand under careful aseptic precautions above the pelvic brim, when, as far as I could reach, nothing could be felt but the enormous head. The bones of the skull were more like parchment, and could be easily indented with a sort of crackling feeling. As there was no object in submitting the mother to any risk for the problematical advantage of saving a child with this disease, and, moreover, as the mother believed the child was dead, I punctured the fontanelle with a pair of sharp-pointed scissors, which I had disin-

fecting for the purpose, and allowed what I should estimate to be between 2 and 3 quarts of clear hydrocephalic fluid to escape.

By introducing my finger into the hole thus made, I was able to get a hold of one of the parietal bones, which, however, doubled up under the pressure, but, nevertheless, giving me a sufficient hold to draw down the head, and quickly deliver the child. The mother made a rapid recovery.

These are the only cases of hydrocephalus that I have met with in about 800 confinements.

CASE III. I was called early one morning to see a woman whom I had confined of her first child a few years before, and found that she had been in labor for more than 24 hours. For financial reasons she had not engaged me for this confinement, but had taken, instead, a midwife. She was evidently very poor, the house being exceedingly dirty, while her bed was simply filthy. The midwife told me that everything appeared all right until the waters broke about 10 o'clock the night before, when a hand of the child presented and appeared at the vulva. She became alarmed, and sent for a neighboring physician, who was too discouraged with the surroundings to attempt to do anything for her relief, and therefore ordered her to the lying-in hospital. Having the usual dislike for hospitals so common among the poor, she did not follow his advice. About 1 or 2 o'clock in the morning, as the pains were most violent, she sent for another physician, who gave her the same advice as the first one, and even paid for a cab to take her to the hospital.

On my arrival, about 4 or 5 o'clock, not knowing that any other physician had seen her, I found the hand protruding from the vulva, and the child placed transversely across the abdomen. I fortunately obtained a clean tin pan and a kettle of hot water, and with this and the aid of a douche

bag and some bi-chloride tablets, which I had with me, I was able to give her a 1 in 2,000 sublimate douche, and also to thoroughly disinfect my own hands. I ordered the midwife to place her under my A. C. E. mixture which I had with me, and in a few minutes had her sound asleep, with the womb and abdominal muscles thoroughly relaxed; it was only the work of a moment to introduce one hand into the uterus, push up the shoulder, aided by my left hand on the abdomen, and to seize the feet with my right hand. There was some little difficulty in getting the head through the pelvis, which was rather a flat one, necessitating the high forceps application at her first confinement. I was obliged to apply the forceps to the aftercoming head. This, however, was only the work of a few minutes. Within fifteen minutes of my arrival at the house the child was born, but dead. As I feared, hemorrhage, owing to atony of the uterus from exhaustion, I administered a drachm of fluid extract of ergot before removing the placenta, and waited about 10 minutes to give this time to take effect. The placenta was then easily expressed from the uterus, and the latter organ held firmly in the hand until all danger of post-partum hemorrhage had passed. The precaution was not unnecessary, for several times I felt the uterus relaxing under my grasp, and at the same time filling up with arterial blood which was expelled at the next uterine contraction.

After waiting until she had thoroughly awakened from the anæsthetic and all danger of hemorrhage was over, I left her, with strict injunctions to have her cleaned up, which the midwife did as well as she could with the means at her command.

Strange to say, this patient recovered as if there had been nothing unusual,—thanks, I presume, to the antiseptic precautions I had taken.

CASE IV. This patient engaged me a couple of months ago to confine her, tell-

ing me that she lived several miles away from my residence, and that she had come so far to me in the hopes that I could succeed in delivering her of a living child, as she had already been confined twice, but each time the baby had to be destroyed in order to be delivered. She was very anxious to have a living child, but had been thoroughly discouraged by the three very able physicians who had told her that this was impossible. In fact, in a moment of discouragement, her husband had thrown a large stock of baby clothing into the fire.

On examination I found the pelvis contracted, the antero-posterior diameter being about 3 inches. I advised her to cut down her diet to the very smallest limit possible, in order that the size of the child might be kept down accordingly. This she faithfully did; in addition to which, her husband aided me by keeping her working more than usually hard, and I requested her to drive at once to my private hospital as soon as labor began, intending to perform symphysiotomy, for which I made due preparation. She appeared at my private hospital accordingly at 4 o'clock in the morning about 10 days ago, when I found labor going on actively, but the amniotic membrane unruptured. I carefully avoided rupturing this, and left her in the charge of a nurse, with orders to give her just enough of the A. C. E. mixture to keep her easy without rendering her unconscious.

My object in doing this was to give nature a chance to mould the child's head to the pelvis, with the possible hope that an operation might be avoided, and that the forceps applied high might effect delivery instead.

At 9 o'clock, after giving her a bichloride douche, followed by a hot water one, I applied the long Baudeloque forceps to the head, which was resting on the pelvic brim, but not engaged; and had the great

satisfaction of engaging the head and gradually sweeping it down through the pelvis, as I raised the handles. As the head passed the promontory of the sacrum, I heard a crackling noise, and felt something give way; after which the head was easily delivered.

On examination afterwards, this proved to be the left half of the frontal bone which had been indented by the promontory of the sacrum. The right temporal bone was very much indented by the blade of the forceps, and I felt certain that the child would be injured by the pressure to which it had been subjected; but, to my astonishment, it seemed none the worse, and, within a few days, all marks of the forceps and of the indentation of the frontal bone had disappeared. This case illustrates what we can do in moderately contracted pelvis, by controlling the size of the child, giving plenty of time for labor to do its work, and the careful employment of a good long forceps applied to the transverse diameter of the pelvis.

CASE V. was a case somewhat similar to the above, but I did not see the woman until she sent for me to confine her.

Labor had hardly begun when I was called. As it was her first child, I followed the rule which I adopted since the beginning of my practice, of allowing 24 hours to elapse before terminating the first confinement. By this time the child's head had engaged in the superior strait, but made no progress whatever during the last 3 or 4 hours, so that I decided to apply the forceps and terminate the labor. I was sorry on extracting the head to see about a tablespoonful of brains oozing out of a hole at the front of the left parietal bone, caused by the pressure of the forceps.

I gave a very guarded prognosis, although the child was a very large and most vigorous one. To my surprise, he seemed very little the worse for this very severe injury, and when last seen—now

some years ago—was about a year old and had a nævus at this spot, about the size of a quarter of a dollar, which I ordered the mother to keep bandaged; since when neither mother nor child have been seen.  
250 Bishop street.

## Society Proceedings.

### MONTREAL MEDICO-CHIRURGICAL SOCIETY.

*Stated Meeting, October 19th, 1894.*

G. P. GIRDWOOD, M.D., PRESIDENT, IN THE CHAIR.

Drs. Elzéar Pelletier, F. J. Hackett, C. F. Wylde, H. Tatley and W. E. Deeks were elected ordinary members.

*Fracture of the Skull with Pulsating Tumor.*—Dr. SHEPHERD showed a little girl nine years old, who in 1889 had been under his care at the Montreal General Hospital. The following is a brief account of the case:

Florence C., age four years, admitted September 9, 1889. Ambulance case. Fell from second story window on to stone pavement. Picked up unconscious, and continued motionless for half an hour. Condition on entry, unconscious, pupils unequal, swelling over the right orbit with a semi-fluctuating feel, purposeless movements of the limbs, Cheyne-Stokes respiration. Her whole forehead and eyelids were greatly swollen, and at 12 p.m. that night her temperature rose to 103°. Three days later she seemed to be conscious, but she was unable to open her eyes from œdema. Eight days after her admission she spoke, asking for food; her condition then was slowly improving. She had then a fluctuating swelling over the right eye which pulsated, and running upwards and backwards from this was a fissure. Over the right parietal bone there was another fluctuating swelling, large and flat, but not continuous with the one in front. The fissure, however, ran into it. The hole over the orbit is still present, and one can feel the pulsation of the membranes through it. The line of fracture running up from this, corresponding to the fissure mentioned above, can still be made out with the finger. The swelling over the parietal bone has disappeared. The child's intelligence has not been good; her mother thinks her different from other children and not bright.

Dr. GORDON CAMPBELL remembered the case very well, especially so as he had given an absolutely bad prognosis after examining her condition on entry.

Dr. KINGHORN, House Surgeon for Dr. Alloway, read the following reports:—

1. *Tubo-ovarian Pregnancy*.—Patient, aged 31, complained of metrorrhagia, dysmenorrhœa, pain in the lower part of the abdomen and pain in the back. Menses commenced at 13 years, and continued normal till  $2\frac{1}{2}$  years ago, when her last child was born. Since then the above symptoms have gradually developed. Examination revealed lacerated cervix, leucorrhœa, anteversion and a mass in the posterior fornix. Coeliotomy recommended and performed. Upon opening the abdomen, a mass about the size of an orange was observed lying in the left half of the pelvis and behind the uterus. The mass was united by strong adhesions to the posterior wall of the pelvis, to the left broad ligament, to the whole extent of the rectum, and to the posterior face of the uterus. The adhesions were separated with difficulty by the finger, but not before the mass had been ruptured and dark colored clotted blood escaped. There was very little bleeding, and none of the neighboring viscera were injured. The pedicle of remains of tube and ovary of left side was tied off in the usual way. The abdomen was washed out with boiled water and wound closed without drainage. It is now the fifth day since the operation, and the patient has been doing perfectly well.

Dr. Alloway, commenting on the specimen, remarked that after removing the mass he noticed it embraced within its limits the ovary and the fimbriæ of the left tube, and the thought occurred to him that its situation suggested a tubo-ovarian pregnancy. The sac, which was really a distended ovary and contiguous portion of the tube, was filled with blood, etc., a condition not unusual in extra-uterine pregnancies. The specimen was submitted to Dr. Wyatt Johnson for microscopical examination, and his report confirms this view. Thickened and altered chorionic villi were found in that portion of the mass which corresponded to the dilated end of the left tube; no signs of a foetus were detected.

2. *Ovarian Cyst (Marsupialization Method Adopted)*.—Patient complained of pain over sacrum, in the left groin and hip, painful micturition, dysmenorrhœa and sterility. Menses commenced at 14 years, married at 19 years; no children, no miscarriages; irregular and painful menstruation, especially marked during the past two years. Examination revealed tenderness in both iliac regions, more marked in the right; tenderness extending down the right leg to knee-joint. Anteversion of uterus, being firmly fixed behind the pubic bone; a large semipultaceous mass occupied the left pelvis, projecting into Douglas' pouch of that side and firmly fixed to the uterus in front. Coeliotomy recommended and performed. On opening the abdomen the omentum was found to be adherent to a mass beneath it. The mass proved to be a large cyst containing clear fluid, and

grew from the vicinity of the right ovary. It was connected with nearly all the abdominal viscera by adhesions so dense that the attempt to separate them had to be given up. From this large cyst sprang a number of daughter cysts. There was nothing left to do but drain off the cyst contents. Their cavities were converted into one main cyst, then washed out with boiled water and the wall of the cyst sutured to the peritoneum. The cavity of the cyst then opened into the wound, and thus constituted a condition somewhat similar to that found in the marsupialia. After thoroughly drying the cyst walls with sterilized gauze, its cavity was packed with iodoform gauze, which acted as a drain. Every other day the iodoform gauze was changed. On the 20th day this was discontinued and the opening allowed to close.

3. *Uterus Bicornis*.—This condition was met with accidentally in the course of an abdominal section for removal of the appendages. Upon opening the abdomen the uterus was seen to consist of two corpora with only one cervix, the bodies being separated from each other by a well-marked sulcus. The right one was larger than the left.

Dr. Alloway showed a wax model of the condition, which he said resembled very closely the pelvic organs as they appeared *in situ*. His object in operating was only to remove the appendages, and the condition was thus noticed. Bicornate uteri, he thought, though heretofore regarded as very uncommon, would in the future be more often met with, owing to the increased frequency of abdominal sections. This condition was due to the non-fusion of that part of the Mullerian ducts which go to form the body of the uterus.

4. *Double Pyosalpinx*.—Patient complained of menorrhagia, weakness, dyspareunia, pains in the back and lower part of the abdomen and left leg. Menses commenced at 16 years, she was married at 27 years, had one child and one miscarriage. The pain in the back and dyspareunia had existed for the past three (3) years. Examination revealed uterus retroverted and bound down by adhesions, which inclined it somewhat towards the right side. Removal of the appendages was recommended and performed. On opening the abdomen the right fallopian tube resembled a small sausage, the fimbriated extremity had closed in, giving the appearance of an inverted cone; the ovary was embedded in the tube which was attached by strong adhesions to the intestines. The left ovary was united by dense adhesions to the fimbriated extremity of the corresponding tube, which bore a close resemblance in appearance to the right, and was also attached by adhesions to the sigmoid flexure. The left ovary proved to be transformed into a large blood cyst. The uterus was so firmly bound to the sacrum by adhesions, that these had to be liga-

tured and cut before it could be released. It was then attached to the anterior abdominal wall. Both ovaries and tubes were removed.

Dr. Alloway, commenting on the specimen, said it was chiefly of interest as showing so clearly the cause and manner of the collection of fluid in a tube, as was the condition here, the initial point being the cementing of the abdominal end of the tube by a process of inversion of the fimbriæ. This inversion and cementing was most beautifully demonstrated in the present specimen, and he had never seen one where this pathological truth was so perfectly exhibited.

Dr. Adami had found bacilli in the specimens submitted to him, but not tubercle bacilli. They were both shorter and more stubby than the latter. The condition was purely one of chronic inflammation, but it showed that curious proliferation of the lining membranes of the tubes (forming various folds, and a fusion of these folds so as to look like a cancerous condition), which is the result of long standing chronic congestion and consequent overgrowth of the parts.

*An Intra-ocular Tumor—Scopolamine as a Mydriatic.*—Dr. BULLER presented an ordinary intra-ocular sarcoma growing from the choroid, pigmented as usual, and nearly filling the scleral cavity. So far as the growth itself was concerned, he did not know that it presented any points of special interest, but merely brought it to notice as an illustration of the diagnostic difficulties which these intra-ocular growths sometimes offered, difficulties which are rather augmented than diminished by the patient's version of his troubles. The eye was removed a few days before from an old man of 75 years, who stated positively that he had never found anything wrong with the eye until about the middle of last April, when he suffered a slight injury from a piece of brushwood. After this the eye was sore for a few days, but apparently recovered perfectly. Some three or four weeks later he noticed it had become blind. The blindness continued without pain or inconvenience till about four weeks ago, when without assignable cause the eye became inflamed and intensely painful. The pain was that of a periorbital neuralgia, as well as in the eyeball, and did not yield in the least to any palliative treatment suggested by friends or prescribed by his physician.

On examining the eye it presented a moderate degree of pericorneal congestion, resembling that of subacute glaucoma. The intra-ocular tension was only slightly increased, the cornea being perfectly clear and bright. The iris appeared somewhat thickened, and presented visible blood vessels in considerable numbers. The pupil could not be dilated in the least by atropine or scopolamine; nevertheless, he was able to make out with the ophthal-

moscope a small portion of one retinal blood vessel on a yellowish surface close behind the lens, and inferred from this a total detachment of the retina. This, together with the fact that the pain was out of all proportion to the inflammatory phenomena, the loss of vision complete and the tension somewhat increased, rendered the diagnosis of intra-ocular sarcoma extremely probable, notwithstanding the patient's statements in regard to the comparatively recent origin of the blindness. Dr. Buller stated that it was likely that the growth was of much older date than last spring; two or three years at least must have elapsed since it commenced, and no doubt the blindness, more or less complete, existed long before the injury, but was unnoticed by him until particular attention was called to the condition of the eye at that time. There was one other point of interest about this case. Finding that the pupil would not dilate with atropine, he used the new and stronger mydriatic scopolamine. Two drops of a four grain solution were used in the morning, at an interval of about an hour, and caused some vertigo, but a third drop about 5 p.m. was followed by mental hallucinations and a sort of stupor which lasted for several hours. The patient was inclined to be garrulous, but talked incoherently, and did not seem able to recognize anyone about him; there was also almost complete loss of co-ordination of ordinary muscular movements, the face was somewhat flushed but of a good color, both respiration and pulse were about normal, and after a night's sleep he awoke the next morning in his usual health.

In this case the toxic effect of the scopolamine was very marked, but apparently not of a dangerous character.

*The Pulse and Respiration during Ether Anæsthesia with Clover's Inhaler.*—Dr. GORDON CAMPBELL read a paper with the above title, and showed a number of charts which had been prepared by Drs. Cameron, Brown and himself from notes taken during anæsthesia. The normal or usual effect was shown to be a very considerable quickening of both pulse and respiration at the outset, then gradual slowing of the pulse down to the normal rate, but continued rapid respiration while the anæsthesia lasted, so that the pulse-respiration ratio was altered. The rate of the breathing was still further increased reflexly by certain manipulations on the part of the operator. These were: stretching the sphincter ani and working with the mucosa of the rectum, sometimes stretching the perineum, rough handling of the peritoneum, especially breaking down adhesions and working with the ovaries and testes. The pulse rate was increased by hæmorrhage, and both pulse and respirations by an overdose of ether. This latter observation had been worked out experimentally. The practical points were to

watch both pulse and respiration carefully. Quickening of respiration alone was accounted for reflexly, and a less amount of ether should be given, as otherwise the increased rate of breathing would lead to an overdose. Quickening of both pulse and respiration meant an overdose; quickening of the pulse alone meant hæmorrhage. The results were obtained by tabulating the notes of one hundred cases.

Dr. KENNETH CAMERON since last Christmas had kept records of forty cases in which he had administered ether by Clover's inhaler. The cases were all gynaecological, and his results were almost identical with those of Dr. Campbell. He had noticed that the respirations were always increased by what might be called intra-abdominal reflexes, such as handling the peritoneum, as in tearing adhesions, tying off the ovary and its appendages, washing out the abdomen and pulling on the round ligament. He had had no experience of reflexes arising from manipulations about the rectum. An excess of ether was another cause of increasing the rapidity of the respirations as well as the pulse. The pulse showed the same initial rise with the gradual fall as the administration proceeded. The chief cause for increased rapidity of the pulse was hæmorrhage.

The lesson to be learned from the investigation was that when the respirations were increased, without any of the recognized reflex causes being present to account for it, the anæsthetist should suspect an excess of the ether, and remove the inhaler.

Dr. GEORGE A. BROWN had given ether for Dr. Alloway for about three years, during which time he kept records, similar to those of Dr. Campbell, of his cases. He had used Allis' inhaler for the first year and a half, after that he employed Clover's inhaler. His results closely resembled Dr. Campbell's. As to the relative merits of the two inhalers, he thought Clover's had the advantage, inasmuch as you could more accurately ascertain the quantity of ether being administered. Working with Allis', one was apt to give too much of the drug at the start, and as a consequence did not get the sharp fall in the pulse that ought to follow the initial rise, and in fact the anæsthetist often discovered that he had his patient deeply anæsthetized when a lighter degree would suffice. Still, he believed as one became accustomed to the use of Allis' apparatus he would be able to judge of the proper amount to give at the commencement, and the results of both inhalers would then be practically alike. He agreed with Dr. Campbell as to the effect of intra-abdominal reflexes upon the respirations, and had had one opportunity of noticing the truth of Dr. Cameron's observation as to the effect of pulling on the round ligament.

Dr. GURD, as an anæsthetist of some fourteen years' standing and of very considerable

experience, had used Clover's inhaler, but not exactly in the manner of the previous speakers. As to the existence of certain regions which, when irritated, reflexly stimulated the respiratory centres, he thought there could be no doubt; and he believed that every anæsthetist must perforce soon become aware of the location of these places of extra excitability. It was his custom never to use the bag of Clover's inhaler, except when the operator was manipulating in these regions, and he used it then for the purpose of quieting the increased movements of the limbs, which were apt to be thus set up. Apart from this he never felt justified in using the bag of the inhaler, as he believed that pure ether was much less injurious to the patient's system than a mixture of ether and respired air, with all its impurities, which the application of the bag implied. So far as the convenience of the anæsthetist and of the operator was concerned, there could be no doubt that there was an advantage, as by its means the patient was much sooner rendered unconscious; but he thought that this was accomplished at the expense of the patient's vitality.

Dr. WILLIAM GARDNER stated that the only points in Dr. Campbell's paper which he was in a position to confirm were those which related to the reflexes set up while working on the peritoneum. He was especially impressed with the fact brought out concerning the danger of giving too much ether during these moments of unusual respiratory excitation. The patient then breathes more quickly, and hence is apt to take more of the drug, which might easily constitute an excess if the anæsthetist be not on his guard. He further expressed his satisfaction at the evidence of the popularity of Clover's inhaler in Montreal, as he considered himself as chiefly responsible for its introduction here.

Dr. ALLOWAY remarked that in the days of the old-fashioned cone and sponge, it was a matter of considerable anxiety to the surgeon as to what was going to take place before the patient was fully anæsthetized, and that throughout the whole operation his attention was more or less distracted from his work by the possibilities of danger arising from the anæsthetic. Now all this was changed. He knew that the quantity of the drug administered was accurately measured, and he felt the same safety in its use as does the physician in prescribing within the limits of the pharmacopœial dose. The only occasion now on which he has to inquire into the department of the anæsthetist was the blocking of the respiratory passages by mucus, and here the best plan is to stop the administration and allow the patient to vomit, which may be assisted by irritation of the fauces.

Dr. EVANS referred to an article he had recently read, in which much the same views



were put forth. A point mentioned in this paper was the occasional occurrence of tonic spasm in the recti muscles of the abdomen when complete anæsthesia had been induced, especially where there was a good deal of mucus in the trachea. Substituting chloroform for ether for a little while quickly overcame the spasm. He asked if any of the anæsthetists present had observed this phenomenon.

Dr. F. J. SHEPHERD, speaking of the advantages of ether as an anæsthetic, could not say that his experience was so uniformly favorable as Dr. Campbell's. He thought in men accustomed to consume large quantities of alcohol, phenomena were noticed which were both frequent and troublesome. In some a condition of tremor will set in, and persist in spite of everything throughout the whole of the anæsthesia. Others, again, frequently show a tendency to hyper-secretion of mucus in the tubes. In such cases he questioned, therefore, if it would not be better to use chloroform. Before permanently settling the question, moreover, he thought it would be desirable to have some investigations made among men as well as women, as all the cases reported here to-night were, he believed, gynæcological patients.

Dr. ARMSTRONG also would like to see these investigations extended into that numerous class of surgical patients, whose constitutions were not normal, but rather more or less shattered as a result of their disease or accident—the sort of cases which the surgeon gets in the Montreal General Hospital, especially those emergency cases where an operation has to be performed within a few hours after their admittance. One of the most prominent features of Dr. Campbell's paper was the great success he had achieved by the Clover's inhaler. He himself had heretofore a strong dislike to this method of anæsthetising, especially as he had had sometimes seen it employed, when the patient was forced to breathe vitiated air for as much as half an hour or more at a time; still, after listening to the results of the extensive investigations laid before them to-night, he thought no reasonable man could deny that, when properly used, at all events, the Clover's inhaler was a great success. Another important result brought out by this work was the evident danger of continuing the anæsthetic when the respirations were increased from any cause. By so doing, the patient inhaled an increased quantity of the drug; and the wonder is, when we consider how little this matter has been attended to in the past, why accidents have not been more frequent. Every anæsthetist should keep in mind the normal rate of respiration under ether, should know readily all the causes which might increase the rate, and watch carefully whether any of them be operating when any undue frequency is noted, so as to satisfy himself that it is not due to an

excess of the drug. He should also remember that when the rate of respiration is increased, the amount of the drug consumed is also increased, and the danger of administering in excess made greater. Another point made manifest by these papers is the apparent absence of all injurious effects from prolonged administration. If this hold good for that other class of patients, already alluded to, who are not in such good physical condition as gynæcological patients generally are, it is a very important fact, and one that must sensibly influence surgical procedure. If time is of no consequence, or if it must not be seriously regarded by the surgeon in deciding on his operation, many of our present preferences for one operation more than another will have lost their *raison d'être*. As an illustration, one may mention the fact that the "Murphy button" owes its chief superiority over the method of suturing an intestinal anastomosis to the saving of time which it allows; and if this saving of time is no longer of such paramount importance, the advantage of the "button" in the minds of many surgeons will fall to the ground. The same might be said of many other operations. Yet, according to Dr. Campbell's statistics, the patient seems to have been in as good condition at the end of three hours of ether anæsthesia as at the beginning, so far, at any rate, as the respiration and circulation were concerned. If this evidence be confirmed by more general investigation, Dr. Armstrong thought that too much credit could not be given to Dr. Campbell for having brought it to light.

Dr. BULLER believed that for short operations, not requiring more than a few minutes to perform, the old-fashioned cone was more serviceable than a Clover's inhaler. He had been accustomed, in little operations performed in his office, to allow the patients to anæsthetize themselves. This was easily accomplished, and gave more satisfaction to all parties, as it could be done without violence or vomiting, and the patients quickly recovered from its effects. He also thought that the members of this Society had an unnecessarily serious impression of the dangers attached to ether as an anæsthetic; for his part he had been using it for years, and with this simple apparatus, had never any really serious difficulty. He believed that any careful anæsthetist, by watching his patient, could always detect any threatened untoward effect, and prevent its development by allowing a few inspirations of pure air.

Dr. McCONNELL found the paper and charts very instructive. He himself had been accustomed to use a mixture of chloroform and ether in the proportion of two to one respectively. To a certain extent he was prepared to admit that these results were brought about by the use of the Clover's inhaler; but still he thought a careful anæsthetist, who watched closely the

pulse and respiration, might perform good and safe work with the ordinary cone. He would like to ask Dr. Campbell if he had made any attempt to ascertain why the respirations increased under an excess of the drug. Is it because of some change in the blood, or is it through some local effect upon the respiratory mucous membrane? He saw an article some time ago, where it was stated that nitrogen produced almost exactly the same results as ether. If so, it must have been rather through the deprivation of oxygen than any special action of the nitrogen; and was it possible that in the case of the ether also, it was the want of oxygen that produced the increased respiratory action? He thought an investigation of these points would form an interesting study.

Dr. MILLS considered the papers valuable, apart from practical and scientific, as showing evidence of concerted work, which he considered only too rarely practised. It was not always the most curious case which was the most valuable; and it was only from the consideration of a great number of cases that any general laws could be based. Another advantage to be derived from the joining together of workers is that men supplement each other's weaknesses; one man may be strong in compiling statistics, another man strong in making deductions, and in this way the combination produces greater results than could be accomplished by each individual acting separately. He would like to go into more fully than the present occasion allows, how Dr. Campbell's work brings out the question of reflexes. People sometimes sneer at the idea of reflexes, but he, for his part, believed that the extent to which reflexes have been so far used to explain the phenomena of the higher animals is altogether inadequate.

Dr. GORDON CAMPBELL, in reply to Dr. Gurd, who advocated only using the bag when the patient moved, said the patient never ought to be allowed to move; if he did so, it was a sure sign he was only partially anæsthetized.

In reply to Dr. Evans' question as to the tenseness of the abdominal muscles, he said the subject was too large to go into all the phenomena connected with anæsthesia in one evening. This abdominal tenseness generally occurred at the beginning of the administration, and he believed the manner of giving the ether had something to do with it. If one commences by giving the ether in a large dose, one gets a certain amount of spasm of the larynx, which tends to spread over the whole body, and, unless the amount given is diminished, is kept up. Stopping the administration for a little while allows it to pass off, and on commencing again with a weaker dose it does not recur.

*Stated Meeting, November 2nd, 1894.*

G. P. GIRDWOOD, M.D., PRESIDENT, IN THE CHAIR.

*A Case of Goring by an Ox with Wound of Bowel.*—Dr. SHEPHERD exhibited a patient who had been severely gored by an ox, and the intestine and mesentery wounded. The patient, a French-Canadian, aged 63, whilst driving cattle on board one of the steamships on the night of September 25th, 1894, was knocked down and severely gored by one of them. He was immediately brought to the Montreal General Hospital, and Dr. Shepherd was summoned. On arrival he found the man suffering considerably from shock; the right testicle was exposed, and a large wound, on the left side of the abdomen, extended from the spine of the pubis upward and outward several inches; through this wound protruded some ten to twelve feet of bleeding small intestine covered with dirt. The intestine was washed and then examined. It was found that the mesentery was perforated and torn in eight or nine places, and on disturbing the clots the vessels bled profusely. These were secured, and the mesentery brought together with Lembert's sutures. The intestine was torn completely through in only one place, but in several other spots the outer and middle coats were torn and the mucous membrane extruded. After securing the injured parts with a continuous Lembert, the bowel was pulled out for several feet and found normal, and then the whole was returned into the abdomen. The abdominal walls were now attended to, and it was found that the wound in the muscles was of greater extent than that in the skin, which had evidently been considerably stretched—to suture the torn muscles the wound had to be extended upwards and outwards. The different structures were sutured separately, the peritoneum with catgut and the skin with horse hair.

The wound in the peritoneum was most internal, a little more external was the wound in the muscles and more external still the skin wound; so, in this way, as each structure was brought together, the level of the sutures was different. Although a considerable portion of the scrotum was torn completely off, yet sufficient skin remained to cover the testicles. A drainage tube was introduced into the peritoneal cavity, and the wound dressed with gauze and absorbent cotton.

The patient went on well, and never had a bad symptom. The drainage tube was removed on the second day. The only untoward symptom that ensued was some sloughing of the wound made by the horn; this was no doubt due to over-stretching. The man was in excellent condition, and had not the slightest ten-

dency to hernia. The skin wound was not completely healed owing to the sloughing which had occurred, but the deeper parts were quite solid.

*A Case of Medico-Legal Interest.*—Dr. J. A. SPRINGLE showed the genital organs of two little girls, 12 and 14 years of age, who had been violated and murdered four years before.

*Polydactylas.*—Dr. J. CHALMERS CAMERON exhibited two children of the same family showing this condition:—

First child, four days old.

*Hands*—Supernumerary fingers on each hand springing from the outer border of the little finger. Both thumbs broad.

*Feet*—Supernumerary great toe on each foot and a supernumerary little toe on the left foot. A web exists between the first, second and third toe of each foot.

Second child, 1 year and 9 months old.

*Hands* had supernumerary little fingers, which were amputated soon after birth.

*Right thumb* very broad, with a distinct furrow down the centre.

On *left* and a double thumb.

*Feet* similar to those of the other child, except the web extended up almost to the end of the toes. On the left foot are seven toes; on the right six toes.

The father of these children presented the following peculiarities:

*Right hand*—*Broad thumb*, double the normal breadth; nail depressed in centre, but depression did not extend down the thumb below nail.

Between thumb and index finger is a web, extending as high as the web of the other fingers.

A sixth finger projecting from the little finger.

*Left hand*—Same as right, except that there was a web running between first, second and third fingers as high as the joint between first and second phalanx.

Dr. SHEPHERD remarked that the subject of polydactylism was a very complicated one. The occurrence of supernumerary digits may be explained by two theories: (1) That it is due to reversion or atavism; (2) reduplication or repetition owing to excess of germative material (Blastogenic). By the latter theory, the occurrence of more than seven digits is explained, and the doubling of the bones and muscles of the extremities. The theory of reversion is applicable to those cases of supernumerary digits occurring either on the inner or outer side of the manus or pes. Anatomists of late have been much interested in the theory advocated by Prof. Bardeleben, viz., that the pentadactyle extremity has been preceded by a hepta-dactyle form, that is, that the present five digit limbs were preceded by those carrying seven digits, and that the suppressed digits were, one in succession to the 5th, the post-

minimus, and one in succession to the 1st, the pre-pollex. This would explain the occurrence of these marginal structures, such as the pisiform bone and the radial sesamoid of animals, and also the occasional re-appearance of certain marginal muscles in rudimentary form. Supernumerary digits are very common in cats and pigs; in pigs the supernumerary digits are only found in the fore limbs, whilst in all other animals they are found in both fore and hind limbs. The horse occasionally has supernumerary digits, and the sheep much more rarely. The condition is markedly hereditary, as evidenced by the cases before the Society. In conclusion, Dr. Shepherd regretted that the subject was too large a one to permit him to go into it at sufficient length to make it intelligible to the members.

Dr. GIRDWOOD mentioned instances in cats of the reduplication of parts. He had a cat possessed of an extra finger, both in the fore and hind leg, and the progeny of this cat was likewise endowed.

Dr. PROUDFOOT had a cat with four well marked ears, out of whose litter of seven, five of the kittens had similar supernumerary ears.

*Excision of Maxilla.*—Dr. ARMSTRONG brought before the members a man whose right maxilla he had excised for sarcoma. The whole maxilla was removed, including the whole or part of the following bones, lachrymal, malar, orbital plate, superior maxilla, palate and ethmoid. The disease was of a very progressive malignant character. It began to grow in December last; the first symptom noticed was pain in the teeth, for which he had some teeth removed without getting relief. Next he was troubled with the tears running down the cheek, evidently denoting the plugging of the lachrymal duct. The third symptom which appeared was the pushing forward of the eye-ball. At this time his teeth were removed, under the impression that there might have been some ulceration about the roots to account for the symptoms, but without result. The antrum of Highmore was next explored in the hope of finding pus, but with like success. The swelling continued, as also the pain, to grow worse, and finally the case coming under Dr. Armstrong's notice, he diagnosed a sub-periosteal sarcoma of a pretty rapid growth, and advised excision. A specimen had been submitted to Dr. Adami for examination, and the following report received.

Section shows it to be an endothelioma, i.e., a malignant connective tissue tumor presenting an alveolar arrangement which in parts is with difficulty distinguished from an epitheliomatous growth.

There are, however, no true cell nests, the stroma does not tally with that of a true epithelioma, and the cells of the alveoli have a sarcomatous appearance.

The tumor is evidently rapidly growing. When the primary growth occurred could not be determined from the specimen.

Dr. RODDICK enquired concerning the prognosis of Dr. Armstrong's case, and agreed with the latter that it was very serious.

*Maternal Impressions—Missed Abortion—Monstrosity (Janiceps).*—Dr. GURD exhibited a monstrosity, a foetus of about the thirteenth week having fusion of two bodies with a single head. It had four arms and four legs, all well formed. No external genitals were visible, and the umbilical cord was given off low down between one pair of legs. There was also a comparatively large spina bifida. The foetus was partly mummified owing to its having been retained six weeks after its death.

The mother had all the usual signs and symptoms of pregnancy for three months, when these suddenly left her, and she then had all the symptoms of one carrying a dead foetus. Dr. Gurd said that this case would strengthen the faith of those who believed that strong maternal impressions caused marks and deformities. One afternoon shortly after conception, the mother went to Sohmer Park, and there witnessed the performance of some acrobats. Their tumblings so affected her that she told her husband she could not look at them. The mother asked if this could in any way have made her lose her baby. She never knew of its being deformed.

Dr. LAPHORN SMITH thought the term janiceps was not very appropriate in this case, as it ought to denote a double-headed body or double-faced head, instead of which, this specimen had only one head, the doubling being confined to the extremities.

Dr. GURD, in reply, said he recognized the inconsistency of the name with the condition, but he had looked up a number of authorities, and they all agreed in describing it by this term, so, though unsatisfied, he was obliged to follow their example.

*Paralysis in Children.*—Dr. MACPHAIL read a paper on this subject as follows:

During the past two months, through the intervention of Dr. C. S. Caverley, President of the Board of Health, and his colleague, Dr. H. H. Swift, I was able to make some observations upon an epidemic of "paralysis in children," which occurred in the State of Vermont. The epidemic commenced late in June, increased in July and culminated in August, and though new cases are cropping up, the malady has now almost abated. I obtained the notes of ninety-one cases out of one hundred and twenty which were affected.

At first the belief was held that the outbreak was one of cerebro-spinal meningitis, and there were several cases presenting the characteristics of this disease. But on examination it appeared that such cases were very few, and in many there were no symptoms at all beyond

paralysis. There was a general absence of retraction of the head and flexing of the trunk. The sensory symptoms were not prominent. The headache was chiefly frontal, and beyond some slight delirium of the ordinary febrile type there were no psychological manifestations. The cutaneous symptoms were absent or unimportant, and while in many cases there were indefinite rashes, in only one were there petechiæ, in none herpes-labialis mottling, purple spots or the other undoubted cutaneous manifestations of "spotted fever."

The sequelæ and complications were also different. There was no account of pleurisy or pericarditis, and in only one case pneumonia. Neither the auditory nor any of the cranial nerves were permanently affected. The eye symptoms were wholly of central origin, no ophthalmia, no conjunctivitis, no keratitis, no permanent impairment of vision. From an examination of the records of all the epidemics of cerebro-spinal meningitis, and an estimate of such authorities as Randolph, Wilson, Niemeyer, Knapp and Kreitmair, it would appear that the eye symptoms alone were sufficient to differentiate the present malady from cerebro-spinal meningitis. Indeed, Hirsh affirms that "Conjunctivitis is almost always a constant condition."

I will set down brief notes of a few cases typical of groups into which the series seemed to fall.

S. C., a boy five years old, complained 17th June of headache, chiefly frontal, with nausea and vomiting, a temperature of 102 degrees and a pulse of 115. This continued for twenty-two hours, and was succeeded by soreness in the arms and legs, loss of reflexes, with generally increasing paralysis, culminating after twenty-four hours in a completely powerless condition of both lower and both upper extremities, which still persists.

A. B., a delicate girl of twelve years, with a slight left lateral spinal curvature, fell sick of an attack resembling indigestion, with coated tongue and marked constipation. Gradually, without alarming symptoms, paralysis supervened, and in two days both arms and legs were useless. After five weeks there is no sign of improvement.

In this case there was a real arthritis quite as intense as in an ordinary attack of acute rheumatism, the pain not merely "supposed to be in the joints." (Gowers.)

Boy, seven years old, 4th July, had a temperature of 103 degrees, and a pulse of 120 for three weeks. The temperature suddenly dropped to 97, and the pulse to 50. The knee joints now became painful and swollen, as well as the elbow and shoulder, paralysis of the left upper and left lower extremities followed, and still persists.

In this case the preliminary symptom was

double vision. A girl, eleven years old, suddenly developed this condition, and for three days was slightly unwell. Next morning she was unable to get out of bed on account of complete paralysis of the left arm and leg. Fever with delirium followed for four days when the symptoms abated, and now the limbs show some improvement. In this case the menstrual function was established during the progress of the disease.

In other instances there were no premonitory symptoms, and without warning, the children would "stumble," and on examination one or other of the limbs would be discovered in a paralytic condition.

The following may be taken as types of the fatal cases :

S. G., an Italian boy of four years old, on the 21st July became sleepy, and complained of headache. He was found to have no fever, but with a pulse of 45 slow, hobbling in character and intermitting every fifth beat. This continued four days, when a slight improvement was noticed, internal strabismus occurred, but the child made a complete recovery, so far as symptoms were concerned, on the seventh day. He was then allowed to divert himself in the hot sun in company with a goat, when all the original symptoms returned, headache, squint, halting pulse and drowsiness. This was the last of August, by the first of September he was worse than at any previous time, but yet had no fever. Next day the knee-jerk was absent, but the plantar reflex was retained, as well as the cremasteric. The legs now became paralysed, and by the third of September the paralysis was general, the eyes half closed, the pupils dilated and unequal, a temperature of 105 degrees. The child died at three o'clock the same afternoon.

Hilding A., a Swedish child, twenty months old, on the 31st August was stricken with fever of 103 degrees and pulse of 120. The restlessness was extreme, the child moaning and tossing its limbs, but quite conscious. The head was slightly retracted, and the pupils contracted unevenly. Next day the general symptoms were improved, but the child continued restless and in a highly excitable condition. The second of September the fever had disappeared, but the restlessness increased with clonic spasm, strong grinding of the teeth and paralysis of the left leg. Next day the temperature rose to 104, the spasm increased, and general paralysis supervened. The child died in the afternoon.

In view of the fact that in many cases of cerebro-spinal meningitis the lance-shaped coccus, similar in all respects to the pneumococcus, has been found, which Corneil and Babes regard as the cause of both diseases, it is worth remarking that pneumonia was present in only one case.

E. F., a boy aged four years, was affected on the 8th of August, after a slight preliminary illness, with paralysis of both legs, and two days later developed pneumonia. Both conditions subsided, and now the child is in a fair way of recovery.

In a few the onset was accompanied by symptoms of transient meningitis. Gowers believes that such condition must be regarded as a coincident effect of a common cause.

I have also notes of six cases in adults, of which three were fatal, in two the paralysis persists, the other, a man of seventy, recovered.

The ages were nineteen, twenty-four, twenty-seven, thirty-five, thirty-six and seventy years.

For example : S. J., a lad 19 years old, complained of pain in the head and back, a pulse of 100 and a temperature of 102 degrees. The fever subsided on the fourth day, the pulse fell to 56, and all pain disappeared. The right arm now became paralysed, and by next morning the pulse was at 38, the temperature 97, the extremities cold. Complete paralysis developed during the day, and in the afternoon the young man died.

The muscles in every marked case showed the degenerative reaction in a characteristic manner. The loss of faradic irritability was observed, and in many cases absolute, while the reaction to the constant current was increased. The muscles were variously affected. In some cases the whole arm was paralysed, in some only the intrinsic muscles of the palm, but the combinations of the different groups affected were endless. After an exhaustive tabulation of the muscles and groups affected, I was unable to discover any combinations which seemed to preserve any definite order. In the legs the extensor group was injured most frequently, and sometimes there was a functional association. The paralysis in every case was motor, and the only disturbance of sensation was hyperæsthesia.

The distribution of the paralysis was as follows, reduced to percentage :

Left arm alone.....	2.
Right arm alone.....	4.
Both arms alone.....	2.
Right leg alone.....	7.
Left leg alone.....	26.
Both legs alone.....	45.
Left leg and left arm.....	8.
Right leg and right arm.....	3.
Both legs and left arm.....	2.
Both legs and both arms.....	4.
Right thigh.....	2.

The infection was confined to a definite area fifteen miles long and twelve in breadth, with the range of the Green Mountains on the east, but no natural boundary on the other side. The city of Rutland is in the centre of the

area. It would be hard to discover a region in which a disorder had less license to become epidemic; the whole district lies upon a series of terraces, and increased safety did not come with elevation. Indeed, four cases occurred on the very ridge of the Green Mountains, at an elevation of 1,500 feet, and the line of the four dwellings extended over half a mile. The water supply was different in each of the four cases, namely, from springs out of the mountains. The range referred to definitely limited the infected area, which occurred in a region with faults and dislocations in the earth's crust and profound breaks in the whole strata, while on the other side of the mountains the country is level and unfaulted. Neither overcrowding of habitations nor any of the evils usually accompanying or flowing from this condition were factors in the present case, since only in four families was more than one member affected. It was quite usual for children to sleep with those who were affected and themselves remain entirely free from the disease. No isolation was practised, nor did such precaution appear to be of the slightest value. Indeed, the brunt of the disease fell upon the purely rural portion of the community. There was nothing discoverable in the domestic and personal hygiene of those attacked. The houses were all detached, and in most cases there was nothing in the nature of privy or cess pool. Nor had penury any part in the epidemic. The district is one of the most thriving in the United States, and has been settled for a century and a half. The food, water and milk supply were examined and were found above reproach. The food and milk is drawn from the neighboring farms or from the farms in which the patients lived. The veterinary surgeons have remarked no unusual occurrence amongst the cattle, but twelve horses died of what was called cerebro-spinal meningitis. I was unable to procure any reliable account of these cases. The summer was dry and hot, the springs scanty and the surface water low. The rainfall for the three months was only 6.58 inches, against 11.95 last year, and 15.04 the year before, or an average of 11.2 for the last 47 years. The average temperature was 64.3 degrees, last year 64.4, the year before 65.2, and 65.4 on an average for the last 47 years. Cases were found amongst children of American, Swedish, Italian, French, Irish and Jewish parentage, so that nationality appeared to have no bearing. There is in one place a colony of a thousand Italian marble cutters, but amongst them there were only two cases.

The following table shows the results reduced to percentages:

Fatal cases.....	13.
Recovered.....	25.

Improved .....	30.
Unimproved.....	32.

CONCLUSIONS.

In the outset one has to make the humiliating admission that no useful pathological results were obtained. In no case was an autopsy permitted, and there is no authority in the State of Vermont to enforce the demand. The examination of the blood and excreta was negative.

The diagnosis is yet uncertain, as most diagnoses are which are based upon clinical considerations alone and unsupported by the results of a pathological examination.

It must rest between cerebro-spinal meningitis, multiple neuritis, poliomyelitis, or a combination of the last two.

1. Cerebro-spinal meningitis may, I think, be set aside at once under the force of the facts already alluded to. Epidemics of this disease are common enough, and its general course is definite with a special symptomatology. In the present case there was an almost entire lack of those symptoms, and there were, besides, manifestations which have never been noticed in epidemics of cerebro-spinal meningitis.

2. H. Openheim, Berlin, in his work on diseases of the nervous system, emphasizes the view that poliomyelitis is due to an infective micro-organism, and in the present epidemic there was much evidence pointing in the same direction. Indeed, Medin, of Stockholm, has reported what he considers as an undoubted epidemic of poliomyelitis, there being 44 cases. There is a strong temptation to regard the present outbreak as of a similar nature. Clinically the course of the disease much resembled poliomyelitis, as a reference to the cases makes clear. There was the initial feverishness, aching pains, abrupt paralysis of the nature commonly known as "infantile," indeed the distribution of the paralysis is highly characteristic. If it were not for the disturbance in the vagus, one would have no hesitation, on clinical grounds, in pronouncing the epidemic one of poliomyelitis. The mode of onset, the paralysis itself, the age of patients, the season at which the epidemic occurred, the distribution of the paralysis and the subsequent behavior of the muscles, all point to this disease. Besides, it is not uncommon to have cerebral disturbance in poliomyelitis, convulsions and coma, and even diplopia has been noted. In the cord of a child dead of this disease, the lesion is not confined to the cells of the anterior horn; there may be a general hæmorrhagic myelitis and even obvious meningeal involvement. There may also be pain referred occasionally to the course of the nerves and simulating a peripheral neuritis. In an epidemic, including so many cases, it is not probable

that they would all adhere to the classical standard, and it is to be expected that some would overflow into the class of neuritis or cerebro-spinal meningitis.

3. The evidence in favor of the outbreak being due to peripheral neuritis rests upon the disturbance in the vagus. But if one regards, with Gowers, "Symmetrical weakness of the anterior muscles situated in the forearm and in the corresponding muscles in the lower limb," as the leading motor symptom, then it will not explain the present malady since it was absent in 55 per cent. of the cases. Indeed, the paralysis was "characteristically random in distribution," that is characteristic of poliomyelitis, and Gowers further affirms that the nerve trunks are sometimes probably inflamed in the latter affection.

Finally, one is driven to the conclusion that the cases constituting the epidemic mainly followed the type of poliomyelitis, but that in some there were elements strongly suggestive of multiple neuritis, either as an independent affection or the common results of a common cause.

Dr. JAMES STEWART, on being asked by the President to give his opinion on the nature of the disease described in Dr. Macphail's paper, said it was very difficult to express an opinion as to the pathology of such a very curious epidemic, without giving the subject more thought than could be expended in the course of listening to the paper being read. He, however, considering that the chief symptoms appeared to be mainly of a paralytic nature, suggested the possibility of the disease being really a peripheral neuritis. This disease sometimes occurred epidemically, and was especially likely to do so in malarial districts. In the East Indies, for instance, many cases of peripheral neuritis are attributed to the direct effect of the plasmodium. In Dublin at present they are suffering from an epidemic of a paralytic nature, which is nothing more than a marked peripheral neuritis. In this connection, he would like to ask Dr. Macphail, whether or not any examination of the blood had been made, as in cases of neuritis, such as he had referred to, micro-organisms were invariably found, and were capable of reproducing the disease when injected into other animals.

Dr. MACPHAIL, in reply to Dr. Stewart, said the blood had been examined in many instances, but always with negative results. He had attended four cases, which ended fatally, but he could not secure a post-mortem. Several New York physicians were also on the ground, and had carried on some investigations of the disease, which he had no doubt would subsequently be given to the profession; but, so far as he could learn, no definite data as to the pathological nature of the trouble had been obtained.

Dr. MCCONNELL inquired from Dr. Macphail whether atrophy of the muscles followed the paralysis, and was answered: "Yes, in every case." He then commented on the nature of the disease, and remarked that it seemed to be an epidemic of a local variety, and was probably caused by some micro-organism. He did not agree with Dr. Stewart in regarding it as a peripheral neuritis, but was more inclined to look upon it as a toxic affection of the spinal cord, confined to the anterior horns, probably an anterior poliomyelitis with involvement, in some cases, of the cranial motor nuclei. The symptoms here seemed to be confined to the motor functions altogether, and were mostly sudden in their onset, whereas, were it a neuritis, one would expect some sensory troubles, such as pain, tingling, hyperæsthesia or anaesthesia and the paresis or paralysis coming on gradually.

Dr. MILLS thought Dr. Macphail had here compiled a great deal of valuable material, and presented it in a form to be grasped by all. He hoped this line of work would be encouraged, and the custom of collecting a large number of cases of some disease be continued.

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## Progress of Science.

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WILLIAM THOMAS GREEN MORTON,  
M.D.

William Thomas Green Morton, M.D., medical student, dentist and physician, and the recent recipient of Massachusetts' honor, was born in Carlton, Mass., August 9, 1819, and died, aged forty-eight, in New York city, July 15, 1868.\*

In 1840, at the age of twenty-one, he was a student in the "Baltimore College of Dental Surgery," a chartered organization connected with the Washington University of Medicine of Baltimore.

Subsequently he engaged in the practice of dentistry in Boston, in the meantime assiduously pursuing his studies to receive a medical degree.

March 20, 1844, he entered his name as a student of medicine with Dr. Charles T. Jackson of Boston.

In November, 1844, he entered the Harvard Medical School in Boston in regular course as a matriculate, and attended all the lectures.

In 1852 he received the honorary degree of Doctor of Medicine from his original *alma*

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\* See the American Cyclopædia: New York, D. Appleton & Co., 1875. Article, "Morton, W. T. G.," p. 855. See Encyclopædia Britannica, Ninth Edition, Article "Anæsthesia." See the Century Illustrated Monthly Magazine, New York City, August, 1894.

mater, the Washington University of Medicine (afterwards merged into the College of Physicians and Surgeons), of Baltimore, Md.

On September 30, 1846, at his office in Boston, he administered sulphuric ether to Eben Frost, and extracted a tooth without pain to the patient.

Securing permission from Dr. John C. Warren, Senior Surgeon of the Massachusetts General Hospital, on October 16, 1846, he administered ether to a patient at the hospital, and Dr. Warren performed a severe surgical operation, the patient remaining unconscious during the operation.

He was now twenty-seven years of age and still a medical student in the Harvard Medical School. The discovery now announced brought with it overwhelming labors, and he was compelled to discontinue his studies from that moment onward.

From this crucial demonstration in October, 1846, dates the immediate and universal adoption of the practice of anæsthesia throughout the civilized world. The event marked the advent of a new epoch in the world's history, namely, the epoch of practical painless surgery.

Over Dr. Morton's grave in Mount Auburn Cemetery, near Boston, a monument has been "erected by citizens of Boston," including names the most respected and most honored among them, bearing the following inscription, written by the late Dr. Jacob Bigelow, of Boston :

"WILLIAM T. G. MORTON,

INVENTOR AND REVEALER OF ANÆSTHETIC INHALATION.

BY WHOM PAIN IN SURGERY WAS AVERTED AND ANNULLED.

BEFORE WHOM, IN ALL TIME, SURGERY WAS AGONY, SINCE WHOM SCIENCE HAS CONTROL OF PAIN."

A monument in the Public Gardens in Boston is erected "To commemorate the *discovery* that the inhalation of ether causes insensibility to pain. First proved to the world at the Massachusetts General Hospital, in Boston, October, 1846," the date of Dr. Morton's successful demonstration at the hospital.

No other date is upon this monument except the date of its erection, 1867, and no other reference, except biblical quotations, to anæsthesia. It can therefore refer to no one but to Dr. Morton.

Dr. Morton received a divided Montyon prize from the French Academy of Sciences, the "Cross of the Order of Wasa, Sweden and Norway," the "Cross of the Order of St. Vladimir, Russia," and a silver box containing one thousand dollars from the trustees of the Massachu-

setts General Hospital, "in honor of the ether discovery of September 30, 1846." The trustees in their report, subsequently reaffirmed, unanimously accorded the honor and credit of the discovery to him.

He made several appeals for remuneration, for the use of his discovery in the army and navy, to the Congress of the United States; and although committees to whom the subject was referred made majority reports that he was entitled "to the merit of the discovery and to substantial reward," yet no reward was ever voted to him. At two sessions of Congress, bills in his favor were passed, and on one occasion the President of the United States held his pen in his hand to sign a bill, and paused to consult Jefferson Davis, Secretary of War, with the result that the bill was never signed.

Announcing his discovery at the age of twenty-seven, and dying at the comparatively early age of forty-eight, his twenty-one years of adult and active life were entirely consumed with the turmoil and pain of the controversy forced upon him by claims not one of which had ever appeared in print until *after* his initial announcement in 1846.

He died poor, and "*he became poor in a cause which has made the world his debtor.*"

## THE TREATMENT OF GONORRHOEA BY IRRIGATION OF THE URETHRA.

By H. M. CHRISTIAN, M.D., Chief of Genito-Urinary Dispensary, University of Pennsylvania, service of Dr. Edward Martin.

It is proposed in this article to give the results obtained by the writer in the treatment of gonorrhœa by daily irrigation of the urethra.

A large majority of the cases treated were patients at the Dispensary for Genito-Urinary Diseases, University Hospital; a few are taken from the case-book in private practice.

The remedies used for the purpose of irrigation were bichloride of mercury, nitrate of silver, permanganate of potassium, and trikresol. The irrigator employed was the ordinary glass-jar irrigator used in surgical clinics, and was suspended by a rope, working over a pulley, at a height of six feet above the penis, the patient standing.

The Kiefer nozzle was used in all cases, except in those instances where it was found to be too large to enter the meatus properly; in such cases the soft-rubber catheter was employed. In irrigating the urethra, one quart of the solution—warm, not hot—was used daily for a period of two weeks. In a few cases treatment was continued for three weeks; it was, however, observed that no permanent benefit resulted from this extra week's treatment. In other words, whatever result was



obtained from irrigation was always apparent at the end of two weeks, and no distinct advantage was ever gained by prolonging the daily irrigation beyond that point.

Treatment was begun in all the cases in the first week of the disease. Purulent discharge from the urethra, ardor urinæ, and chordee were present in all. Microscopical examination of the discharge was made in every case.

It will be understood in the statistics given below that those cases in which gonococci were found are classified as infectious; where, upon repeated examination, no gonococci were found, the case is classified as non-infectious urethritis.

1. *Bichloride of Mercury*.—Strength of solution, 1 to 15,000, increasing the second week to 1 to 8000. Number of cases treated, 20; infectious, 19; non-infectious, 1; improved by treatment,—i.e., discharge becoming less in quantity and thinner,—8; number unimproved, 11; cured, 1; number in which ardor urinæ and chordee were lessened by treatment, 18; number in which ardor urinæ and chordee were not benefited, 2; number of cases in which posterior urethritis developed, 2; number of cases in which epididymitis developed, 0; number of cases in which gonococci were found in discharge at end of fourteen days' treatment, 19.

2. *Nitrate of Silver*.—Strength of solution, 1 to 6000, increasing in second week to 1 to 3000. Cases treated, 20; infectious—18; non-infectious, 2; improved by treatment, 13; unimproved by treatment, 6; cured, 1; number in which ardor urinæ, etc., lessened, 20; number in which ardor urinæ, etc., unaffected, 0; number developing posterior urethritis, 2; number developing epididymitis, 0; number in which gonococci were found at end of fourteen days, 16.

3. *Permanganate of Potassium*.—Strength of solution, 1 to 4000, increasing in second week to 1 to 2000. Cases treated, 20; infectious, 16; non-infectious, 4; improved under treatment, 10; unimproved, 3; cured, 7; number in which ardor urinæ, etc., lessened, 19; number in which ardor urinæ, etc., unaffected, 1; number developing posterior urethritis, 2; number developing epididymitis, 1; number in which gonococci were found at the end of fourteen days, 5.

4. *Trikresol* (Schering).—Strength of solution, one-half of one per cent. Cases treated, 10; infectious, 10; non-infectious, 0; improved, 1; unimproved, 9; cured, 0; number in which ardor urinæ, etc., lessened, 1; number in which ardor urinæ, etc., unaffected, 9; number developing posterior urethritis, 0;

number developing epididymitis, 0; number in which gonococci were found at end of fourteen days, 10.

From a glance at these statistics it will be seen that, as regards therapeutic value, these four remedies stand in the following order: first, permanganate of potassium; second, nitrate of silver; third, bichloride of mercury; and, fourth, trikresol. By far the most valuable remedy in urethral irrigation is permanganate of potassium. It is simply using in a new way what has long been known to every man about town to be a most potent drug in the treatment of gonorrhœa. It will be noted that gonococci were found in the discharge at the end of two weeks' treatment in only five cases.

Irrigation of the deep urethra with a 1 to 4000 permanganate of potassium solution is the very best method of treating acute posterior urethritis, and will result in a cure in most cases in from about three to five days.

Nitrate of silver follows permanganate of potassium very closely, but does not appear to dry up the discharge as quickly or as well.

In regard to bichloride of mercury, it was evident that those solutions which were strong enough to have any positive antiseptic effect irritated the urethra and increased the ardor urinæ. On the other hand, the weaker solutions appeared to act very little better than so much water on the discharge.

Trikresol is a coal-tar product manufactured by Schering, similar in every way to carbolic acid. Solutions of the strength of one-half of one per cent. were found to be very irritating to the urethra, increasing in a marked degree the ardor urinæ. Solutions of a quarter of one per cent. had little or no effect upon the discharge.

Seventy cases in all were treated by irrigation. Of these, seven were cases of simple urethritis. Thirty-two were improved by treatment,—that is to say, the condition at the end of two weeks was simply a thin muco-purulent discharge at meatus in the morning; no ardor urinæ or chordee or frequent and imperative urination; further irrigation did not improve this condition. These cases were all cured in about two weeks more by use of some astringent injection two or three times daily.

In twenty-nine cases the discharge was not at all affected by irrigation. These patients showed marked improvement in their condition upon beginning the use of a urethral injection containing bismuth and hydrastis, and the use internally of a capsule containing sandal-wood oil and copaiba.

Nine of the cases were cured within the two weeks. Of these, seven were cases of non-

specific urethritis. Of the nine cases cured, seven were cured by permanganate of potassium. Gonococci were found in small quantity in the discharge after two weeks' irrigation in fifty cases.

Posterior urethritis only occurred in five, and epididymitis in one instance.

It should be noted that in fifty-eight cases the ardor urinæ and chordee were entirely relieved by irrigation; and of the twelve cases in which these symptoms were not affected, nine were treated by trikresol, a remedy which was shown to be very irritating to the urethra.

The results obtained in the treatment of these cases seem to warrant the following conclusions being drawn:

1. That irrigation is a distinct advance in the treatment of gonorrhœa; in fact, up to a certain point, it must be considered the proper treatment for that disease. It relieves ardor urinæ and chordee more promptly than any other form of treatment. It is attended with a much smaller proportion of complications, such as total urethritis and epididymitis.

2. That permanganate of potassium is the best remedy for the purpose of urethral irrigation.

3. That irrigation of the urethra alone cannot be relied upon to absolutely cure specific urethritis.

For the cure of the thin muco-purulent discharge which appears at the meatus in the morning, some astringent injection used by the patient himself is necessary.

4. That simple non-infectious urethritis can be cured in from ten to twelve days by daily irrigations with permanganate of potassium.

The writer is of the opinion that, where it is possible to carry out the treatment, irrigation of the urethra with solutions of permanganate of potassium *twice* daily would very materially lessen the duration of the disease. This is, of course, impracticable in dispensary practice. I am now employing at the Dispensary of the University Hospital daily irrigation with permanganate solution, combined with the internal use of a capsule containing five minims each of oil of sandal-wood and oil of copaiba. The results obtained in these cases will be published at another time. It might be well to mention here that, for the purpose of irrigating the urethra completely, the Kiefer nozzle is not by any means all that could be desired. The blunt nose of the nozzle will not fit properly every meatus. On the other hand, it is very doubtful whether the urethra is irrigated to any great extent by its use, as it was observed in almost every case that the irrigating fluid would make a short circuit in the urethra from the point of entrance in the nozzle to the point of exit.

The best results were obtained from the use of a soft-rubber catheter several sizes smaller

than the calibre of the urethra, allowing the solution to escape easily along the side.

The following table will show at a glance the results obtained by urethral irrigation:

Drug employed.	Number of cases.	Infectious.	Non-infectious.	Improved.	Unimproved.	Cured.	Gonococci found at the end of two weeks' treatment.
1. Permanganate of potassium.	20	16	4	10	3	7	5
2. Nitrate of silver.	26	18	8	13	6	1	16
3. Bichloride of mercury.	26	10	16	13	1	1	19
4. Trikresol.	10	10	0	1	9	0	10

### THE TREATMENT OF DIABETES MELLITUS.\*

By SOLOMON SOLIS-COHEN, M.D., of Philadelphia.

Throughout the management of a case of diabetes mellitus, examine the urine at regular intervals, not too far apart, and whenever its acidity increases, or the sugar is suddenly diminished or absent, or the wine-red color is developed by ferric chloride, administer alkalies freely until the urine is alkaline and the sugar reappears. Sodium bicarbonate may be given, or, if the quantity of urine is lessened, potassium acetate or potassium citrate, or some other diuretic. Some authorities, however, caution against potassium salts, believing them to be too depressing to the heart. Rochelle salt is often useful, because it will act either as a mild hydragogue purge or as a diuretic. And this leads me to say that constipation is often a precursor of diabetic coma, perhaps a cause. Never permit your patients, then, to be constipated. I am in the habit of giving to diabetic patients sodium phosphate in bulk, and directing them to take one or two teaspoonfuls in hot water before breakfast, or perhaps even two or three times a day, the quantity and frequency to be varied according to the effect upon the stools. Bartholow, indeed, recommends sodium phosphate as a remedy for diabetes mellitus, especially in obese subjects with hepatic disorder. Sometimes he combines with it sodium arsenate, 1-64 grain to the drachm of sodium phosphate. This is a useful expedient. Arsenic is itself useful in the treatment of diabetes mellitus. Lithium salts and various alkaline mineral waters are useful to keep the secretions active and neutralize acidity. Recently I have been using the salts or strontium, and especially strontium bromide, in the treatment of lithæmia and in the treatment of diabetes mellitus in the gouty and obese. In doses of about 30 grains, with 20 drops of

\*Extract from a Clinical Lecture in *The Therapeutic Gazette*, May 15, 1894.

glycerin, and infusion of gentian to make a tablespoonful, three times a day, before meals, I have found this drug of great service. It is a stomachic tonic, promotes digestion and relieves flatulence, increases general nutrition and quiets the nervous system; at the same time it keeps the blood moderately alkaline. It can be given for much longer periods continuously than is safe with potassium salts, and is not contra-indicated in lithæmic cases, as most sodium salts are. Strontium lactate is likewise used, but I prefer the bromide. In gouty and rheumatic cases especially, but likewise in hepatic cases, sodium salicylate is useful. It can be alternated with strontium bromide, and I am in the habit of giving it for a week or two whenever the patient complains of arthritic or muscular pains. I prefer to give it in capsule, followed by an ounce or two of water, the dose being from 5 to 15 grains three times a day. From time to time strychnine arsenate, 1-128 grain six times a day, is given as a general nervous tonic-stimulant.

... In the case of emaciated patients, or in obese patients temporarily when the sugar is excessive, and does not yield to other measures, I prefer codeine to any other drug. The dose is from  $\frac{3}{8}$  grain to 12 grains or more daily. It is to be given first in small doses, increased until the point of tolerance is reached or improvement is manifest, and then decreased to the smallest dose at which the gain made can be held. Following Sir B. W. Richardson, I give it in solution with hydrogen dioxide, in some such mixture as this:—

Codeine phosphate,	gr. ij.
Alcohol,	f ʒ iv
Dilute phosphoric acid,	f ʒ ij
Glycerin,	f ʒ vj
Solution of hydrogen dioxide	
(10 volume), enough to make	f ʒ iij.

Dose.—2 teaspoonfuls in 3 ounces of water. With this an alkaline course is usually conjoined, the patient being given some suitable mineral-water. Arsenic is sometimes added. Hydrogen dioxide, potassium permanganate, ozonic ether, and oxygen have been advocated on chemical grounds in the treatment of diabetes. I believe that any of them would be useful in helping to avert threatened coma, the special indication, as Harley has shown, being disappearance of sugar from the urine. The theory is simply that they bring about increased oxidation of the sugar or secondary products circulating in the blood. Hydrogen dioxide water can be given in much larger doses than I have mentioned,—almost *ad libitum*, in fact,—and oxygen can be conveniently given by inhalation. Ozonic ether can be injected hypodermically.

I have not spoken of diet, taking that for granted. It precedes medication. I will only say: Don't try to cut off bread and potatoes altogether; the patient won't submit. Gluten

bread is not reliable and is not palatable. Give small quantities of ordinary bread,—toasted, if you like,—say six small slices or three rolls a day. An occasional roasted mealy potato will be a great treat and won't harm the patient. Beyond this, try to make up by fats for the exclusion of starches. It is now possible to give our patients a certain form of sugar. Last year I had before the class a young, thin man, then in the hospital, to whom I was giving levulose, or fruit-sugar. Careful chemical analysis of his urine by Dr. Henry Leffmann showed that the urinary sugar did not increase, but actually diminished, while the patient was taking this form of sugar. As you know, levulose, so called because it rotates polarized light to the left, has the same empirical chemical formula as glucose, or, as the latter is called from its action on polarized light, dextrose. The rational formula of the two sugars, however, has been recently shown to be different, and the place of levulose is among the ketone group, while dextrose is placed among the aldehydes. This may account for their different relations to the metabolism of diabetics. Twenty years ago Kuelz, of Marburg, showed that diabetic patients could assimilate levulose and inosite, but only recently has the former been produced as a commercial article. I have used it now for nearly two years, and in some twelve cases of diabetes, and in all it has been assimilated. It is sweet,—not quite so sweet as cane-sugar, but sweet enough to enable our patients to gratify their palates,—and it is useful as a carbohydrate aliment. It turns coffee somewhat black. I give it in quantities of about an ounce a day to lean patients; to stout persons simply as a sweetening.

I am making some observations now with lactose,—milk-sugar. Several patients have taken as much as 4 ounces of milk-sugar in a day without increasing the excretion of sugar in their urine. Others can take but a fraction of this quantity. Philip is one of the patients on whom this observation has been made. He can dispose of about two ounces of lactose daily; four ounces cause an increase of about two ounces in his daily dextrose excretion. As a practical deduction from these clinical experiments, I permit my diabetic patients to drink milk freely.

And now, to conclude, I have three words of advice:—

1. Keep your patients warm and protected; cold is their greatest enemy.
2. Examine the urine for organic acids and keep the blood alkaline.
3. In the matter of diet, be strict enough to diminish polyuria and glycosuria, and, if possible, to secure their disappearance, *provided* you can at the same time keep the patient comfortable; but under any circumstances *make the patient comfortable*.

## THE NEW CURE FOR DIPHTHERIA, CROUP, ETC.

If the facts placed before the Hygienic Congress held at Budapest last month be not overstated, then the whole world owes a deep debt of gratitude to the young French savant, Dr. Roux, for the patient and heroic researches which have led to the discovery of an effectual cure for croup and diphtheria, and opened the way for further results not less startling. Such is the introductory announcement in the *London Daily Graphic*, which also gives the following:

The distinguished Dr. Marsan points out how the new method was established. Diphtheria is produced by microbes which plant themselves in the membrane of the throat; and multiply; but unlike the bacilli of other infectious diseases, they remain obstinately in the same position, neither penetrating the system nor the blood. But if the deadly animalcules remain at the door, they are still able to secrete a poison of extreme violence, called "toxin," which quickly penetrates the circulation and infects the whole body. This toxin, thanks to the achievements of science, can now be isolated, and in the form of a fine powder will cause almost immediate death when injected into animals. However, it has been found that if a very small dose be introduced into certain animals, especially the horse, only a feeble reaction is produced. By repeating the operation, with gradually increasing doses, the organism of the animal finally revolts, and becomes not only impervious to the toxin, but destroys it, and from this singular result is due the origin of the new substance with which Dr. Roux wages war against diphtheria. In a word, it is the basis of a great revolution in the medical world, which henceforth will recognize in "Serum therapy" a heaven-sent system to root out most of the diseases connected with childhood. As Dr. Marsan well says, there are toxins and anti-toxins for all microbic affections. Serum therapy will eventually discover a remedy for all infectious diseases. Yesterday it was tetanus in animals that it cured, to-day it is diphtheria, to-morrow it will be tuberculosis.

If you go to the Institut Pasteur, you will find comfortably stalled in the garden some ten or a dozen cab horses, in prime condition, aged from six to nine years, whose mission in life is to furnish the precious fluid which every day snatches many a young life from an untimely grave. They are in their measure unconsciously solving the problem of how to stop the depopulation of France. They are well cared for, there is no cruelty in the process, no suffering entailed. The first process is to inject the deadly virus—the toxin—into the shoulder of the horse. This, of course, at first causes a slight indisposition, but after a

while no ill effect is felt. The second step, as shown in one of the views, is to draw from the neck of the "prepared" animal a judicious quantity of blood. If the blood be allowed to stand for a while, the red corpuscles settle to the bottom, and the operator can then draw off the fluid, of a yellowish hue, resting above and containing the serum, or antitoxin. This, in its turn, is injected under the skin of the patient by means of a syringe analogous to that used for injecting morphine.

On February 1, 1894, Dr. Roux began operations at the Hospital for Sick Children, Paris. He had a good supply of serum, and each day on making his visit to the hospital, he treated all the children he found there, in whatever state or condition of croup or diphtheria. There was no selection of subjects, a point to be borne in mind, nor was the ordinary treatment in any way modified or set aside. Things went on exactly as they had before, except that a new element had been introduced—namely, the serum. During 1890, 1891, 1892, 1893, before Dr. Roux began his system, 3,971 children suffering from croup and diphtheria were admitted into the Hospital for Sick Children. Of these, 2,029 died of the disease, the mortality thus being 52 per cent. On the other hand, from February 1 of this year up to July 24, the date up to which Dr. Roux furnished statistics to the Congress, the serum was applied to all without exception, and, out of 448 children, there were only 109 deaths—that is, the mortality had decreased to 24 per cent. As the conditions during these periods were the same, the difference between 52 per cent. and 24 per cent. indicates the indisputable benefit derived from Dr. Roux's treatment. If we take the same period at the Trousseau Hospital, Paris, where the old methods prevail, we find that out of 520 children admitted there, 316 died, thus giving a mortality of 60 per cent.

But this is not all. The serum, if applied, say, to a child suffering from quinsy, not only puts that ailment to flight, but renders the subject impervious to croup and diphtheria; and even measles and scarlatina are found to be of very rare occurrence, and then only of slight character, when the system has been fortified by Dr. Roux's wonder cure. The 24 per cent. represents the saving of the lives of 120 children in six months in one institution. The gain would have been more considerable but for the deplorable hygienic conditions of the Hôpital des Enfants Malades. Many of the deaths, too, were the result of further complications, such as heart disease and bronchopneumonia, which made the work of the physician very difficult. Generally speaking, a single injection is sufficient, and Dr. Roux has never given more than two. The dose consists of two-fifths of amount of serum injected into the side by one puncture. The temperature

then decreases, which is an excellent beginning. The leather-like membrane which is suffocating the little sufferer ceases, within twenty-four hours, to increase, and after thirty-six hours it comes away altogether, and the diphtheritic bacilli disappear. The serum also has a marvelous effect on the appearance of the patient. The dull and leaden complexion, with its accompanying piteous cry, gives place to a healthy skin, and the patient becomes cheerful if not gay.

#### REPORTS ON NEW DIPHTHERIA CURE.

An Associated Press despatch, from Washington, D.C., dated Dec. 29, 1894, says the officials of the United States Marine Hospital Service are watching with interest the results obtained from the new diphtheria cure. The officials are already in possession of considerable information as to the manner and results of applying anti-toxin in Berlin and Paris. At the Children's Hospital at Berlin, Dr. Kinyoun says the larger proportion of cases suffering from diphtheria are treated. There were about thirty-five cases in the hospital at the time of his visit, and their age was usually 3 and 6 years. The death rate is slightly lower than the figures of the Paris hospitals, for the reason that in the first place the patients are sent to the hospital sooner, and because the little children receive better care than is accorded them in like institutions in Paris. Dr. Kinyoun goes into a very elaborate description of the methods employed in the treatment of the disease.

The matter of the control or supervision of the use of anti-toxin is also engaging the attention of the local authorities, and Dr. Kinyoun reports that Nov. 4 Prof. Koch convened a meeting of the Prussian Board of Health for determining what action should be taken. Prof. Koch has expressed the opinion that there should be some government supervision of the serum, so that it could always be relied upon. If there was no such supervision, it would not be very long before spurious articles would be put on the market, and not only would a good remedy be brought into disrepute, but lives would be sacrificed when they might be saved. It was decided at the meeting of the Board, that all serum intended for use in Prussia should be inspected and tested for its purity and strength before it would be allowed to be used. This step the doctor reports was satisfactory to all parties concerned, and will be the means of insuring a good article of standard strength at all times for Prussia.

In this connection Dr. Kinyoun calls attention to what he says will evidently occur in our own country. Many persons will, during the coming year, commence to prepare this serum as a business enterprise, and there will without doubt be many worthless articles called anti-

toxin thrown upon the market. All the serum intended for sale, he believes, should be made or tested by competent persons. The testing, in fact, should be done by disinterested parties. The anti-toxine, he says, will never work miracles; it has its limits like any other agents, and, like a perfect piece of machinery, will not accomplish the full result unless directed by a skilled hand. "Some persons affected with this dread disease will succumb, it matters not how soon we apply the remedy. The majority will, however, I am sure, recover if the anti-toxin is given early and properly." In closing the report, expresses the hope that soon every State and municipality will take the proper steps to provide facilities for supplying the people. Incorporated in the report are a number of tables or charts showing the effects on the respiration, pulse, and temperature of the administration of the anti-toxin in various cases.—*The National Popular Review*.

#### TREATMENT OF RENAL DISEASE.

Dickinson (*The Lancet*, February 10, 1894) expresses the following views as the treatment of nephritis:

*Acute Nephritis*.—The disease has a tendency to recover spontaneously, qualified especially in scarlatinal nephritis by a tendency to fibrosis. Warmth in bed and a liquid diet are essential to recovery. The food should be mild, animal broths and a moderate amount of farinaceous food. Water and aqueous drinks should be given freely. After a calomel purge it generally suffices to give a saline. Digitalis is to be given only if there is dropsy, or if the urine be very scanty. Even though the urine contain blood, no drug should be given to check the flow, as it is rather beneficial than otherwise. The usual diuretics are useless and even harmful, cantharides being especially harmful.

*Chronic albuminuria* may continue almost indefinitely without much apparent injury to the patient. The heart will hypertrophy as a salutary adjustment, and the dropsy may be indefinitely postponed. In a quiescent case, temperance in diet is much to be preferred to austerity. Farinaceous and vegetable food may be allowed without restriction, milk in abundance, watery drinks freely, and the less alcohol the better. A purely milk diet is advantageous. When urine is scant and of low gravity, large amounts of liquid should be taken. It is often necessary to save life. In movable cases it is well to have the patient in a warm climate with a low relative humidity. So far as medicines are concerned, it is a good practice to give a ferruginous laxative combined with a small dose of strychnine. The normal termination of the granular kidney is by *uræmia*. Sweating should be enforced where the uræmia is indicated by headache, vomiting, etc. A Turkish bath every

ten days may long ward off what would otherwise happen, or a hot-air bath by a lamp under sheet may be used. If the patient be weak, it is much better to give a partial hot-air bath than to envelop the whole body. The legs may be alone enveloped in the sheet, and this will be valuable in many instances.

*Treatment of the Dropsy.*—Nature's cure is hypertrophy of the heart. Measures which lessen the contents of the vessel and increase the force of the heart are indicated. Digitalis is almost invariably indicated. Most diuretics are useless; some are harmful, as cantharides. Vegetable salts of potash may be used. Hydragogue purgatives have their use. The abdomen may be tapped when there is excessive ascites, but the legs must never be tapped. Renal asthma admits of relief with alcohols, ethers, and amyl nitrite.

### SOME NEW ANIMAL EXTRACTS.

I am a full believer in the virtue of animal extracts, and have been making some experiments on my own hook. I am fully persuaded in the efficacy of brains, as a cure for duses and other functional cerebral troubles. The cortex is of especial value. In assumed blindness the chopped up cuneate lobes I have found of value especially in hemianopsia—indeed, it is only second to gold in rendering a judge capable of seeing the right side of the question.

If the minced organs are good for the maladies of the corresponding parts of men, why, then, the stronger the organ the better the remedy; and if what is true of the parts must mathematically be true of the whole, why, then, the chief characteristic of the entire organism ought to be extracted and capable of imparting its peculiar nature as desired by hypodermic injection.

One of my friends had a pet ostrich, which kept his yard free from tin cans, cobble stones, ancient shoes and such like debris. Often had I, when confronted with Samson hash or Sandowe butter, wished I had the stomach of that ostrich. Acting on that suggestion, I bought the bird and proceeded to make the extract. I pounded him two hours with a pile-driver, macerated him one week in aquafortis, triturated him with dynamite, boiled him down, and then carefully filtrated and sterilized his remains. Before trying this mixture on a human being, I tested it physiologically. I found it digested a bride's first biscuit in five minutes; an antiquated spring chicken gave up the struggle in 12 minutes and 42 seconds.

I made a thorough aseptic ten per cent. solution, and injected it into a dyspeptic dude whose chief sustenance had been tooth-pick broth and cigarette puffs, at 11 a.m. At 3 p.m. I was hastily summoned by telephone to see my patient, who had eaten one dozen hard boiled eggs, a plate of sinkers, and had begun on the head of his cane. I think a proper

dilution of ostrichine will prove invaluable for dyspepsia. I have sold the right to put up ostrichine to Rustle & Co., of Gotham. I have learned that since then another firm has put up an ostrichin<sup>z</sup>, but I wish to inform the medical public that the real, true, and only original ostrichine is put up by Rustle & Co. Beware of substitution; none genuine without the final e.

A neighbor of mine had a bull pup, who was b'essed with a large bump of adhesiveness. Indeed he had been known to adhere so closely to a pair of pantaloons encasing a young man, that he was only removed by an amputation. It occurred to me what a fine thing it would be to change this pertinacity in a good cause, so I purchased the dog, pulverized him, and made a strong limbergy mixture—dog-gone strong my assistant said, and awaited a suitable opportunity to use it. I had on my list an ex-Keeleyite, who was a victim of mania-circulaire-whiskeyi-twice-a-week-abus. After the second injection he was able to pass through the VIIth ward all hours of the day or night without cracking a "smile." I tried it on a mugwump, with the result that he voted the party ticket straight, although it was headed by a yellow dog of the most pronounced type. Bullpupine will be in great demand this fall, and I propose to put it on the market in blocks of five about election time.

I was not always so successful in my experiments. From cows' teeth I made a powder which was fine for tooth-ache on the lower jaw, but was not worth a continental red for trouble in the upper. I am now looking for a cow that has not lost her upper front teeth; when I find her, I can manufacture a dead-open-and-shut cure for the toothache every time.

This principle is capable of almost indefinite elaboration. I have some foxine for detectives, dovine for your best girl, and am now at work on horses, hoping I may extract some "horse sense" for strikers. Some owl for statesmen who must stay out all night comes high, but must be had. I have received several orders from Kentucky.

I have made a greater invention than Midshipman Easy's father, who contrived a machine which was to compress the bumps and to suck out the hollows on a person's head until the head reached the height of phrenological perfection. Now medical science will enable us to inject into the system missing qualities, or supply the proper antidotes to any overbalancing propensities. This will be true not only of permanent but temporary conditions, and the doctor of the future will carry concentrated morality in his hypodermic case, just as now he does morphine and strychnine. When he comes home late he will take a dose of dovine that will enable him to complacently listen to wifely admonitions. I hope that I may find many and valuable uses for the animal extracts.—  
*Southern California Practitioner.* H. A. W.

# THE CANADA MEDICAL RECORD

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Writers of original communications desiring reprints can have them at a trifling cost, by notifying JOHN LOVELL & SON, immediately on the acceptance of their article by the Editor.

MONTREAL, JANUARY, 1895.

## REMOVAL OF THE UTERUS BY ENUCLEATION WITHOUT CLAMP OR LIGATURE.

For the reintroduction of this remarkable operation we are indebted to Dr. Pratt of Chicago, who deserves all the more credit for his persistent efforts to bring it into notice, because he performed the operation a great many times before succeeding in inducing other operators to give it a trial. Indeed, most gynecologists were doubtful as to the possibility of such an operation being performed as that of removing the uterus by the vagina without the use of clamps or ligatures. Recently Dr. Goffe of New York has reported a successful case, and before long the operation will probably become the accepted one. It has the great merit of not injuring the great uterine branches of the sympathetic nerve, the inclusion of which in the ligatures or clamps in the old method is said to be the cause of the reflex disturbances from which such patients suffer for a long time. The secret of performing this apparently wonderful operation lies in keeping close to the uterus all the time, and to use a spud or dull instrument for pushing off the rich vascular network which surrounds the uterus. If this layer of blood vessels be cut, a ligature must be applied; but Pratt claims that he can remove the uterus in every case without losing an ounce of blood. The success of the operation shows that we should not doubt an assertion because we do not understand it. The improbable is constantly happening,

## BOOK REVIEWS.

From reading an editorial in our esteemed contemporary the *Journal of the American Medical Association*,—a journal, by the way, which does credit to this continent,—it would appear that some editors ignore or speak ill of a good book because it is from the press of a rival publisher. We could hardly believe that a medical editor could so far forget the duty he owes to his readers to allow himself to be influenced by any consideration except the merits of the work under review. For our own part, we feel unable to criticize the majority of the excellent books which are from time to time noticed in our columns, and we only attempt to keep our readers informed as to what books have lately appeared, and as far as possible to give them some idea as to their contents. The interests of our readers are the first and only ones which we consider in our Review department.

## BOOK NOTICES.

PHILADELPHIA, Dec. 7, 1894.

Editor CANADA MEDICAL RECORD,

DEAR DOCTOR :—

I have learned that *The Index Medicus* will cease to be published with the February number, owing to lack of support and the fact that a large number of its subscribers are delinquent, unless an effort is made to continue it.

The value of this publication to those who do any work at all in connection with medical literature is so great, that I take the liberty of writing to you, to express the hope that you will not only become a subscriber, but will urge other of your professional friends to do so.

It is particularly necessary that *The Index Medicus* should be continued, owing to the fact that after the completion of the supplementary volume of The Index Catalogue of the Surgeon General's Library there will be no record of contemporary medical literature, and he who desires to keep pace with it, or who wishes to study a particular subject, will have to resort to the laborious task of seeking in various journals that which he desires if the publication of *The Index Medicus* ceases.

It will be possible to continue *The Index Medicus* if 500 new subscribers are obtained. The subscription price is \$10 per annum, which should be sent to Mr. George S. Davis, publisher of *The Index Medicus*, Box 47c, Detroit, Michigan.

As *The Index Medicus* can never be made a

success from a commercial point of view because of the peculiar scope of its work, I have no hesitancy in making you acquainted with these facts, and I earnestly hope that you will insert a notice emphasizing the importance of this matter in the columns of your valuable journal.

Yours truly,  
H. A. HARE.

**CAZEAX AND TARNIER.** The Theory and Practice of Obstetrics, including Diseases of Pregnancy and Parturition, Obstetrical Operations, etc., by P. Cazeaux, remodelled and rearranged with additions and revisions by T. Tarnier, Professor of Obstetrics and Diseases of Women and Children in the Faculty of Medicine of Paris. The Eighth American edition, edited and revised by Robert J. Hess, M.D., Physician to the Northern Dispensary, Philadelphia, with an appendix by Paul F. Mundé, M.D., Professor of Gynæcology at the New York Polyclinic and at Dartmouth College; Vice-President American Gynæcological Society, with chromo-lithograph, lithograph and other full-page plates and one hundred and seventy-five wood engravings. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut street, 1893.

This work will always remain an inexhaustible mine of information, and we rejoice to see it once more accessible to the profession in a new and attractive dress. It is a work of reference which should find a place in every library.

**A TEXT-BOOK OF PATHOLOGY, Systematic and Practical,** by D. J. Hamilton, M.B., F.R.C.S.E., F.R.S.E., Professor of Pathology, University of Aberdeen. Copiously illustrated. Vol. II, Part I, pages 1 to 514; Vol. II, Part II, pages 515 to end. London: MacMillan & Co., and New York, 1894. For sale by the Copp Clark Co., Ltd., publishers, 9 Front Street W., Toronto.

This is beyond question the most complete work of Pathology in the English language today. The author has accomplished his laborious task most successfully. We have searched in vain for some question in Pathology which the author has not noticed; we cannot better criticize it than by saying that it is beyond criticism. Modern bacteriology, including the staining and mounting of bacilli, is so explicitly dealt with, that no difficulty need be experienced in the general practitioner's preparing his own specimens. There are no less than 700 beautiful illustrations in the two volumes before us, and thousands of references to journal articles and lectures. The get-up of the book is in McMillan's faultless style. We bespeak for the work a large sale in Canada.

**NOTES ON THE NEWER REMEDIES, THEIR THERAPEUTIC APPLICATIONS AND MODES OF ADMINISTRATION.** By David Cerna, M.D., Ph.D., Demonstrator of Physiology, and Lecturer on the History of Medicine in the Medical Department of the University of Texas. Second edition, enlarged and revised. Philadelphia: W. B. Saunders, 925 Walnut street, 1895. Price, \$1.25.

This is a handy little volume of 250 pages, very complete for its size. We have glanced over it, and found a brief but very good account of many drugs which are not to be found in some of the larger works. It is thoroughly up to date, and has a remarkably good index, rendering it useful both to students and busy practitioners. It may be obtained through any bookseller.

**PHYSIOLOGY FOR BEGINNERS.** By M. Foster, M.A., M.D., F.R.S., Professor of Physiology in the University of Cambridge; and Lewis E. Shore, M.A., M.D., Senior Demonstrator of Physiology in the University of Cambridge. London: McMillan & Co., and New York, 1894; or the Copp Clark Co., publishers, 9 Front street W., Toronto. Price, \$1.00.

This is a beautiful little work, clearly written and printed on good paper, and nicely bound. It is similar to Huxley's Elementary Physiology, but differs from the latter in that it is written for those who have no previous knowledge of the subject. It is fairly well illustrated, but the author insists upon the necessity of the reader seeing the things for himself either with the eye or by the aid of a microscope. He says a serviceable microscope can be obtained for \$15. It is just such a one as might be used for school children with the greatest benefit.

**SYLLABUS OF GYNÆCOLOGY.** Based on the American Text-Book of Gynæcology, by G. W. Long, M.D., Richmond, Professor of Gynæcology in the Medical College of Virginia, etc. Philadelphia: W. B. Saunders, Walnut street, 1895. Price, \$1.00.

This book, which is of a convenient size for carrying in the pocket, is after the same plan as Senn's Syllabus of Surgery. It has been written with a threefold object: first, to be used as lecture notes; secondly, to enable the student more intelligently to follow and remember the lectures; and finally, as a convenient reference for practitioners. In either of these capacities the book will be found to be valuable. As a note-book for the teacher, it would render the task of lecturing an easy one, for if he only spoke for a few minutes on each note he would deliver a very complete course of lectures. Being interleaved, the professor can introduce the notes of illustrated cases or any other matter on which he desired to lay particular stress. To both student and professor it will save a great deal of time and trouble.



## LABORATORY GUIDE FOR THE BACTERIOLOGIST.

By Langdon Frothingham, M.D.V., Assistant Demonstrator of Bacteriology and Veterinary Science, Sheffield Scientific School, Yale University. Illustrated. Philadelphia: W. B. Saunders, 925 Walnut street, 1895. Price, 75 cents.

It is not often that we say of a book that it fills a long-felt want; but in the case of the work before us we can say it truly. By following the plain directions given in this work, the mysteries of preparing, mounting and staining pathological specimens are laid bare, and any practitioner can make his own diagnosis of cancer, diphtheria, tubercle, etc., with very little loss of time. Full and clear directions for making staining solutions are also given, so that work with the microscope becomes comparatively easy. In our opinion, this is just the book that hundreds of earnest thorough physicians have been waiting for, and we predict for it a large sale.

## PAMPHLETS.

IMMEDIATE CAPSULOTOMY FOLLOWING THE REMOVAL OF CATARACT. By L. Webster Fox, M.D., Professor of Ophthalmology in the Medico-Chirurgical College of Philadelphia. Extract of a paper read before the State Medical Society of Pennsylvania, May 17, 1894.

EVISCERATION OF THE EYE-BALL. By L. Webster Fox, M.D., Professor of Ophthalmology, Medico-Chirurgical College, Philadelphia, Pa. Reprinted from the *Codex Medicus Philadelphiae*, November, 1894. Philadelphia: Press of A. Van Horne, 119 North Sixth Street, 1894.

AN INTRODUCTORY ADDRESS TO THE STUDENTS OF THE MEDICO-CHIRURGICAL COLLEGE. By L. Webster Fox, M.D., Professor of Ophthalmology in the Medico-Chirurgical College. Delivered October 3, 1894.

## PUBLISHERS DEPARTMENT.

## SANMETTO IN DISEASES OF THE BLADDER AND KIDNEY.

To whom it may concern: I have been in the practice of medicine for the past forty-four years, and say without hesitation that I have never prescribed any remedy that in its action is so near a specific in diseases of the bladder and kidney as *Sanmetto*, and particularly in cases of urethral inflammation combined with difficult micturition. Much might be said truthfully in favor of *Sanmetto* in all diseases of the genito-urinary organs. I think it is the remedy for those diseases, and the best now in use.

D. CALKINS, M.D.

East Lyme, Conn.

## CYSTITIS AND METRITIS.

W. Warwick, M.D., King's College, Aberdeen, M.R.C.S., England, 1851, L. M. Roy, College, Belfast, 1849, etc., Belfast, Ireland, says: "I have given *Sanmetto* a very good trial in cystitis and metritis, and the results have been most satisfactory. I do not know another remedy which I can rely on for such uniform good results in affections of the genito-urinary organs."

## LATE LITERARY NEWS.

An old-fashioned sea story full of interest and adventure, with a strong love motive, is begun by W. Clark Russell in the January *Cosmopolitan*. "Ouida" succeeds Froude, Gosse, Lang, and other distinguished writers, with an instalment of the "Great Passions of History" series, which has been appearing in the *Cosmopolitan*. A discussion is aroused by Mr. Edward Bok's article on "The Young Man and The Church," which will consume tons of ink before it is settled. Just preceding the famous Charcot's death he prepared an article for the *Cosmopolitan* on Pasteur, to be published after Pasteur's death. But Charcot has died first, and so with the consent of Charcot's executors, the article is given now. The present "Theatrical Season in New York" is critically considered by Mr. James S. Metcalfe, editor of *Life*, and there are stories by Tourgée, Howells, and the famous French-writer François Coppée.

## LITERARY NOTES.

From *The Ladies' Home Journal*, Philadelphia.

## DR. PARKHURST AND WOMEN.

Dr. Parkhurst has entered into a contract with *The Ladies' Home Journal*, by which he will practically become a regular editorial contributor to that magazine for some time. The great New York preacher says that he has for a long time past been desirous of saying some very necessary things to women, and he now announces that he will say them through these articles. He will take up all the social, moral and equality questions which are so uppermost in the minds of women to-day. Dr. Parkhurst will begin this work at once, his first article appearing in the next issue of the *Journal*.

Edward Bellamy, the author of "Looking Backward," is to tell in the next issue of *The Ladies' Home Journal* what he believes a "Christmas in the Year 2000" will be like.

At this season of the year, when radical and sudden thermal changes are the rule, it becomes of vital interest to the busy practitioner to have in compact, ready form, such approved medicaments as meet the analgesic and antithermic requirements of the bulk of his patients. As pertinent we call attention to the following combination tablets: "Antikamnia and Codeine," each containing  $4\frac{1}{2}$  gr. antikamnia and  $\frac{1}{4}$  gr. codeine; "Antikamnia and Quinine," each containing  $2\frac{1}{2}$  gr. antikamnia and  $2\frac{1}{2}$  gr. quinine; "Antikamnia and Salol," each containing  $2\frac{1}{2}$  gr. antikamnia and  $2\frac{1}{2}$  gr. salol; and "Antikamnia, Quinine and Salol," each containing 2 gr. antikamnia, 2 gr. quinine and 1 gr. salol. These, together with the well-known "Antikamnia Tablets," of varied sizes, and "Antikamnia Powdered," constitute indispensable factors in the armamentarium of the physician, and are more than ordinarily indicated in present climatic conditions.