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TRANSPLANTATION OF URETERS INTO THE RECTUM FOR EXSTROPHY OF THE BLADDER—BY THE AUTHOR'S EXTRA-PERITONEAL METHOD.—THREE ADDITIONAL CASES.*

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In the issue of the *British Medical Journal* of June 22nd, 1901, I reported a case (Case No. 1) of the above-named operation performed on a child, B. S. G., aged five, on the 15th July, 1899. It is now more than two and one-half years since that operation was performed, and the boy remains in perfect health, is growing normally, and to all appearance is as healthy and strong and happy as any other boy of his age. (Patient exhibited.)

Recently three other cases of exstrophy of the bladder have been under my care, and have been submitted to the same operation, with results up to the present very satisfactory in two cases, while operation in the third case was followed by death on the fifth day, from acute ascending infection.

The method of performing the operation in these three cases was practically the same as that described in the article above referred to, and for the benefit of those not familiar with this article, may be briefly summarized as follows :

The first step of the operation is to insert a soft rubber catheter, about No. 5 to 7, into each ureter, passing it in about 2 1-2 or 3

* Read before the Toronto Medical Society.

inches, so that its upper end reaches beyond the curve of the ureter over the brim of the pelvis. The catheters are stitched in by passing a very fine silk suture through the wall of the catheter, and then through the wall of the papilla, so as to take a fairly good grip. The object of thus stitching the catheters into position is that they may not become displaced while the transplantation is being made, but may remain in position for from 24 to 60 hours, and thus drain away all the urine out of the anus after the operation is completed. (Though I have always followed this method, my experience in Case 4 makes me question whether it would not be well to dispense altogether with the use of the catheters).

The next step consists in dissecting out the distal ends of the ureters with a fair-sized rosette of the adjacent mucous membrane and muscle wall of the bladder. In making this dissection, my experience teaches me that the safest and easiest method is to commence the dissection at the portion of the papilla nearest the pubes, as it is quite certain that here, at all events, the ureter will be uncovered by the peritoneum. One soon enters a cellular space through which the ureter with its contained catheter can be easily felt, and with the finger in this space the dissection is proceeded with, being exceedingly careful not to injure the peritoneum, which lies very close to the ureter at the upper part. However, with care there is, I think, practically no danger to the peritoneum, and in none of my cases have I any reason to suspect that the membrane was injured or molested. It will be found when the circular rosette of bladder tissue has been completely separated, that the remainder of the ureter can be easily dissected free, and care should be taken without any traction to follow it back in its curve, so that it will, when transplanted into the rectum, run practically in a straight line from the brim of the pelvis to its new situation in the wall of the rectum.

This part of the operation having been completed on both sides, the surgeon's attention is next directed towards laying bare the lateral wall of the rectum. This must be done largely, of course, by blunt dissection, and the process is very greatly facilitated by the presence of one finger of the operator or his assistant in the bowel. The absence of the pubic arch renders it comparatively easy to lift the rectum towards the wound of operation, and thus bring it almost to the surface. If care is taken to keep well to the lateral aspect of the pelvis during this dissection, and to approach the rectum from this direction, the peritoneum is not endangered, but this portion of the operation should be conducted with extreme care, as it is difficult to tell how low down the peritoneum may reach in these abnormal cases, and the essence of my operation is its completely extra-peritoneal character.

The point selected for planting the ureter is that on the lateral

aspect of the bowel (Fig. 2, B), just above the internal sphincter, and it has been found in every case that the ureter could be brought to this position without the least trouble.

Having thus determined upon and exposed the seat of implantation, a pair of forceps is passed into the rectum, and pressed against the selected spot. A slight cut is now made from the external wound upon the end of the forceps; this is forced through, and the little wound dilated very accurately, so that it will receive snugly and yet without compression the ureter with its contained catheter. The forceps is then passed through and made to seize the end of the catheter, and this is drawn through the rectal wound and out of the anus. The forceps is then passed back beside the catheter through the same opening and made to grasp lightly the distal end of the ureter, or rather its rosette of bladder tissue, and this is now carefully conducted through the opening and made to protrude into the rectum. Very great care should be taken not to injure the ureter during this operation.

The same tactics are repeated upon the opposite side, and thus the ureters are drawn through so that their distal ends together with the rosette of bladder tissue, are made to project into the rectum as two prominent papillæ (Fig. 2, B). The catheters, of course, pass out through the anus, and are directed into the mouths of separate bottles containing a solution of carbolic or boracic acid. In this way one can ascertain that both kidneys are working, and if one catheter should become plugged (as happened in one of my cases) with urates or phosphates, it may be immediately withdrawn.

It will be observed that no effort is made to stitch the ureters into position. In fact, I have not found this at all necessary in any case. There is nothing to cause them to move out of their position, and the vitality of the ureters is not impaired by the traumatism which would result from such suturing. In order, however, to support the delicate ureters in their new position, and to prevent the injurious effects of any extravasation that may occur from the rectum to the wound in the pelvic cellular tissue, the wounds are packed on each side fairly firmly with iodoform gauze. This is left in position for two or three days, and when removed it is found that the parts fall together without, as a rule, allowing any extravasation from the rectum; or if there should be any, as happened in my third case, the gauze affords sufficient drainage, and the wound heals quickly by granulation.

The treatment of the exstrophied bladder tissue will depend upon the amount of bladder tissue exposed, and upon the extent of the hiatus in the abdominal wall. In my first and third and fourth cases, I found that all that was necessary was to dissect away the exposed mucous membrane of the bladder, which in these

three cases was not of any great extent, and allow the whole to heal by granulation. In my second case, however, the closure of the hiatus in the abdominal wall called for a very considerable plastic operation, which I shall presently describe.

CASE 2.—G. R. H., male, aged 13. His family history is good. He has five brothers and two sisters all healthy. He is the youngest of the family. There is nothing in the personal history of any importance except the physical condition for which he entered the hospital, viz.: exstrophy of the bladder, which is, of course, congenital. He was at the time of admission a fairly well-developed boy, but had an extremely listless, depressed and ashamed appearance. He shrank from looking at any one, would not enter into conversation if he could help it, and evidently was extremely conscious of and sensitive to his defective development. He was attired partly in female garments, and altogether presented an aspect such as to excite pity.

On examination it was found that the exstrophied bladder was of considerably more than the average size, being about $3\frac{1}{2}$ inches in diameter, and more or less circular in outline. The ends of the pubic bones could be plainly felt, being separated in an interval of about two inches, the symphysis, of course, being entirely absent. The bladder bulged forward in the erect posture to a considerable extent, constituting a partial hernia at the part. The urethra was, of course, merely represented, as in all these cases, by a slight gutter, which occupied the upper aspect of the imperfect penis, and the prostate with its normal openings could be seen at the junction of this gutter with the bladder. The ureters ended in two quite prominent papillæ, from which the urine escaped more or less constantly, but with slight intervals, representing, no doubt, the peristaltic action of the ureters. The exposed bladder-wall was ulcerated over about one-third of its area, and was exceedingly sensitive to the touch, so much so that the patient was extremely apprehensive of any attempt at examination, and also suffered in walking from the mere contact of the dressings applied to collect the urine. The skin also of the pubes and scrotum was eczematous.

The operation as above described was performed on the 7th October, 1901. The catheters which had been fastened in the ureters, and projected from the rectum, came away spontaneously on the 9th, about 30 or 36 hours after the operation. No attempt was made to reinsert them in the ureters, but a tube was placed in the anus so as to drain the rectum constantly for the next two days. After that the urine was allowed to accumulate in the rectum. The packing placed in the wound was removed on the third day, and a small amount of gauze was re-packed in these openings for the purpose of drainage. No extravasation of urine whatever took place, and the wounds healed rapidly by granula-

tion. At first the urine came away almost constantly, the sphincter ani apparently having but little control of it. At the end of a week, however, he had very fair control, and could hold the urine without difficulty for an hour or two.

On the 17th October, ten days after operation, the history states that the patient passed urine only three times during the day and twice during the night, and on the 19th it is noted that he passed it three times during the day and four times at night. Up to this time the patient had usually passed fecal matter with the urine, but now he has noticed that frequently the evacuations contain urine only without any considerable admixture of feces.

On November 3rd, that is, a little less than a month after the operation, it is noted that he can hold his urine four or five hours without difficulty, but that he has better retentive power during his waking hours than during sleep. However, his control is perfect, so that he on no occasion soils the bed or his clothing. There is no irritation whatever about the anus, nor does the patient suffer any pain in the rectum or at the anus, either before or during evacuation.

On November 19th an operation was performed to remove the mucous membrane of the bladder and to close the hiatus in the abdominal wall. This was done in the following way: An incision was made at the edge of the skin, removing the narrow area of scar tissue between that and the bladder mucous membrane, and continuing the dissection over the whole of the exposed area of the bladder wall. This was done by a very careful and laborious dissection, as it was found extremely difficult to separate the bladder mucous membrane from the remaining coats, and it was deemed desirable to leave, if possible, all the muscular and fibrous elements of the bladder tissue for the sake of strength to the abdominal wall at this part. The dissection was accompanied by a great deal of capillary bleeding, which was stopped by pinching with forceps and twisting. Having removed the whole of the mucous membrane, two lateral flaps were raised by dissection so as to close the hiatus by a sliding movement towards the middle line. These flaps were made to include the whole of the skin, and every particle of fascia that could be raised from the muscular structures of the abdominal wall, and the undermining extended as far outwards as the anterior superior spine of the ilium on each side, and as low down as the lower border of Poupart's ligament. The parts were brought together in the middle line by means of relaxing and coaptation sutures. In removing the mucous membrane, the operator was careful not to encroach upon the openings of the seminal vesicles in the rudimentary prostate, so that this part of the mucous membrane, as well as the floor of the urethra, are still left.

The patient recovered from the operation promptly, and the

wound healed slowly but satisfactorily, though not without some suppuration. It is now soundly healed, and the abdominal wall seems firm and good over the former hiatus.

On December 8th, two months after operation, the following note is made: The patient has had on an average during the past two weeks six evacuations in each twenty-four hours, the time between evacuations varying from two to six or eight hours. He is now up and walking about, without pain and without discomfort. His mental condition is improved in a very extraordinary degree. He is now bright and cheerful, takes an interest in his surround-



FIG. 1.—Exstrophy of the bladder in A. N., a female child, aged one year (Case No. 3).
 A, the exposed mucous membrane of the bladder.
 B, the introitus vaginae, with the rudimentary labia majora at either side. Immediately above B is the inferior segment of the urethra.
 C, a slight procidentia recti, cured before the transplantation by Van Buren's method.
 Note the wide separation of the thighs due to the imperfection of the pelvic arch.

ings, converses agreeably with his fellow patients, and is learning to read, and altogether to take a more intelligent and active interest in life.

March 3rd, 1902, five months after operation. The patient's father writes me that his son is perfectly well and able to retain his urine without discomfort for from two to six hours during the day, and that he is seldom disturbed at night by a desire to empty the cloaca.

CASE 3.—Ada N., aged one year, female. Operation October 26th, 1901. The principal interest attaching to this case is due to the fact that it shows the possibility of performing this extra-

peritoneal operation with safety in the female as well as in the male, and in children of very tender years. However, though this case terminated successfully, I would not again attempt the operation on so young a child, unless the conditions were extremely urgent. The operation is one which calls for very delicate handling of parts so fragile as those of a child of this age, and the handling of the ureters, and the passage of catheters into them is not unattended with shock, which, of course, is ill-borne by so young a patient. Children of this age are, moreover, subject to the penalties of teething, and in the case now reported the main troubles of the patient seem to be traceable to that condition.

The operation performed on this little patient differed in no respect from that previously described, except in the fact that great care had to be observed in passing down to the rectum by the side of the vagina. However, this was safely accomplished; the rectum was reached without encountering the peritoneum; and the transplantation was made in precisely the same way as that above described. Here again it was found perfectly easy to bring the ureters down very close to the internal sphincter, where the transplantation was made. Though the vagina escaped injury during the transplantation, a slight wound was made in it in the act of dissecting away the remains of bladder mucous membrane, which in this case was very small in amount. However, this wound seems to have healed kindly, leaving a patent vagina. In this case one of the catheters became plugged with urates at the end of forty-eight hours, so that no urine whatever came from it. Both catheters were consequently removed. The packing was not removed in this instance till the third day, and on the left side some extravasation of urine, and a little fecal matter occurred, and persisted for some weeks. Ultimately, however, the fistula closed spontaneously. I attribute this leakage to the fact that probably the opening into the wall of the rectum on the left side had been made rather too large. It is quite clear, I think, that had the peritoneum been wounded in this case death from peritonitis would have resulted from this leakage.

The subsequent history of this case could not be described as uneventful, but the least of the child's troubles were those pertaining directly to the operation. In fact, as far as the operation area itself was concerned, the result was, with the exception of the occurrence of the fistula above noted, quite satisfactory. The other troubles from which the child suffered need not be described in detail, but may be noted as consisting of bronchitis, swollen gums apparently accompanied with great pain, double purulent otitis media, and worms. However, the child gradually survived all these conditions, and was taken to her home ten weeks after the operation, in very fair and rapidly-improving health.

The day before she left the hospital I examined the rectum with the finger. On the right side there was a prominent papilla, representing the lower end of the implanted ureter; on the left side the papilla could be felt, but was much less prominent. The fistula above referred to had entirely closed, and the patient's general health was improving rapidly. There was a slight degree of irritation between the nates, but not immediately around the anus, and not more than is frequently present in children of this age. The child apparently had complete control of the sphincter, but evacuations occurred every hour or two. She seemed to suffer no pain or discomfort from the presence of the urine in the rectum.

February 24th, 1902. Four months after operation. The mother writes me that the babe is gaining in strength and weight, "quite smart and lively," beginning to walk, and able to hold the urine from one to four hours during the day, and sometimes for half the night.

CASE 4.—R. B., male, aged 4 1-2 years. This case of exstrophy of the bladder upon whom I proposed to operate seemed to me to be the most hopeful subject that I had yet attempted, but the event proved that a fatal issue followed on the fifth day, clearly from one of the greatest dangers of any operation for transplanting the ureters in the rectum, viz.: an ascending infection which reached the kidneys. The anatomical condition was a typical one, and need not be further described.

The operation was performed on January 24th, 1902, and was done precisely as narrated in the preceding cases. The whole of the bladder tissue was removed with ease, and the raw surface left was brought together by silk worm-gut sutures from above downwards, so as to convert the wound into a line running transversely. The central portion of the wound was left unstitched, and packing of iodoform gauze was placed in its depths down to the level of the point of implantation of the ureters. The child seemed to recover well from the shock of operation, and the next day was fairly bright and took nourishment well. He had some vomiting, which continued for twenty-four hours. The catheter on the left side came out in about eighteen hours after the operation, and no attempt was made to replace it, but a tube was placed in the rectum to drain away the urine which poured out from the left ureter. This seemed to act perfectly well. Twenty-four hours later the other catheter came out, but the rectum continued to be drained by means of the tube, and this appeared to work quite satisfactorily. On the second day after operation he began to become drowsy, and this condition deepened continuously until the time of his death. His temperature rose before death to 101 4-5ths, which is the highest point recorded.

The amount of urine decreased, though it never ceased alto-

gether, and never had the appearance of containing blood. He did not suffer from vomiting, diarrhea, or convulsions, and, in fact, almost the only uremic symptom which was present was the coma, and this was never very profound. His death took place on the morning of the fifth day after operation.

Post Mortem Examination.—The external wound was perfectly healthy in appearance, and on removing the stitches it was found

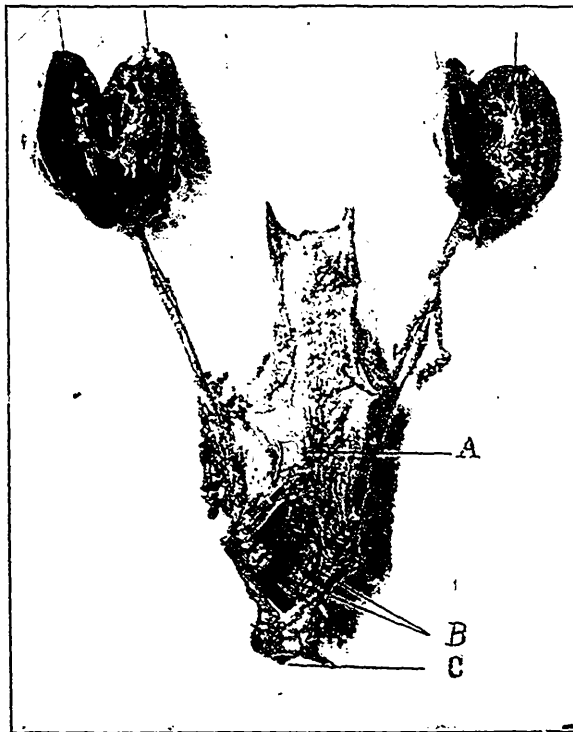


FIG. 2.—Specimen from R. B. (Case No. 4).

A, rectum laid open along its posterior aspect.

B, the prominent papilla, consisting of the ends of the transplanted ureters with a rosette of bladder tissue. (Note that the implantation is upon the lateral aspect of the bowel.)

C, the anus. The stretching of the specimen in preparation makes the implantation appear unduly high in the bowel.

that healing was advancing quite satisfactorily. There was no supuration whatever, nor was there the least extravasation of urine from the rectum into the wound. On opening the abdomen, it was found that the peritoneum was perfectly healthy, and that the operation wound had not in the slightest degree injured that membrane. The kidneys were found to be swollen and deeply congested, presenting evidence of active inflammatory infection. There was fibrinous material. The ureters contained a few drops of urine,

which was loaded with germs, apparently from the rectum. There was no obstruction of the flow from the ureters, as would have been indicated by dilatation of these tubes and the pelvis of the kidney. On removing the kidneys, ureters, rectum and anus, it was found that the implantation had been carried out in a thoroughly satisfactory manner. The papillæ, as seen in the photograph (Figure 2, B) presented quite prominently on the rectal mucous membrane. They were clearly in a viable condition, and if the patient had survived certainly would not have sloughed, but would have persisted as prominent papillæ, as I have described as occurring in my other cases. The rectum itself showed no signs of inflammation, nor was there any eczematous condition about the skin of the anus.

Pathological Report by Prof. J. J. McKenzie, University of Toronto: The gross condition of the kidneys is one of acute nephritis, with some dilatation and congestion of the ureters; the right kidney showed somewhat more acute change than the left.

The microscopic examination of the fluid in the pelvis of the kidneys showed the presence of large numbers of bacteria, red blood corpuscles and masses of epithelium mixed with crystals of ammonio-magnesium phosphate and of uric acid.

Cultures from the pelves of the kidneys showed that the bacteria which were present were chiefly of four types, viz.: the commonest form was a variety of the proteus bacillus; with this was associated the colon bacillus, a staphylococcus and a streptococcus.

A study of the sections showed a condition of diffuse nephritis which was most marked in the pyramids; there was an almost complete desquamation of the epithelium in the larger collecting tubules and papillary ducts; the latter contained, besides masses of epithelium, zooglear collections of bacteria which consisted largely of bacilli.

Judging from the results of *post mortem* examination, and from the bacteriological examination which was made for me by Professor McKenzie, I have not the slightest doubt that this case proved fatal through an infection which spread up from the rectum through the ureters to the kidney. As I have stated above, I am strongly disposed to think that this might not have occurred had I not inserted the catheters, as the presence of these tubes prevented the papilla-valve from acting properly.

Remarks.—In the description above given of the method of performing this operation, it will be noticed that I have departed slightly from that given in regard to my first case.* Fuller experience has taught me that though it is desirable to dilate the sphincter, it is not necessary to insert the sponge in the rectum, as therein advised. It is, however, advisable to wash out the rectum as well as possible by an enema given some hours previous to the operation;

* *British Medical Journal*, June 22nd, 1901.

and again, at the time of operation, to allow some mild antiseptic like boracic acid to flow in and out of the rectum to render it as nearly aseptic as possible. Again, in the detail of making the wound in the wall of the rectum and drawing the catheter and ureter into it, I think it is distinctly better for the surgeon to have his own finger in the rectum, allowing his assistant to do whatever may be necessary in the part of the wound above the pubes.

In a paper of this kind it is, of course, impossible to go fully into the literature of the subject, or even to mention all experimental and clinical work that has been done in this direction. I would refer those specially interested to a paper entitled, "Anastomosis of the Ureters and the Intestine," by Peterson, of Ann Arbor, formerly of Chicago. Peterson's conclusions refer to the exceedingly high mortality of the operation both in animals and in man; to the difficulty of technique, and to the very great danger of renal infection following the operation. He concludes, in fact, that the operation is unjustifiable in cases of exstrophy of the bladder, vesico-vaginal or uretero-vaginal fistula, or of malignant disease of the bladder, but he favors the performance of what is known as "Mady's Operation," viz.: the transplantation of a vesical flap, including the urethral orifices, into the descending colon. He argues that there is no valve guarding the vesico-urethral orifice, and that neither the circular muscular layer of the ureter, nor the bladder muscles themselves, act as a sphincter.

As a result of my experience of these four cases *in the human subject*, I have reached widely different conclusions, and, in reply to objections, I would point out that the operation which I have described includes the natural termination of the ureter on the bladder mucous membrane, and that whatever virtue there may be in this peculiar termination is retained when the transplantation is completed by my method. Moreover, it is not possible for me to see what advantage there can be to the patient in retaining the trigone of the bladder itself. The operation as described above does not involve any section of the ureter, and maintains its circulation complete to the point at which its vessels anastomose with those of the bladder, thus obviating the danger of sloughing.

In one part of his paper he points out that any portion of the ureter projecting into the rectum will in any event slough off. Doubtless this may be true when the ureter is divided at any point in its continuity, but I am able to prove by my cases that when the papilla, with a portion of the bladder tissue surrounding it is implanted into the rectum, such sloughing does not occur, but the papilla remains (Fig. 2, B), and its mucous membrane in process of healing becomes continuous with that of the rectum, thus perpetuating a papilla similar to that by which all mucous ducts terminate

upon a mucous membrane, such as the bile duct and the salivary ducts. I argue, moreover, that such a papilla *does* constitute a real and efficient valve; that it presents a very great obstacle to the spread of septic infection up the ureters, and I am disposed to think that, in Case No. 4, the rapidly fatal ascending infection might not have occurred if I had made the implantation without the use of the catheters in the ureters. Theoretically, the presence of the catheter prevents the action of the papilla-valve, and so fully convinced am I of the efficacy of this valve, that in future cases I contemplate trusting solely to a tube in the rectum to carry off the urine, and so prevent its filtering through into the anterior wound. Even if the latter undesirable event should happen, the peritoneum is so safe, and the drainage so good, that little harm can result beyond delay in healing. In order to secure easy evacuation, and thus minimize the danger of squeezing any of the contents of the cloaca into the lateral wounds, I also think that the sphincter should be gently stretched at the time of operation. Moreover, my first case, now of more than two and one-half years' standing, shows not the slightest sign of any infection of the kidneys, nor do my other surviving cases of five and four months' standing respectively.

In conclusion, I submit that, by the method above described, one of the greatest dangers of the operation of implanting the ureters into the rectum in the past, viz: peritonitis—is practically eliminated, and that the other, viz.: ascending infection, while it will perhaps never be eliminated, is thereby reduced to a minimum.

From the point of view of the comfort and happiness of the patients, the result in the successful cases leaves nothing to be desired. They are able to retain the urine almost as long, and apparently quite as comfortably, as in the normal bladder. From being pitiable, useless—often disgusting—objects, they are converted into useful citizens able to take their part in life with comfort and self-respect.

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SEWAGE PURIFICATION.*

BY P. H. BRYCE, M.D.,
Secretary Provincial Board of Health.

Mr. Chairman and Gentlemen,—Your Committee on Sewage desires to present a brief report on the present status of the work of sewage disposal as it exists in the Province.

During the last twenty years many special reports on this subject have been prepared, dealing with either the general principles of purification, or some special method which has been adopted in some particular instance.

These have ranged from the broad irrigation of lands for growing Italian ryegrass to chemical methods for precipitating sewage or electrolytic processes of sterilization with subsequent deposition of sewage.

With the progress of modern ideas relating to the decomposition of organic matter through the agency of nitrifying microbes, the attention of Government and municipal health authorities everywhere has been turned to the study of these biological processes, with the result that on every hand experiments are being carried out, or experimental purification plants installed, to test the practicability of this natural process for dealing with sewage under all or any conditions which may occur in any town or city.

It will be evident that in this as in any other matter, there may be so many varying conditions and climates as regards soils, meteorological conditions, character of the manufacturing processes in the different places, that no hard-and-fast method can be made suitable to every case.

Probably the greatest immediate difficulty in dealing with the sewage of many of the larger cities lies in the fact that in all of them the sewers first built have been with a view to dealing with storm water as well as with house sewage. However good an end may thus have been served in rapidly removing the water from the streets, it has not wholly served the intended purpose, since in almost every city the main sewers, however large, have at times proved unable to carry away the water in the heaviest rainfalls, thereby causing the flooding of cellars and other damage, but they have created several other objections:

1. That the cost has greatly delayed the adoption of general sewerage systems.

2. That the sewers which, during the greater number of days are dry weather sewers, have but a small portion of their area filled with water, and hence are filled with foul air, largely the result of a microbial decomposition.

* Read at the first quarterly meeting of the Provincial Board of Health, January 9th, 1902.

3. That these gases being kept from passing upward through the soil pipes, since few towns have adopted the outside vent to the house sewers, are forced out of the manholes, creating ill-smelling and dangerous nuisances at the street level.

4. They have enormously increased the difficulty of the problem of dealing with the sewage at the outfalls. In order that the problem of sewage disposal, apart from forcing the sewage into lakes and streams, may be dealt with economically and effectually, it is apparent that it will be necessary to consider how some of the difficulties incident to combined systems may be lessened, while it is apparent that the very necessity for dealing with the sewage in any new system will inevitably prevent new towns adopting any but the separate system.

Taking Toronto as our largest city in which the evils of the combined system exist, it will be apparent that if the traps were taken off the house drains, and each allowed to be a ventilator to the sewer, that the removal in this way of sewer air would result in the sewer air being largely replaced by fresh air passing in at the manholes, and at once removing the ill-smelling gases discharged at the feet of the passer-by.

The second, and by far the most immediate necessity, is for checking at once the enormous waste of water by placing a meter on each water service. If by this means the waste of water could be reduced by fifty gallons per head daily, still leaving fifty gallons or twenty more than is allowed the citizens of most English cities, and a few American ones, it is quite clear that the economy in the cost of pumping would leave an amount which would go far to pay the interest on the expenditure necessary to pay for disposing by some proper system of the sewage at one or more sewage outfalls.

To make the case plain, it is found that the coal consumed in Toronto, in 1900, amounted to 12,000 tons, at a cost of \$38,668.54, or reducing this amount by one-half, there would be enough to pay interest on nearly \$750,000 at 3 per cent.

It is simply amazing that year after year such primary principles are neglected, keeping the tax-rate high, and making it more difficult for the people to proceed to the second point of adopting some adequate scheme of sewage disposal. If, in addition, in the case of Toronto, the amount yearly wasted in dredging the slips were added, it is probable that sewage disposal works could be carried on without any outlay greater than that wasted to-day in unnecessary pumping. But this is only the beginning of the economy, for if the amount of sewage passing into the sewers were reduced by 50 per cent. the amount of liquids to be dealt with as sewage would be reduced by one-half.

Proceeding, however, to the problem of sewage disposal, it may at once be said that to-day there are but two methods of sewage disposal being considered anywhere, viz., that of disposal on sewage farms of wide enough extent to enable purification to take place without any local nuisance, and the cultivation of crops to repay

in whole or in part the outlay: and that of tanks where the sewage is allowed to decompose, thereby becoming largely liquefied, the liquid containing the organic matter in solution being subsequently carried to areas of land for purification, cultivation of crops being carried on at the same time, or placed on filters of sand, gravel, cinders or coke, there to be purified by aërobes, completing the nitrifying or purifying process during filtration, a series of beds being flooded at regular intervals.

That these methods are practicable, may be seen at the experimental station of Lawrence, Mass., where the work has gone on without interruption for ten years, and in several towns of that State, while in Ontario we have examples of what may be accomplished in the Sewage Farm at the London Asylum for the Insane, at Berlin, at Stratford, and in the works just completed at London.

An illustration of the best which may be expected from chemical filtration can be seen in the costly plant at Hamilton.

Now, what has been said might lead the ordinary reader to conclude that the whole matter is a simple one, and given the necessary preliminary conditions, it is comparatively so; but like any other work the success will depend upon intelligent, systematic and continuous attention to details. For instance, at the sewage farm at Berlin, neither of two necessary conditions has, up to the present time, existed. First, the soil utilized for the sewage farm is a calcareous clay, although the location of the farm is such that all the sewage can be carried there by gravity; and, second, it can scarcely be said to have been managed at all, the farm having for ten years passed from the supervision of one chairman of committee to another, with the result that one usually managed to undo much that his predecessor had learned to do from experience. No records have been systematically kept, and no intelligent history of the farm is obtainable; and yet much has been learned of what ought not to be done, and something of what must be done.

On the other hand, at the London Asylum there has been the same management under the superintendent, a gentleman of the highest intelligence and of unusual executive ability, with a farm foreman, the same for twelve years. As a result the sewage farm, irrigated by the sewage from a population or village of 1,200, produced in 1900 a gross revenue of nearly \$2,000, the amount of land used being about six acres. It is probable that nowhere in the world can be found results greatly superior.

With these two illustrations it might be thought that everything depends on soil and management. These are undoubtedly large factors; but in practice it is found that the problem is by no means as simple as this. For instance, taking the town of Berlin as an example, it is found that the contents of the sewage of manufacturing towns vary notably from that of house sewage alone.

In that case tarry products from the gas works escape into the sewers with their germicidal qualities, the lime and tannin, and the arsenic, etc., used as preservatives from tanneries being also

allowed to go directly to the sewers: the sulphur compounds from the rubber works being further added to these other constituents, while the dyes from several kinds of manufactories complete the germicidal materials which go to the septic tanks.

In other towns, as for instance, Worcester, Mass., the sewage at certain hours is so distinctly acid that a trained attendant is required to add from time to time such amounts of alkalis as are necessary to neutralize the acid sewage.

Clearly, then, the question of sewage disposal is one requiring (a) a thorough practical knowledge of the engineering, geological and agricultural conditions likely to be most suitable to any given conditions; (b) an equally intelligent knowledge of the chemical and biological conditions necessary to keep the sewage in any given case in a condition most favorable for a rapid and natural decomposition by biological processes; and (c) a consecutiveness of thought and purpose in the oversight and management, so that the trained operator will learn thoroughly at least one particular plant, so that economy in management with a maximum of good results may legitimately be expected.

The people of a municipality, however, who by law are required to adopt such means as will prevent the pollution of the adjacent stream by their sewage, may very naturally ask: How are they to be expected to be equal to such things? The answer of the law is, that the means of abatement must be found by the person who creates the nuisance. It might further be said, that a town should not erect industries, until they know that they can prevent them from becoming nuisances.

All these answers might equally be given with regard to methods for dealing with contagious diseases, and perhaps with more reason since there are some 2,500 trained physicians in the Province supposed to know all about how to deal with smallpox and other diseases. But as a matter of fact the Government, through this Board, gives constant and great service to municipalities through its officers and laboratory, and there can surely be no logical reason why, if it can be found practicable, in the more difficult and complex biological and chemical problem we are considering, some assistance should not be given, both to improve works already established, and to advise in the operation of new works, which, with our rapidly-growing industries, must from year to year be instituted.

The coming year is likely to see the work taken up in three or four cities, smaller towns will be introducing sewerage, and your committee feels that a great step forward in the Board's work would be gained if the Board were placed in a position, first to gain for itself all the available knowledge as to the methods being adopted elsewhere in working out these problems to a successful issue, and thereafter to give our cities the benefit of our knowledge.

PUS IN THE KIDNEYS: ITS PATHOLOGICAL BASIS AND ITS TREATMENT.

BY THOMAS H. MANLEY, M.D., NEW YORK.

We discover renal suppuration succeeding from essentially two causes, from trauma and from systemic conditions.

Trauma.—The most frequent mechanical influence is calculous obstruction, or hydrostatic pressure, from impediment in the ureter. Various forms of violence may likewise lead to abeyance in function, and hence *preparation of the soil* for microbial invasion.

Among pathological conditions, "King Con," that bane of the human race, that "red-coated mike" of Father Koch, holds its own against all new comers, and of late years we have come to realize that in the renal tissues the secretory elements are a favorite site for tuberculous invasion. But, besides that, there are pus formations found here, in which the more common bacteria of inflammation are discovered, as the bacterium coli, from the large bowel, etc.

But what of the pus?—Do we know just what the origin of pus is; do we know the pedigree or the ancestry of those round nucleated globules which float in it? And do they possess all the evil propensities we attach to them; does their presence in the kidney substance always gravely menace the machinery of life?

Pus is evidently in inflammatory processes what ashes is in combustion; it is a by-product, sometimes quite inert and sometimes intensely virulent.

The celebrated Carl Heitzman, and several other equally noted pathologists, denied that a pus corpuscle and a phagocyte were identical. A stubborn contest is provoked in the economy by the production of pus, the system usually comes off victoriously, but, at times art must come to her rescue. So-called tubercular pus is of serious omen, because it points to a possible constitutional condition, though of late years we have come to discover that even this infective process is sometimes *entirely local*.

Tubular pus, or Suppuration.—What is designated here as tubular suppuration is that type of purulent formation which is lodged in a tube or in close proximity to a large canal; e.g., the tube of Fallopius—pyosalpinx, the bronchial tube—pulmonary abscess—the intestines, in perityphlitic abscess—the ureter, in renal abscess. Other instances might be cited.

It is a well-recognized law in the pathology of pus-formation,

contiguous with, or occupying a viscus, that it quite invariably tends to "point" or break away for itself, into the nearest excretory duct.

After days and nights of agonizing distress, with rasping cough and hurried respiration, the trachea is suddenly flooded with a bursting pulmonary abscess. Pus will sometimes make its way out from a subphrenic abscess through the stomach, the colon, or even up through the bronchi. A German writer has recently stated that all, or nearly all, cases of gonorrhœal pyosalpinx will open up a channel for themselves, and drain off completely through the uterus, if we leave them alone, and treat the patient meanwhile. And what chagrin must we endure, in many a case of encysted appendicitis? We may find a fluctuating mass, deeply lodged, as big as a fist, and as tender as a boil; the patient is in great pain, and prepared to submit to anything for relief.

We prepare for operation for the following day, but when we reach his home, we find our patient has had a massive alvine discharge, and with it a great quantity of pus. Our patient *now* declares himself quite as well as ever, save for some bodily weakness.

Renal abscess, pyelonephrosis pyonephrosis, or pyelitis.—Now, what the writer wishes to emphasize is, that a broad knowledge of the forces of nature is as important, or even more important, than art or skill, in the practice of medicine; hence, with pus in the kidney from any cause, regardless of the mode of infection, whether it be from above or below, hematogenous or otherwise, or what may be its specific character, it may be well for one to know that we may often dispose of it in a safer and simpler manner, than by the deep incision.

Nay, the writer's experience is, that there is no type of visceral suppuration more docile to local and constitutional treatment.

Renal pus is disposed of in three ways.—(1) By ureteral drainage—the most common. Several times have we seen enormous renal pus tumors quite disappear after a large evacuation of the detritus of suppuration, by the bladder. In two of these cases the bacilli of tuberculosis were present. All of these patients except two came through, and fully recovered without relapse. In one of these—a tubercular case—the ureter was as thick as the thumb and completely obliterated. In the other, a diagnosis of pyosalpinx had been made, as the pus-distended kidney had sunk deeply into the pelvis, and the most agonizing cystitis existed.

(2) By evacuation—by aspiration, or by incision—nephrectomy. It is true that the former mode is rather ill-timed and incomplete, but it is less perilous than a free dissection, and may effectively relieve symptoms, about all we can hope for in those of broken-down constitutions.

Incision into the cortex, the free opening into all the loculi, and ample drainage, at once arrests further suppuration; but it is usually followed by a troublesome sinus.

Renal ablation.—Nephrectomy is one of the most formidable operations in surgery.

It is resorted to when only a shell of the cortical substance remains. The kidney is now little less than a foreign body; but usually when this stage is reached the patient is so reduced as to bear any sanguinous procedure very badly, hence why the mortality is so large, after decortication and evulsion of the adherent hollow shell.

Sex and Side of the Body.—It is somewhat remarkable to note the far greater frequency of surgical affections of the kidney in the female; suppurative lesions are no exception. In the greater number of these lesions, too, they occupy the right kidney. There appears no essential physiological or anatomical reason for these singular phenomena.

AN APPRECIATION OF PRYOR'S METHOD OF REMOVING THE FIBROID UTERUS BY THE ABDOMEN.

BY LAPHORN SMITH, B.A., M.D., M.R.C.S.(ENG.),

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to the Western Hospital, Montreal, Can.

(*Author's Abstract.*)

TWENTY years ago he was strongly opposed to operative treatment of fibroids on account of the high mortality then prevailing among the best operators. Ten years ago he became a strong advocate of Apostoli's method of treatment by electricity by which he has cured the hemorrhage permanently in sixty-three out of one hundred and two cases in ten years. Eight years ago Price lowered the mortality enough to induce him to operate in certain cases with the serre-nœud. Baer further reduced the mortality, and he adopted his method and operated oftener. Three years ago Pryor perfected an ideal method which had almost no mortality, and which he (Laphorn Smith) had adopted, and to which he gave the preference over all other treatment in every case of fibroid suffering enough to consult him. He claimed that he had acted consistently throughout, being guided by the one test question: "What is the mortality?" In his last ten successive cases, seven last and three this year, all had recovered.* Therefore the operation is now almost devoid of danger, while it is absolutely effective. Pryor's method is by far the best, and to it was due, he believes, his absence of mortality in these ten cases. The great advantage of Pryor's method is that we begin on the easy side, and after securely tying the ovarian, round ligament and uterine arteries, and separating the bladder, we cut across the cervix and roll the tumor out, thus obtaining plenty of room to tie the arteries from below upwards. Another great advantage of this method is that there is much less danger of injuring the ureters. This accident is most likely to happen on the most difficult side, that is, the side where the tumor fills all the space between the uterus and the wall of the pelvis. But it is precisely on this side that the tumor is dragged away from the ureter while it is being rolled out, and by the time that it becomes necessary to cut anything on that side, the ureter is at least two inches away and quite out of danger. But Doyen's method has this advantage on both sides, because he pulls

*Since this paper was written the author has had four more cases, making fourteen successive successful operations in two years.

the tumor off the bladder and ureters and from the first he is getting farther and farther away from the bladder and ureters. But Doyen's method has the great objection of opening the vagina and thereby increasing the time of anesthesia, loss of blood, and risk of infection, besides the æsthetic one of shortening the vagina. Dr. Laphorn Smith lays even greater stress than Pryor does upon the importance of feeling for each individual artery and tying it before cutting it, and then putting a second ligature on it, as the first one may loosen after the tension of the tumor has been removed. He also strongly advises chromicised catgut prepared by the operator himself, which lasts ten days, or else red cross cumol catgut, prepared by Johnston of New Brunswick, N.J., which he has found reliable. Besides the six principal arteries there are two small arteries, which require tying on each side of the cervix. There is no need of disinfecting the stump beyond wiping away the little plug of mucus; but the cervix should be hollowed out so as to make an anterior and posterior flap, which are securely brought together before sewing up the peritoneum. The omentum if long enough should be brought down to meet this line of suture, thereby preventing the intestines from sticking to it or to the abdominal incision. The author is opposed to leaving the ovaries and tubes, although he admits that in young women by so doing it diminishes the discomforts of the premature menopause. But in the majority of cases the appendages are diseased, and we run the risk of the whole success of the operation being marred by leaving the organs which sooner or later will cause more symptoms than did the fibroid itself. His experience of leaving in ovaries or parts of ovaries has been most unfortunate, having received no thanks for his conscientious endeavors, but a great deal of blame for having failed to cure the pain which in the patient's estimation was more important than the tumor.

He was also opposed to myomectomy; the operation was quite as dangerous as hysterectomy; there was very seldom any reason for it, most of the women who have fibroids being either unmarried or at an age too advanced to raise children to advantage, or having passed the child-bearing age altogether. After submitting to such a serious operation, the patient has the right to be guaranteed against a second or a third one of the same disease. So many women have been disappointed by these incomplete or so-called conservative operations that their friends who really could be cured by an operation hesitate to undergo it. He would make an exception, of course, in case of there being apparently only a single polypus, no matter how large, or a single pediculated subperitoneal tumor.

He held the opinion that all fibroid uteri should be removed as soon as discovered, because the woman with a fibroid is liable not

only to the hemorrhage, which may not be great, but to the reflex disturbances of digestion and circulation. Besides, every day it grows its removal is becoming more dangerous and the chances of its becoming malignant are greater.

He was opposed to a preliminary curetting, because it was unnecessary, and secondly, because when done it was seldom done effectually; having examined fibroid uteri immediately after removal, which had been curetted just before, he had found only about a twentieth part of the uterine mucosa removed.

He was strongly opposed to morcellement, which is not to be compared with Pryor's method. It is more dangerous, much more difficult, and keeps the patient a much longer time under the anesthetic. The operation is carried on in the dark, and the ureters are frequently wounded, while complications such as adhesions of the vermiform appendix and tears of the intestine, which are easily dealt with by the abdomen and the patient in the Trendelenburg posture, are almost impossible to manage when working from the vagina. Moreover, nearly all women with fibroids are nulliparous, and the vagina is consequently narrow; they are nearly all elderly, and the passage is consequently inextensible. No more unsuitable class of patients could therefore be chosen for this most difficult vaginal work. The author strongly advises the closure of the abdomen with through-and-through silk-worm gut sutures, left for three or, better still, four weeks. If not tied too tightly, and if dressed with boracic acid in abundance, the one dressing, or at most two, will suffice from the beginning of the case. Besides, they can be passed very quickly, and thus ten minutes in the duration of the anesthesia can be saved.

SUCCESSFUL TREATMENT OF RHEUMATISM AND RENAL CALCULI.

BY W. A. YOUNG, M.D. (TOR.), L.R.C.P. (LOND.).

THE remedy which has given me the best and most rapid results in renal calculi, gout, chronic rheumatism, etc., is Buffalo lithia water. It is an alkaline water from springs of the same name in Mecklenburg County, Virginia. It contains lithia and other salines, more especially potass. bicarbonate, held in perfect solution. It produces results promptly, and experience shows that it does not nauseate, and can be partaken of as freely as desired without any stomachic disorder, as sometimes follows the use of other waters. I find that it has a decided solvent action on uric acid, and in that way relieves the suffering sometimes so severe in gout and allied cases.

In a case of Bright's disease, about one and a half months ago, the urine was loaded with albumen and the microscope field almost covered with casts. Three weeks after commencing Buffalo lithia water the albumen was reduced over one-half, and four weeks later had practically disappeared. In a case of gout, where a gentleman of sixty-one years of age suffered from an acute manifestation every few months, each time to be laid up two weeks or more, Buffalo lithia water undoubtedly cured him, and it is now seven months since he has had any trouble of any kind. In one instance where the urine was what might be termed semi-solid, from phosphatic sediment, after ten days' free use of Buffalo lithia water the urine cleared up, with scarcely any deposit in the chamber after standing some hours.

In another case, J. M., aged 38, gave a history of having for three and a half years been almost a constant sufferer from rheumatism, with enlargement in the right knee and left ankle joints. He had tried the usual routine remedies—arsenic in the shape of Fowler's solution, cod-liver oil, and ichthyol, used both externally and internally, and applied the neurotone every night, which, at the time, seemed to give some relief, but only temporary. He had also used a mixture of iron, arsenic and iodide, but the effects were practically nil. I prescribed Buffalo lithia water, to be taken *ad libitum*. In six days he was able to sit up for an hour or two in a rocking chair, and at the end of two weeks had greater ease than in nearly six months. He had much less stiffness in the joints, and, instead of complaining of his shoulders being sore when putting his dressing gown on, he said that his muscles were getting less painful, and spoke quite encouragingly.

He left the hospital in three weeks from the time he went in. The Buffalo lithia water he took regularly and freely. I examined his urine and found it was faintly acid, specific gravity 1020, color light amber.

Recently I have had under my supervision a case of renal colic. M. S., aged 26, gave me a history of "kidney colic," as she termed her ailment. She said she had been a sufferer for nearly four years, and that when the "spasm" came on she was entirely useless and feared she would have to give up her "place." She was a domestic servant, and said to me that the attacks were coming on two or three times a month, instead, as they used to, about once every four or six weeks. She had taken four times a day a prescription of wine of colchicum, pot. bicarb., ferri et potass. tart., potass. iodide and lith. carb. for six weeks. Later she had used lithia benzoate and extract gentian in pill, but not long after the spasms returned and seemed almost worse than ever. I then ordered Buffalo lithia water for her, and told her to drink freely of it. She took it for a month, and at the end of that time I examined the urine. I found its density lower, and the number of attacks for the four weeks was only two. I then increased the quantity of the Buffalo lithia water taken daily. At the end of the second month this girl had had only one attack, and it lasted but one and a half hours, with no hematuria as a result. She said she felt better than she had for years, and that headaches, which had become so distressing, were a thing almost of the past. I asked her as to the distress across the back, and she said it was better, though still present. I had her let some urine stand over night in the chamber, and the pink deposit was hardly perceptible in the morning, with no mark around the edge as before. During the next or third month she had no attacks at all, and I then lost sight of her, as she went to another city to take up work there. She reported to me six weeks later that she was splendid, and had had no return at all of her trouble, adding in a P.S. that she was still taking the Buffalo lithia water, and would continue to do so, as I had directed, for twelve months.

The composition of Buffalo lithia water is very largely that of the serum of the blood, thus being excellently fitted for ready absorption, becoming part and parcel of the general flow, which doubtless explains its great superiority and general success in cases where tablets and other remedies had failed.

Selected Articles.

X-RAY TUBES.*

BY EMIL H. GRUBBE, B.S., M.D.,

Professor of Electro-Physics, Radiography and X-Ray Diagnosis, Illinois School of Electro-Therapeutics; Lecturer on Electro-Therapeutics Hal. Medical College and Hospital; Chief Radiographer Illinois X-Ray and Electro-Therapeutic Laboratory; Member of Roentgen Society of the United States, also Electro-Medical Society of Chicago, etc.

THE constant investigations of the past year with the Roentgen phenomena have developed immense improvements in X-ray apparatus. But great as has been our progress as regards apparatus and methods, comparatively slow progress seems to have been made in developing that most important part of an X-ray outfit, the Crooke's vacuum tube.

I wish in this paper to give a short review of the principles applied in the construction of tubes, and incidentally to throw out a few ideas pertaining to the methods involved and the kind of tube necessary in order that we may get good, powerful X-rays. By powerful X-rays I mean X-rays which have great penetrating power. This standard, I believe, as far as we know, is the only one which gives us any conception of the variability of X-rays.

From the great variety of tubes now upon the market we must conclude that many attempts have been made to improve the Crooke's tube. At present the so-called standard tubes are made upon a general plan which consists of a vacuum bulb of thin glass, having two tapering ends, from one of which enters a highly-polished concave aluminum disc called the cathode, and from the other projects, almost to the centre of the tube, and usually from three to four inches from the aluminum disc, a thin sheet of platinum called the anode inclined at an angle. From this sheet of platinum X-rays are sent out of the tube.

In order that I may not be misunderstood later on, I wish now to make a general statement including my opinion of X-ray excitation and partially its origin.

The X-ray is the result, primarily, of electrified particles of gaseous matter propelled or pushed by high voltage from the cathode disc of a vacuum tube, directly opposite—this manifestation has been called the cathode ray. When cathode rays are stopped in their terrific speed through the bulb of a tube by the

* Paper read before the Chicago Electro-Medical Society.

interposition of a very dense body, as for instance, platinum, a transformation occurs, resulting in a peculiar manifestation which we recognize as X-rays. The X-rays, then, are the result of the reflection or convergence of electrical discharges from the concave aluminum disc to the platinum sheet which is placed in a direct path. Now, when the currents discharged into a vacuum tube are heavy or long continued, the platinum sheet becomes red or white hot, indicating the transformation of these cathodic electric waves into heat waves. We know that in the ordinary X-ray tube the vacuum is never a constant, but always varies, and this variability increases as we use the tube. The cathode rays depend for their generation upon a certain degree of vacuum, and if this vacuum is constantly varying, of course the cathode rays vary in quantity and quality, and consequently the resulting X-rays vary accordingly.

It behooves us then, in order that we may have a constant X-ray value, to provide tubes which will keep as near as possible a stationary vacuum, and which, in addition, will at all times be under perfect control of the operator. The all-desirable qualities which a tube should have depend largely upon the purpose or use to which we expect to make the tube. I believe it is impossible to construct a tube which will be ideal for all varieties of exciters, and also for all varieties of uses, viz.: Radiographic, Fluoroscopic and Radio-Therapeutic.

To-day the best type of tube for radiographic work is, no doubt, the so-called "focus tube." A focus tube has its internal electrodes so shaped and placed that the cathode rays emanating from the negative concave disc will be collected and concentrated upon the positive platinum sheet at a very small area or spot.

When a tube is of such vacuum that it just begins to permit the production of X-rays we say we have a low vacuum or soft tube. By the aid of a fluoroscope we can always determine relatively the vacuum of a tube. In general, we may say, that if the hand is placed before the fluoroscope five inches from the tube, and the bone outlines are not clearly distinguishable, we have a low vacuum tube. If now the vacuum is raised, we shall have more and clearer bone outlines, and finally, in using a high vacuum tube, the X-rays pass through the bones so that they appear only faint in outline.

Under ordinary conditions of low or medium vacuum, we can usually make out two separate and distinct hemispheres in the tube bulb, one dark, emitting no fluorescent light, and one luminous, emitting a greenish light; but when we excite a very high vacuum tube, using a very high voltage current, not only does the platinum disc and the luminous hemisphere give off X-rays, but, in fact, the whole tube gives off appreciable rays.

Before making a radiograph a fluoroscopic view should always be made to determine the vacuum of the tube. I believe at present we know of no other method which may be used as a standard. Of course, even as simple as it may seem, it nevertheless is an invariable standard, and therefore a large amount of experience is

necessary to apply it. The method is this: We must bring our vacuum to such a degree that we can generate X-rays powerful enough to penetrate the tissue which we wish to radiograph. If we do not penetrate the tissue, we certainly cannot determine its internal make-up. It is impossible to show the structure of a bone unless you can apply rays powerful enough to penetrate the bone. In this connection I might say that if this method is applied before the plate is exposed, it will be found to materially shorten the time of exposure, and, above all, the proportion of under-exposed and under-developed negatives; in short, useless plates will decrease as we become more and more familiar and adept in the use of the fluoroscopic method. I may also add that the tube must not be too high, as then we lose all detail of structure. Relatively, the nearer a body is brought to the screen, and the farther away from the tube, the more normal the fluoroscopic outline. For instance, to get sharp bone outlines of the chest in fluoroscopic work, the vacuum must not be too high and the fluoroscope must be in direct contact with the body—chest or back.

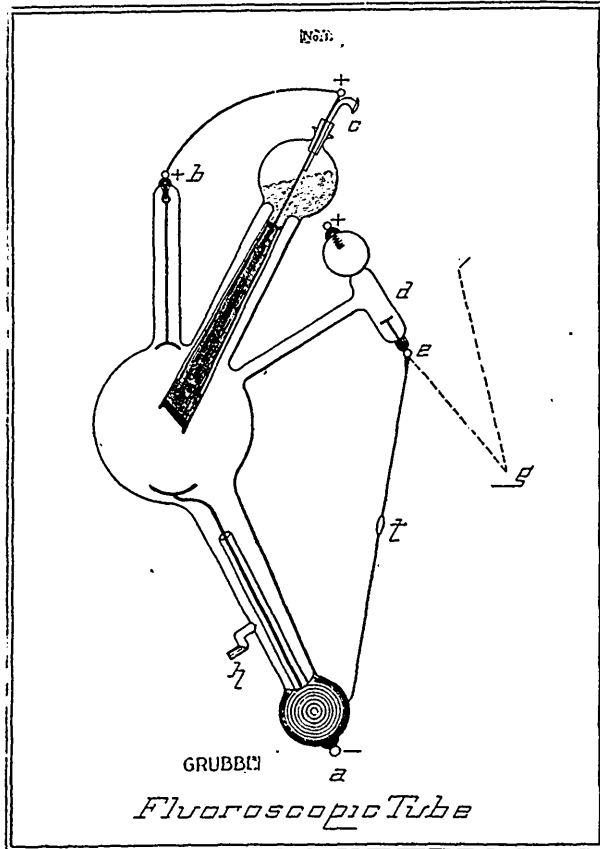
In order to get a normal shadow of the heart it is necessary to place the body a short distance away from the tube (ten to fifteen inches), as otherwise the shadow may be magnified, and at the same time it will not show clear in outline. Here the tube vacuum should be just high enough to give a black outline of the heart; anything higher will blur the shadow and make it irregular.

It is a well-known fact that a tube which may at one time be considered of low or medium vacuum will gradually become raised to a higher and higher vacuum as it is ordinarily used; this is sometimes detrimental. It is also a well-known fact that as the vacuum constantly becomes higher, the voltage necessary to push the current through the tube at first becomes ultimately inadequate because of the inability of the apparatus to furnish the same.

The first drawback is overcome, if deemed necessary, as for instance, in radio-therapeutic work by the use of a tube which has a variable vacuum attachment. The second drawback, that of low voltage current, is overcome by the use of more powerful apparatus, which develops enormous voltage, and is therefore able to overcome the high resistance of the tube due to its high vacuum. In this connection it may be mentioned that it seems out of order to label a tube for a certain voltage, as for instance—40 cm.—50 cm. spark length, when the vacuum, which determines the ability to stand certain voltage, goes up and down—in other words, varies constantly as the tube is used.

Scientific research of any kind can be of really little importance if it does not lead to practical results. The endeavor to improve the X-ray tube has been general, but I believe some very important mechanical and electrical facts have been omitted in the construction of this instrument. First, I find the greatest difficulty in getting a tube which has its external electrodes far enough apart to prevent sparking or short circuiting on the outside.

We know the greatest desideratum in X-ray work is maximum radiance. Up to the present time we have not been able to secure radiance approaching the maximum, because of the inefficiency of the Crooke's tubes. Personally I find, in order that we may use high voltage currents (an absolute necessity to the derivation of maximum or penetrating radiance) that the internal parts of the tube, including the vacuum, are not so much at fault as the exter-

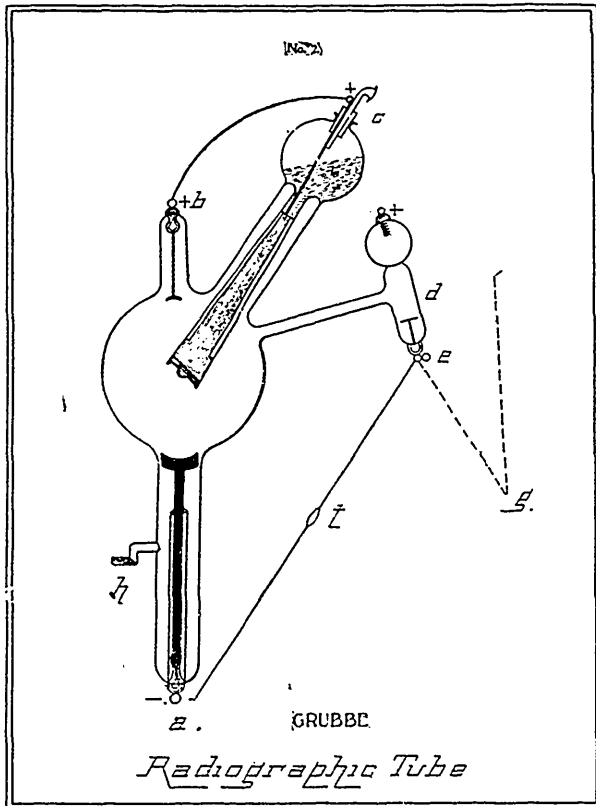


nal parts. We must separate the external electrodes much farther than we have been doing.

The more we study the X-ray the more we find it necessary to have special apparatus to meet certain conditions. For instance, it has been found desirable for Radio-Therapeutic work to operate a coil, which, by the use of from 3-5 amperes of current in the primary, generates a low voltage and high amperage current from the secondary—a short, but thick, spark. On the other hand, to make

Radiographs we need a current of high voltage as well as high amperage. In making this statement I am aware that I am discussing only one-half of the question, as the tube vacuum at which it is worked is, of course, a very important consideration also.

Greatest difficulty is experienced in getting tubes which can dissipate more than a certain limited amount of energy in a certain period of time without danger of breaking or burning out. First, then, in order to get a tube high in vacuum it is necessary



to place the external electrodes far enough apart so that high voltage currents can be utilized without danger of breaking the tube or of the spark passing or jumping around the outside of the bulb. Next, we need tubes so constructed that the anode will readily radiate the heat which is developed whenever large volume currents are used.

Since the ideal has not yet been reached as regards the above two factors, I believe it is in order to mention a few ideas and give a few designs on this subject. In the following consideration: I

need not mention specifically the kind of exciting apparatus to which these tubes are specially suited; suffice it to say that the tubes for use on the Static Machine need not be made with as much metal or heat-absorbing materials as is necessary when a coil is the exciting agent.

We will now consider tubes from the fluoroscopic standpoint, ignoring as far as possible the use of the tube from the radiographic or radio-therapeutic standpoint. Good fluoroscopic views of bones are only obtainable from the very highest vacuum tubes, and, indeed, in general it may be said that for fluoroscopic work a much higher vacuum relatively is needed than for Radiography. Steadiness of the illumination or fluorescence is a most desirable function in connection with penetration. The former is brought about by using rapid interruptions, if an induction coil is used (1600-2500 per minute); the latter is developed by the use of a high vacuum and also very high voltage and is independent of the quantity of current. Because of these conditions we are able to get better fluoroscopic views from a large rapidly speeding Static Machine than we can possibly obtain from a coil. Fluorescence is steady and voltage very high.

Since glass is an obstructor to X-rays it is necessary that the bulb through which the rays pass be exceedingly thin, and not only thin, but uniformly thin. In the average tube sold to-day the bulb part of the tube is so thick that I doubt if we get more than 50 per cent. of the actual X-ray value for use on the outside. Another valuable factor to be observed in choosing a good tube for fluoroscopic work is that of the large-sized bulb. A large bulb will stand both higher voltage and amperage for a given vacuum. Also the larger volume of gaseous space tends to keep such a tube more stable as regards its vacuum, and therefore it may be used for a much longer period of time (time being sometimes a very necessary consideration in matters pertaining to diagnosis) without any appreciable change in the vacuum. Finally we can say that the larger the bulb the longer the life of the tube.

From our study of the cathode rays in their relation to X-rays we must come to the conclusion that, generally speaking, the more cathode rays we have in a tube the more X-rays are generated.

I wish to refer to diagram No. 1, which illustrates a special tube and which I shall call the "Fluoroscopic tube," because it is designed specially to show to the best advantage all the factors prominent in an ideal fluoroscopic tube as far as I am able to judge. I recommend a very large bulb, 10 to 14 inches in diameter (if it is possible for high vacuum bulbs of that size composed of glass 1-64 inch in thickness to stand up against atmospheric pressure), because of reasons previously mentioned. The large size of the bulb allows of placing larger electrodes in the tube and therefore we naturally get more X-rays than is possible from a smaller tube having small electrodes.

In an excited Crooke's tube the whole luminous hemisphere

gives off X-rays. For fluoroscopic use a tube should not focus the cathode rays at a point upon the platinum sheet and the anode is best placed so that it strikes the cathode rays before they come to a focus. In this manner the anode becomes uniformly red hot and we get a large quantity of illumination upon the screen, *i.e.*, X-rays spread over a large area. This is especially appreciated when we wish to use a large screen in examining the chest or abdominal cavities. This spreading of the cathode stream may be brought about by placing the anode at an angle of 45 degrees to the path of the cathode rays and within the focal point of these rays. Now, by moving the cathode end of the tube away from the active hemisphere, and placing the aluminum disk within the bulb, we present a glass surface of even thickness, and since the aluminum disk is insignificant as an absorber of X-rays it, of course, need hardly be considered from the standpoint of resistance. In the usual tube the cathode disk is placed so near the glass that in conjunction with the great heat generated upon its surface a deposit of metallic aluminum soon occurs upon the glass surface in the neighborhood of the cathode disk. Placing the cathode disk within the bulb also does away with the stray X-rays resulting when the cathode stream strikes the sides of the tube immediately surrounding the disk, usually recognized by the formation of a light green ring on the glass surface just above the aluminum disk.

The presence of the metallic ball, preferably made of aluminum, at the cathode electrode on the outside of the tube, is for the purpose of further intensifying the volume of current. In this position its action is that of a condenser. The value of this attachment becomes obvious, because in using very high vacuum tubes we have learned that heaping up current at the cathode gives us more efficient X-rays (internal resistance being thereby lessened); ultimately this is also a means to steady the fluorescence. This condenser is made globular and is to be kept highly polished, in order that current radiation may be insignificant. Condensers of other shape have been found to be impractical because of the extensive radiation usually present during high resistance.

Further consideration of this tube must be left to an examination of the diagram, which I believe is self-explanatory.

Next, let us consider a tube especially designed for Radiographic work. I refer you to diagram No. 2.

This tube, as is indicated, is especially constructed for Radiographic work—that is, it is able to stand up against both high voltage and high amperage currents.

To be able to use currents of large volume as derived when the various types of electrolytic or mercury interrupters are in circuit, it has been found best to cool the heated platinum disk by having continuous flow of water near the anode to absorb the heat generated. By this method we may pass powerful currents through the tube for a few minutes without noticing any material deterioration

of the vacuum. According to the diagram we do away with the continuous water stream and substitute a very large steel jacket, extending almost the full length of the anodal electrode in the bulb of the tube, and in addition to this we fill this metal jacket with a large quantity of heat-absorbing oil (even water may be used). This does away with water bags or bottles and rubber tubing for conveying the water to the tube, a very inconvenient arrangement.

Since it is a well-known fact that if we wish to attain the best definition on a plate exposed to the X-rays we must bring the cathode stream to a very fine focus at the anode, and the smaller the focal area the better the definition. The platinum anode in this tube has a small, but very heavy, projection, upon which the cathode rays are brought to a focus. This tends to confine the heating to a small area and also sends away X-rays sooner than any other part of the disk. In order to still further favor the focussing of the cathode rays the anode should be placed at an angle of from 60-65 degrees to the cathode stream. This arrangement gives sharp or clean and contrasty picture and the exposure can be made very short. We get not only a shadow picture of the gross outlines of parts exposed, especially bones, but also an idea of the inner structure. This we call definition, and it depends primarily upon our ability to place the cathode rays at a small area upon the platinum disk.

The bulb of a radiographic tube need not be as large as for a tube used in fluoroscopic work; indeed, in order to prevent blurring of the picture we wish to avoid all radiation except that originating at the focal point of the anode. A small tube gives off few stray rays, there is very little spreading, and consequently such a tube is desirable for producing pelvic and chest pictures. It is well established that the more we increase the amperage of the current applied to a Crooke's tube, provided the voltage is high enough to overcome the resistance, the more X-rays we get. No doubt the degree of fluorescence determines largely the photographic power of the tube, but if it is possible to measure the quantity of current passing through the tube at any period of time we are always in position to know accurately the radiographic effect of a tube. It may be stated that the higher our amperage for a given vacuum the more rapid our ability to make radiographs. It is the large quantity current which causes chemical changes upon the photographic plate.

A properly constructed X-ray tube to give clear definition and prevent diffusion to any great extent must have its cathode disk so placed and shaped (very concave) that cathode rays coming from this disk do not strike anything before reaching the anode. This cathode disk, in order that it may stand the large quantity of heat developed upon its surface should also be large in ear, as shown in the diagram, so that heat radiation may be good. Finally in order that we may use high voltage currents and thereby get

penetrating X-rays, all the electrode containing parts of the tube are placed far apart—about twice the distance which is observed in the common tube.

In conclusion, let me say that no apologies are offered for anything presented in this paper, because I believe it is only through digestion of speculative ideas that we can hope to proceed in our investigations of so wonderful and powerful a force as the X-ray has proven itself to be.—*American Electro-Therapeutic and X-ray Era.*

Indecent Medical Advertising in Daily Press.—There is such a general subversion of the ethical to the commercial by the editors of the newspapers of this country, that the action taken by Mr. Frank A. Munsey, who recently purchased and reorganized the *Washington Times*, is worthy of special commendation, and sets an example for good which it is much to be hoped may not be unheeded by other editors. In an announcement to the public, Mr. Munsey says: "There is another way of keeping a paper alive when it is not on sound business lines, and that is by running a lot of disreputable and shameful advertising—advertising that ought to put to shame any self-respecting publisher. I refer to a class of so-called medical advertisements that are carried by most of the newspapers of the country—even the respectable papers—but which advertisements are indecent and vile, and which the Post-office department should compel publishers, regardless of their avarice, to drop." Mr. Munsey has, therefore, eliminated all advertising matter of this sort from his paper. This action has, undoubtedly, resulted in considerable financial loss, as the *Times* was formerly a conspicuous sinner in respect to the publication of advertising matter of a disreputable character, and it is much to be hoped that this loss may be more than offset by an increased circulation among the decent and cleanly-minded of the community. There is no doubt that suggestive "medical" advertisements of aphrodisiacs, specifics for venereal diseases, preventives of such diseases and of conception, "female regulators," offers of professional services to "ladies in trouble," and the rest of the class, form one of the greatest menaces to public health and morals. They directly incite to vice by promising immunity from its consequences, which they thrust before the notice of the young and innocent. As suggested above, the whole problem is one that should receive the attention of the Post-office authorities, who have it in their power to prevent this insidious debauchery of the public morals. The forcing out of advertisements of this sort from the public prints is one of the first tasks to which a politically-united profession should set itself.—*Medical Record.*

THE DOCTOR'S OFFICE LITERATURE.

HAVE you seen that quaint collection of the things of other days,
Which in any doctor's office meets the weary patient's gaze ;
Which consists of battered numbers of three-year-old magazines,
And some illustrated papers full of long-past battle scenes ?
Have you seen those hoary relics of the antiquated past,
Which with "trophies" and "mementos" could be very fitly classed ?
If you haven't, make a journey up to that abode of gloom
Which is known to fame and patients as the doctor's waiting-room.

There they lie, upon the table, and you look them o'er and o'er,
Searching vainly for some story that you haven't read before.
For the chairs are full of people, and you've simply time to burn,
Ere a welcome voice announces that at last has come your turn.
There's a *Puck* of last year's vintage and a *Life* of '98,
And a *Mansey* and a *Scribner's* of a yet more antique date,
And a *Harper* illustrating Admiral Montojo's doom—
All are in that weird collection in the doctor's waiting-room.

Through the pile you run your fingers, for you've nothing else to do,
And at last down near the bottom you discover something new !
Eagerly you pounce upon it, till disgustedly you see
That it's some prosaic treatise on applied pathology,
And if chance some other new one shall reward your wild pursuit,
You'll discover it's a record of the "Bilious Institute."
You can dig there for an hour, but whatever you exhume
Will be just the same old rubbish in the doctor's waiting-room.

In a barber shop symposium of literature you'll get
At least a this month's *Standard* or a late *Police Gazette* ;
And, although you'll find their contents are perhaps a little bold,
They will have the signal merit of not being ten years old.
In a bootblack stand the moments you'll be helped to while away
With an illustrated paper of the mint of yesterday.
But like faint and shadowy faces from the past's unyielding tomb
Are the newest publications in the doctor's waiting-room.

Where they get them—what collector of remote antiquities
Piled upon those shaky tables such fantastic shades as these—
Is a question never answered, for the doctors do not know
How they gathered those remembrances of days of long ago.
But it seems to be quite certain that they'd stock a few small shelves
With recent works if they were forced to read those things themselves.
But they're not, and so their patients must their weary minds illumine
With the faded, frenzied fiction in the doctor's waiting-room.

—J. J. MONTAGUE, in *Portland Oregonian*

The Canadian Journal of Medicine and Surgery

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Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., must be in our hands by the fifteenth of the month previous to publication.

Advertisements, to insure insertion in the issue of any month, should be sent not later than the tenth of the preceding month.

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Editorials.

IODINE AND THYROID-THERAPY IN GOITRE AND THYROID-THERAPY IN INSANITY.

ACCORDING to Koehler, iodine and thyroid extract are equally successful in the cure of goitre, and the same kinds of cases of goitre are amenable to either form of treatment. In the cystic and fibrous forms of goitre, iodide of potassium has no effect, and in the vascular form it is often injurious. It should be employed only in cases of simple hypertrophy of the thyroid gland; similar

data are, for the most part, applicable to the treatment of goitre by thyroid extract.

It may be said that iodine and iodide of potassium always act much more slowly and often less completely than thyroid extract in the cure of goitre. In explanation of this circumstance it is contended that the iodine present in the thyroid body is more active because it exists in a special organic combination. Why a combination of iodine with an albuminoid should render the iodine more active as a therapeutic agent is not clear, though it may be because the chemical element in the combination is thereby made more assimilable, in the same way that the potassium contained in potatoes is said to be more easily assimilated than plain citrate of potassium.

Prof. C. A. Ewald thinks that it is a question as to whether the whole gland, in its various forms of administration, *i.e.*, fresh, dried, or extracted, is to be preferred before its manifold derivatives, such as iodothylin, thyroïdin, thyroprotein, thyroglandulen, and thyrocolloidin.

Baumann and Roos, however, do not admit of a doubt; but claim that with their chemically isolated iodothylin, more certain effects can be obtained in goitre than from the ingestion of the whole gland, because when the whole gland is used, the separation of iodothylin from its accompanying albuminoids in the intestines of the patient requires a process of fermentation or putrefaction, which changes a portion of the iodothylin into inactive products.

Some time after the introduction of iodine and its derivatives into therapeutics, untoward results were traced to their employment, *i.e.*, emaciation, loss of strength, trembling of the limbs, palpitation of the heart, tachycardia, breathlessness, perspiration, insomnia, and extreme nervous excitability. Rilliet, in 1860, named this assemblage of symptoms "constitutional iodism." Later on, it was remarked that these untoward symptoms only appeared in goitrous patients.

In a paper read before the Swiss Medical Association, April, 1899, Dr. Jaunin insisted on the identity of the symptoms of constitutional iodism and those of experimental or therapeutic thyroïdism. Besides, he mentioned cases of Graves' disease, which began after the use of iodine or iodides. Hence he concluded that, in predisposed persons, who had goitre in a visible or latent form, iodine causes a special derangement of the function of the thyroid

gland, and that such derangement is the cause of the untoward effects which have been observed. According to his view, the constitutional iodism of Rilliet should be called iodothyroidism.

Similar views were expressed by Dr. Gautier, in an article published in *Revue Medicale de la Suisse romande*, Oct. 20, 1899. He thinks that a patient with a visible goitre, as well as one who has it in a latent form, may suffer from the untoward effects of thyroidism after small doses of iodine or iodides. These drugs occasion, according to his view, the autophagy of the goitre by the goitre itself, the thyroid tumor often continuing to diminish in size after the cure of the goitre is complete. The thyroid cachexia would, according to this view, even be susceptible of causing insanity in hereditarily predisposed persons. A simple prolonged sojourn at the seaside causes in the Genevese, who are all more or less predisposed to goitre, some of the untoward results of thyroidism, *i.e.*, insomnia, nervous excitement, emaciation, and Dr. Gautier attributes this assemblage of symptoms to the bringing into action of auto-intoxication by iodine. The iodine disturbs the nerve function of the thyroid gland, and when the chemistry of this gland is upset, it may continue to pour toxic substances into the circulation.

On the other hand, Dr. Adami, Montreal, in an article published in Sajous' "Annual and Analytical Cyclopedea of Practical Medicine," quotes leading authorities, who have used iodine and thyroid-therapy in goitre with uniform success and few accidents. Thus, according to Koenig, iodine is more especially of use in the hypertrophic and follicular forms, not so much in the colloid; especially in recently developed goitre is it useful. It may be employed either externally over the goitre, or in the form of potassium iodide, given in large doses by the mouth. Where cysts are present iodine is useless, and surgical means must be employed. Should symptoms of iodism supervene, Koenig points out that we may not be truly dealing with iodism; but with symptoms of cardiac stimulation and rapid emaciation, due to the rapid reabsorption of the colloid material into the gland.

Referring to treatment of goitre by thyroid-therapy, Dr. Adami says: "On the whole, therefore, the employment of fresh sheep's gland would seem to give the best results, more especially in young persons and those suffering from the softer parenchymatous forms of the disease, whether diffuse or nodular." It is further to be noted that only in early cases does it appear to result in complete

cure, and where cysts are present these are in no wise reduced in size, although through the shrinking of the surrounding tissue, they may become more easily enucleated.

Bruns (*American Journal Medical Science*, May, 1895) quoted in Dr. Adami's article, says: "Results of treatment of sixty cases of goitre with thyroid: Cases of benign parenchymatous goitre were put under treatment without any selection. Cystic cases, and those of malignant disease, were excluded, as were also cases of exophthalmic goitre. Instead of raw thyroid, tabloids were used in the dose of two daily to adults, one to children. Unpleasant symptoms, such as palpitation of the heart, nausea, diarrhea, tremor, headache, etc., were treated by *temporary withdrawal of the remedy*. The duration of the treatment was from three to four weeks on the average. In young children, complete recovery was the rule. In older children, marked diminution in the size of the goitre was observed, with cessation of the symptoms. In adults recovery was rare, and less common in proportion to age. Complete return of the thyroid to the normal size is not to be expected later than the twentieth year. Mild relapses were seen only three times, and each case was rapidly relieved by renewal of treatment."

O. Angerer (*Munchener med. Woch.*, Jan. 28, 1896) says: "Of the 78 cases of goitre treated with raw sheep's gland, only 4 or 5 remained uninfluenced. A few showed such excessive reaction after its use that it had to be discontinued."

Other evidence could be given showing that thyroid-therapy in goitre, if carried out carefully and the effect watched, rarely causes complications. "It has a beneficial influence on the nervous system" (*Wratch*, No. 5, Feb., 1896).

There seems strong reason to believe that goitre, in the follicular and parenchymatous forms, should be treated either with iodine or thyroid-therapy, before the patient has reached the twentieth year. It may well be, that the untoward results observed by Drs. Jaumin and Gautier occurred in adult goitrous patients. In Graves' disease iodine and thyroid-feeding appear to be of no use; indeed, they are injurious unless myxedema should be a feature of the case. Tonics, more particularly iron and strychnine, are apparently the most applicable. With regard to the charge that thyroid-therapy is calculated to produce insanity in predisposed persons, the evidence of Dr. C. C. Easterbrook, of the Morningside Asylum, Edin-

burg, would go to establish the contrary proposition, *i.e.*, that it is curative in the worst forms of insanity. He administered thyroid extract in one hundred and thirty cases of insanity. All the patients (eighty-five females and forty-five males) were suffering from insanity, which at the time was stationary or chronic, or incurable. Of the one hundred and thirty patients so treated, twelve recovered, twenty-nine were improved, and eighty-nine were unimproved. Twelve recoveries out of one hundred and thirty cases is just over 9 per cent. If, however, obviously incurable cases were eliminated, the results gave 12 per cent. of recoveries for all cases of insanity which were intractable by ordinary means. The views of Drs. Jaunin and Gautier are certainly most interesting; but they conflict with the experience of competent practitioners who have obtained uniformly good results in goitre after the medicinal employment of iodine or thyroid-therapy. Dr. Easterbrook's experiments go to show that these agents, instead of being susceptible of causing insanity, are more likely to cure that disorder.

J. J. C.

MIGRATION OF THE POPULATION FROM THE COUNTRY TO THE CITY.

IN studying statistics of population in European countries, as given in reports of the last fifty years, and those of some countries on the North American continent, for the last decennial period, an increasing tendency is observable for the various populations of these countries to be hived together in cities, instead of living in the country. Instances of this change of condition may be culled from records of the United Kingdom, Germany, France, the United States and Canada. Thus in 1841, 31 cities in England having a population of 100,000 or over that number, had a united population of 4,500,000. Fifty years later, in 1901, their united population numbered 10,870,000. The population of 26 German cities, now having a population of 100,000, or over that number, in 1835 amounted to 1,400,000; in 1901 it had risen to 6,000,000. In 1836, eleven French cities of 100,000 population, had a united population of 1,700,000; in 1891 their united population had risen to 4,180,000. Taking the large cities of England, Germany and France, and adding together their populations for statistical purposes, we find that in 1840 they had a population of 4,800,000; in 1901 their united population amounted to 23,050,000.

In 1890, the urban population of the United States formed 29.9 per cent. of the whole; in 1900, the proportion was 33.9 per cent. In certain States of the North Atlantic division the tendency of the urban population to increase is very marked. Thus in Massachusetts, the urban population in 1890 was 69.9 per cent. of the whole; in 1900, it was 76 per cent. In New York State in 1890, it was 60 per cent. of the whole; in 1900, 68.5 per cent. In Pennsylvania, in 1890, it was 40.9 per cent. of the whole; in 1900, 45 per cent.

A census bulletin issued February 11th, 1902, gives the rural and urban population for the several provinces of the Dominion of Canada, as compared with that of 1891. The increases in the farming class are: Manitoba, 73,216; North-West Territories, 53,968; British Columbia, 26,880; unorganized territories, 11,440; Quebec, 3,847. The decreases are: Ontario, 48,133; Nova Scotia, 43,212; New Brunswick, 18,527; Prince Edward Island, 6,519. The net increase in rural population amounted to 52,924. The total gain in urban population was 483,503, making a total increase for the whole country of 536,427 souls, as compared with 1891.

We notice, in an article published in *La Presse Medicale*, Jan. 11, 1902, that a similar movement of the population towards the cities has been observed in France, and we shall here avail ourselves of the statistics given in that article. In 1846, the population of France was 35,400,486, of whom 26,753,743 were classed as rural, and 8,646,743 as urban; that is to say, 75 per cent. inhabited the country and 25 per cent. the cities. In 1866, France having annexed Nice and Savoy, had a total population of 38,067,664, of whom 26,471,726 were rural, and 11,595,938 urban; that is to say, about 70 per cent. inhabited the country and 30 per cent. the cities. After the loss of Alsace-Lorraine in 1870, the population of France fell to 36,102,321, of whom 24,868,022 were rural, and 11,234,899 urban; that is to say, 69 per cent. of the population resided in the country, and 31 per cent. in the cities. A quarter of a century later, in 1896, France had a total population of 38,517,975, of whom 61 per cent. were rural and 39 per cent. urban. In 1901 there was not much change; but an increase in the urban population was noticed, since, while there was a total increase of 444,613 inhabitants in France, the cities, during the same quinquennial period,

gained 458,576, the relative proportions being 60.27 per cent. rural and 39.73 per cent. urban. It thus appears that in fifty years the mode of existence of over a third of the population of France has been changed, an increasing percentage becoming urban.

Various reasons are offered to explain this very common movement of population, and the same reasons seem to apply in Canada and America, as well as in the older countries of Europe. The farm laborers have been led to seek work in the cities, on account of the great increase of manufacturing industries in the important centres of population. Besides, the multiplication of labor-saving devices, in the shape of improved agricultural implements has steadily lessened the demand for hand work on the farm, and obliged the laborer to leave his home in the country to seek for employment in the city.

The substitution of cattle and sheep raising on the farms, instead of crops of grain, vegetables and fruits, has also powerfully tended to lessen the demand for farm laborers.

It may be, also, that a system of general primary education has enlarged the horizon of the rustic mind, which is attracted by the facilities for social intercourse, the refinement of manners, and many other advantages enjoyed by those who live in the city. A monotonous life and the lack of amusement in the country may also serve to intensify the apparent advantages of city life.

Probably the influence of the railroad counts for much. A man hoeing turnips in a field notices the smoke of a locomotive sailing over the tree-tops; sees the train dash round a curve and whisk out of sight. He begins to think of the names of the cities that train is going to, cities to which he might go if he were so minded. One of them, most important of all to him, is the city where Parliament meets, where important gatherings of all kinds are held, where the universities and colleges are situated, where the great newspapers are published, where amusements are within easy reach, in fact a powerful magnet to draw him from the fields to the city. The moving train is the disturbing vision, which starts him longing, and then makes it easy for him to gratify his wish. In a subsequent paper, we shall consider some of the effects of the migration of population to the cities, more particularly with regard to the growth and development of tuberculosis.

J. J. C.

DR. RODDICK'S BILL.

DR. T. G. RODDICK, on the afternoon of March 13th, in the House of Commons, moved the second reading of his bill to establish a Dominion Medical Council. We are delighted to congratulate our friend the Doctor, who has worked so ardently for some years now in this direction, on the passing of the second reading, and earnestly trust when his bill comes up for final disposition that the Premier will not throw any cold water upon the scheme, but on the other hand assist in every way possible to have the bill made law, and thereby earn the gratitude of practically every physician in Canada. The scheme provides for a council of 39 members, nine from Ontario, Quebec 8, Nova Scotia 4, New Brunswick 3, Prince Edward Island 2, the North-West Territories 3, and 3 Homeopaths.

It is impossible to please everybody, and never was a measure put through by any Government that met with the approval of all. Dr. Roddick's bill has one or two objections, perhaps; but they are minor ones, and surely should be overlooked when its immense advantages are taken into consideration. We think, for instance, that clause 6, subsection *c*, should be amended in order to be perfectly fair to such a body as Trinity Medical College. It refers to the make-up of the proposed Dominion Licensing Board, and speaks of that body being composed of one member from each University of Canada engaged in the teaching of medicine. That should read, we think, "each University or Medical College."

Another kindly criticism we might make is that, as this bill gives the right to a licentiate of the Dominion Council to practise in any British possession, and in the Imperial service, provision should be made so that a graduate licensed in London, we shall say, should be considered qualified to practise not only in the Provinces of Great Britain, but in any of her Colonies as well.

Perhaps it will be possible for such alterations to be made before the bill comes up for the third time. Until recently, in our own Province, there has been a good deal of opposition to Dominion Registration, in case, by any means, the standard should become lowered. This, however, has been entirely overcome by paragraph 1, subsection 1, which expressly provides that no curriculum established by the new Council shall at any time be lower than the require-

ments for the most comprehensive curriculum then established for the like purpose in other Provinces.

By this bill, the whole Dominion will be thrown open to the graduate in medicine, who no longer will be subject to fine if he has the terrible audacity to cross the border and take charge of some intricate case, or still worse, have to submit to a second examination if he desires to change his residence. Then, again, what an advantage it will be to a graduate of the new Dominion Council to be able to take a position in the Imperial Service. We only wish the bill had become law ere the South African war broke out, and it would not have taken long for the Canadian graduate to show his mettle in the Field Hospital, and to prove that the standard of medical education in our Dominion is such that a Canadian Surgeon would not take a back seat with any man from St. Thomas', St. Bartholomew's or University College hospitals. The feeling in the past has been too patronizing altogether and "the man from the colonies" has been patted on the back somewhat and congratulated, if he knew anything of even minor surgery, alongside of his big brother from London, "by Jove." No, no, that will not do. We Colonials are younger, doubtless, but when it comes to the test we refuse to "go 'way back and sit down."

W. A. Y.

A PRESCRIPTION FOR OUR MILLIONAIRES.

OCCASIONALLY in this world one meets with what might be termed violent hospitality; but of late years the millionaires seem to be outdoing one another in overwhelming charitableness. The goodness of their hearts seems to overflow toward the building of hospitals. One strenuous instance recently, that is apt to impress itself upon the minds of physicians by its magnificence, and cause them to hope that Mr. Pierpont Morgan's example may not be followed by the rich men in other cities, was his gift of a palatial Lying-in-Hospital, erected in Second Avenue, New York City, at a cost of over \$1,350,000, and which was opened to the public a short time ago. Such an institution will attract not only the very poor, but because of its elegant equipment ("cornerless rooms, illuminated ceilings, roof gardens, and solarium"), those also who could well afford to pay a physician and nurse, and could with a certain degree of comfort remain in their own homes during their *accouchement*.

We fear such fine charitable institutions, given for lying-in hospitals, will only encourage beggars to beget beggars, pauperize those who don't care to pay honestly for medical and other attendance, and cover the enormity of their sins in a measure for those unfortunates who are beyond feeling shame, and if this lavish generosity spreads to the millionaires of other cities, and causes the further erection of free palace hospitals dedicated to the treatment of other forms of disease, how is the twentieth century physician to exist? He cannot finance upon "thank you" cases, and it looks as though he had better "fold his tent, like the Arab, and silently steal away." Moral—Let our millionaires divide their bequests between the hospitals at present in existence and our universities.

W. A. Y.

FOOLHARDINESS.

WE are all as tired as a New York messenger boy of the foolhardy notoriety-loving creature who goes over the Falls of Niagara in a barrel, dances the hornpipe or "bikes" across on a wire stretched over that terrible gorge. But all that sort of thing belongs to yesterday; the new spring style in foolhardiness is to go around refusing to be vaccinated and seeking the companionship of those afflicted with smallpox; at least, that is the Boston way. The cotillion there was led by a Dr. Pfeiffer, who begged to be allowed to visit and mingle with the patients in a Boston smallpox hospital. He refused vaccination, and declared boastfully that the disease was not contagious, and that he was sure he could personally prove his statement. He went to the pest-house and spent an hour in direct contact with the patients. Of course, according to the gay doctor's programme, no favors were to be distributed; but twenty-one days after he did his little turn, he received his reward in the shape of variola, and, poor man, will ever have cause to remember how he paid the piper.

W. A. Y.

EAT, DRINK AND BE MERRY.

IN a March number of *The Outlook*, "Spectator" dilates in a humorous way upon the dieting fad that is at present abroad in the land. In several paragraphs, among other things, he says: "Every-

body is dieting to-day—that is, everybody who can stand the expense. The modern motto of medicine appears to be, indeed, ‘as a man eateth so he is,’ and the doctor lays his mightiest stress on the daily dietary of the patient, and not upon his daily doses, as of old. The old woman who said feebly in former days, ‘Leave the pills on the chimney-piece, dochter, and I’ll take them when I feel a bit better!’ was wiser than her generation. The period of pills is passing, and diet dawns instead, in hopefully hygienic hues, upon a welcoming world. ‘I might as well run a sanitarium,’ complained one mother of a family the other day. We have five different sorts of health-food and three kinds of cocoa in the pantry and the cook is losing all patience with us.’ ‘Shure they’re gettin’ so that hot water’ll be too strong for them soon, and this is no place for a gurr! that can make eleven kinds of cake!’ was the *finale* of the afore-mentioned cook. If human needs in the breakfast line can be reduced to health-food and hot water, the Millennium dawns broadly.”

EDITORIAL NOTES.

Rectal Feeding.—After operations upon the stomach and intestinal tract, it is often hazardous to feed the patient by the mouth for some time, and rectal feeding becomes indispensable. In cases of incoercible vomiting rectal feeding will conserve the patient’s strength, until the stomach resumes its functions. It is generally recommended that the rectum should be emptied by a cleansing injection, before administering the nutritive enema. The patient is placed in a recumbent position lying on the side. The enema should be given at regular intervals through a rubber catheter, of large size, which should be introduced rather high up into the rectum. The amount of the enema should not exceed four or five ounces. The human organism requires for its sustenance albuminoids, fats, hydrocarbons and water, and we should endeavor when practising rectal feeding to give these substances in quantities approaching as near as possible to the average quantities of waste matters eliminated by the emunctories of the body. Several albuminoid substances, such as milk, white of egg, and meat-juice, are directly absorbed from the rectum. Milk and yolk of egg also supply fat. The hydrocarbons may be given in the form of glucose, which is absorbed without change. It should be given cautiously in the enema (not over 20 per cent.) owing to the danger of

causing diarrhea. The following formula for rectal feeding is proposed by Dr. Cesar Thomas, whose article appears in *Le Bulletin Medical de Quebec*:

Milk 150 grams.
Eggs 2.

Make an emulsion and add—

Glucose..... 35 grams.
Salt..... 1.50 gram.
Laudanum..... 1 to 3 dro.

for one injection. Four such injections to be given each day. As the organism loses a good deal of water, it will also be necessary to give a few injections of water containing some wine. Dr. Thomas says that these daily rectal enemata represent about 76 grams of albuminoids, 65 grams of fat, and 206 grams of hydrocarbons. The patient remains in bed and takes no food by the mouth, although to relieve thirst a small quantity of water may be allowed.

Fracture of the Forearm Caused by Running Automobiles.—

At a meeting of the Academy of Science, Paris, January 13th, 1902, Dr. H. Foret reported several cases of indirect fracture of the lower end of the radius in automobile scorches, caused by a tearing off of the end of the bone, through the action of the interior ligament of the wrist-joint. In one of these cases, the seat of fracture and the mechanism of fracture were different. It was a case of direct fracture of the radius, at the junction of the middle and lower thirds, caused by a blow from the handle-bar of an automobile on the outer surface of the patient's forearm; but his hand having been simultaneously placed in a position of forced extension, there occurred through the influence of the anterior ligament, a tearing off of the styloid epiphysis of the ulna. This patient, therefore, presented a direct fracture of the shaft of the radius and an indirect fracture of the lower epiphysis of the ulna. This double lesion had not caused a noticeable deformity of the forearm, as the injured shaft of the ulna acted as a splint for the radius.

The Administration of Chloroform to Patients who have Heart Lesions.—In a paper read before the Academy of Medicine, Paris, February 11th, 1902 (*Le Progres Medical*), Dr. Huchard reported over 300 cases, in which chloroform had been administered, without fatal results, to persons affected with heart lesions. He thought that the administration of chloroform to persons of this class was less dangerous than it was generally thought to be.

The chloroform should be given in a deliberate manner, in small, progressive doses, a method which enables the anesthetist to avoid laryngeal syncope and toxic syncope. Nitrite of amyl should be provided, as it is useful in cases of syncope. Anesthesia should be absolutely complete before the operation is begun. In case a death occurs under the influence of chloroform, the chloroform itself is blamed for the result or a latent heart disease. As a matter of fact, Dr. Huchard thought that chloroform is generally of good quality, and latent heart diseases are not contra-indications. He thought that it was the general condition of the patient which was the cause of death; thus, in a certain case death under chloroform resulted from an acute, infectious endocarditis, arising during the course of a gonorrhoea. The skill and attention of the anesthetist are also of the greatest importance.

Potatoes for Diabetic Patients.—In a paper read before the Therapeutical Society of Paris, February 12th, 1902 (*La Presse Medicale*), Dr. Mosse states that the potato is not only permissible to diabetics, but is a useful food and a medicine as well. If a diabetic patient takes from 1 to 1 1/2 kilograms of potatoes per diem on several consecutive days, he does not suffer so much from thirst, there is less glycosuria, and at the same time he has a feeling of improved health and recuperation of strength. The theoretical explanation of these results appears to be as follows: The potato is rich in potassium, which exists in it, combined with amylaceous and to a certain extent vitalized matter, so much so, indeed, that it is much more assimilable than when it is given in the form of salts of potassium, *e.g.*, citrate of potassium. The good effects of the potato cure are probably due to the absorption of potassium, which is a very useful alkali in diseases arising from a slowing of the processes of nutrition.

Apomorphine in Hysteria.—Dr. P. V. Faucher, in a paper read before the Quebec Medical Society, January, 1902, recommends the hypodermic use of apomorphine (gr. 1-15 to 1-10) in the treatment of hysteria. He said: "The prick of the hypodermic needle acts first on the patient's imagination, the vomiting comes to the rescue, and the ensuing nausea causes a complete sedation of the nervous system." And again, "Apomorphine, prudently administered, is a specific for an hysterical attack. By its use we are enabled to leave, in a few moments, to their own resources, patients who were wont to take up a good deal of our time, and who im-

perilled our medical reputation owing to the fact that we were quite unable to relieve them." Dr. Faucher also claims to have obtained good results from apomorphine, in the treatment of epilepsy and hystero-epilepsy. Not that he uses it as a specific for the cure of these diseases, but simply as a means of controlling attacks, which often cause practitioners a good deal of delay and annoyance.

Electrical Treatment of Sprains.—Drs. Charrier and Planet report favorably in *La Presse Medicale*, January 5th, on the treatment of acute and chronic sprains by the Faradic current. The negative pole is applied to the painful part during a sitting lasting five or ten minutes. Applications are made once or twice a day until the cure is complete. The principal result of this treatment is the immediate and almost entire relief of pain. Thanks to this analgesia, the patient recovers freedom of movement in the injured part. However, the disappearance of pain and its effects varies in duration and, as the pain returns, daily treatments are necessary. Absorption of the exudate about the injured joint also results from the electrical treatment. In the opinions of the authors, recent sprains are promptly relieved, and older ones receive more relief from the electrical treatment than from any other therapeutic measures.

Gelatin in Food Modifies the Plasticity of the Blood.—According to the views of Drs. M. Lafont and A. Lombard, published in a note in *La Presse Medicale*, by Dr. Labbe, diabetes, albuminuria, and hemophilia are always traceable to a common origin, viz., a variation in the cryoscopic properties of the blood. Even when an hepatic, a renal, or a capillary lesion is established anatomically, it may be remedied by raising the plasticity of the blood to the normal condition. To accomplish this object the authors use gelatine, and cause their patients to take a daily dose of 15 grams of gelatine dissolved in water.

Something for the Nose Specialists to Think Over.—Is it true that rheumatic attacks follow closely after cauterization of the nasal cavities for disease? Dr. Gallois, Paris, says he has seen rheumatic attacks appear three consecutive times in the same individual after operations on the nasal cavities. He thinks that as a rhino-pharyngeal catarrh favors the development of microbes, the asepsis of the nasal cavities of a patient should be secured by the use of lotions and sprays, before a cutting or a cauterizing operation is attempted.

Correspondence.

The Editor cannot hold himself responsible for any views expressed in this Department.

AN EXPLANATION.

To the Editor of THE CANADIAN JOURNAL OF MEDICINE AND SURGERY.

DEAR SIR,—An explanation is due the medical profession regarding the articles published in the Toronto papers concerning the Ramage process for the treatment of consumption, etc.

The Ramage Company requested our permission to permit the reporters to see the machines, and asked us to demonstrate the process. No one regretted more than we did, on seeing the articles as published the following morning, as we instructed the reporters merely to refer to the process, desiring that nothing unprofessional should appear; but in their enthusiasm they entirely overlooked our instructions.

We may here just state that there is no secret remedy whatever used in the process. Yours truly,

JAMES H. COTTON.
HOLFORD WALKER.

PERSONALS

DR. J. W. S. McCULLOUGH, of Alliston, has been appointed Coroner.

DR. H. B. ANDERSON left for New York two weeks ago, and expects to be away till May 1st.

DR. HOOD, of Spadina Avenue, with Mrs. Hood, leave on *SS. Commonwealth* for London this month, and will be absent for three or four months.

DR. D. J. GIBB WISLART spent the first week of March in New York attending the meeting of the Eastern Section of the American Laryngological, Rhinological and Otological Society, and visiting the hospitals there and in Philadelphia.

Obituary

DEATH OF DR. W. S. MUIR, TRURO, N.S.

WE are safe in saying that, for years past, death has removed no more popular or more lovable member of our profession than in the person of Dr. W. S. Muir, of Truro, N.S., last month. Dr. Muir died from appendicitis after but three days' illness, and just like the noble chap that he always was, he died with a kindly word for everyone on his lips. He had been complaining for just a day or two, and, if he had not been forced to give in, he would have been found in harness when the call came. Drs. D. H. Muir, Kent and Yorston operated upon him, and everything went well till towards the last, but our good friend never rallied.

He was born in Truro in 1853. He was a son of the late Samuel Allan Muir, M.D., L.R.C.P., who was born at Cookstown, Ireland, and lived subsequently at West River, Pictou Co., and from 1843 till the time of his death in Truro. His mother was formerly Miss Esther Crowe, of Onslow. She died in 1875.

He was educated at the old Model School under Principal Calkin, and the Normal School under the lamented Dr. Forrester. He studied medicine with his father, and at the Halifax Medical School of Dalhousie University, where he graduated in 1874. He then filled the position of House Surgeon in the Provincial and City Hospital, Halifax, now the Victoria General Hospital. Shortly afterwards he proceeded to Edinburgh, where he spent some time in study, and took the L.R.C.P. & S. of the Edinburgh College, in 1877. He also took a post-graduate course in Edinburgh in 1879, and another in London in 1891.

Ever since he commenced the practice of his profession in Truro, he has been eminently successful. From time to time he visited the chief centres of medical education in Britain and America, and took a keen interest in the advancement of the medical science.

He was a most active member of the Nova Scotia Medical Society. He was elected to the position of Secretary-Treasurer in 1887, and was annually re-elected to that office. It is not too much to say that the present flourishing condition of that Society is chiefly due to his untiring efforts on its behalf. He was Secretary of the Colchester Medical Society on its formation in 1883, and continued until its reorganization in 1889, when he was elected President.

In 1901 he was President of the Maritime Medical Association at its meeting in Halifax, and he also held office in the Canadian Medical Association, at whose meetings he was a frequent attendant. He held the position of examiner in *Materia Medica* and *Therapeutics* in both Dalhousie and King's Colleges, and was also an examiner for the Provincial Board. He was a Fellow of the New York Medical Society.

As a citizen, our deceased friend was an all-round man in every movement that was for the good of his town. He has long been associated with the work of the Society for the Prevention of Cruelty. When it was reorganized in Truro a few weeks ago, he was appointed Vice-President. After the death of the President, Mr. Longworth, Dr Will was asked to take that position by the unanimous request of all the members. His noble and sympathetic speech on that occasion will long be remembered by those who heard it. He particularly urged that it was the duty of those who were left to take the place of the toilers who fell by the way—and now, before he has had his first meeting of this Society, which he had called for Monday, March 17th, he, too, has given up life's work, and rests from his labors.

He has been indefatigable in his work for the amelioration of human suffering by working heartily for the establishment and continuance of a branch of the Victorian Order of Nurses.

Dr. Will Muir was a great promoter of all manly athletic sports, and the T.A.A.C. of Truro has lost a life member, and one of its most able advocates.

The firemen of Truro have lost a great friend in the removal of Dr. Muir. He was heart and hand with them in everything that tended to their best interest. He was their surgeon, and long will his genial ways be missed from their social gatherings.

In politics he was a staunch Liberal-Conservative, but he did not know what it was to be an offensive partisan.

He was a consistent churchman, and for years had been a member of St. John's Church choir. His undoubted liberality to his church and all its schemes were known only to those who are intimately associated with that communion; and his generosity to the poor and distressed was proverbial. The deceased leaves, in his immediate family, a widow, formerly Miss Catharine J., daughter of the late Walter Lawson, Esq., C.E., and a son, Walter, now a student at King's College, who is to follow his father's profession, entering McGill next year.

His brothers are, Dr. D. H. Muir, of Truro, and John A., late Superintendent of the Western Division of the Southern Pacific Railway, now general manager of the Electric Railway of Los Angeles, California, and two sisters, Mrs. Jamieson, of California, and Mrs. Carl von Pustau, of New York, also survive.

Items of Interest.

Austrian Balneological Congress.—The third congress of the Austrian Balneological Society will be held in Vienna March 20th to 23rd.

The Intercolonial Medical Congress of Australasia was held at Hobart, Tasmania, on February 17-22, under the presidency of Dr. Gamaliel Henry Butler, of Hobart.

Promotion of Dr. Bouffleur.—Dr. A. I. Bouffleur, of Chicago, who has been identified prominently with the medical and surgical department of the Chicago, Milwaukee and St. Paul Railroad, has been promoted to the position of chief surgeon.

Attention, Physicians.—We desire to correspond with physicians who desire good locations for the practice of medicine in the United States. Full information of excellent locations given free.—INDEPENDENT BUSINESS BUREAU, Waterloo, Iowa.

Increase of Medical Corps of U. S. Navy.—Recommendation has been made by Surgeon-General Rixey, of the U. S. Navy, that the Medical Corps of the Navy be increased by forty medical officers, this increase to be made by the addition of fifteen surgeons and twenty-five assistant surgeons.

Pasteur Institute, Budapest.—During 1901 the Pasteur Institute at Budapest treated 2,490 patients. Ninety-one per cent. of these were bitten by mad dogs, 6 per cent. by mad cats, and the rest by other animals. The average length of treatment was 18 days. Of the total number treated, 28 per cent. only contracted hydrophobia.

The First Lady Doctor in Germany.—Hildegarde von Becklesheim, also called Hildegarde von Bingen, abbess of the cloister on the Ruprechtsberg at Bingen, who lived from 1098 until 1170, is said to have been the first lady physician, who not only practised medicine, but wrote her experiences and her teaching in works which are still extant.—*Philadelphia Medical Journal*.

Doctor Wanted at Once.—We have been written and asked to secure a medical man for Castleton, Ont. It seems that there is at present no doctor there, and one is badly needed. Castleton is a prosperous village, and a live, up-to-date practitioner would probably do well from the first day. A married man would be preferred. For further particulars write Mrs. N. P. Watt, Castleton, Ont.

Congress on Internal Medicine.—The Twentieth Congress on Internal Medicine will be held April 15th to 18th, at Weisbaden, under the direction of Professor Naunyn, of Strassburg.

Dr. Harbottle's Sentence.—The Government has refused to interfere with the sentence of Dr. Harbottle, of Burford, who is now in the Central Prison for shooting Hermer Stewart.

Fifty Years a Physician.—The physicians of Winnebago County, Ill., banqueted, on February 23rd, Dr. Clinton Helm, in celebration of the fiftieth anniversary of his graduation in medicine.

The New Relief Station of the Boston City Hospital was opened for the reception of patients at 9 o'clock on February 20th. A patient was suitably cared for within fifteen minutes of the time of the opening.

Revaccination.—During the past year not a single case of smallpox has occurred among the staff of the London smallpox hospitals, indicating that careful revaccination is an absolute safeguard against that disease.

Skiagrapher to the Cook County (Ill.) Hospital.—The value and importance of X-ray work has been officially recognized by the authorities of the Cook County (Ill.) Hospital by the appointment of Dr. H. J. Heiselden as attending skiagrapher to the institution.—*N. Y. Med. Jour.*

Dr. Leidy, of Philadelphia, Honored.—Dr. James Leidy, jun., has been honored by the French Government with the insignia of *Officier d'Instruction Publique*, for services rendered during the exposition of 1900, where he represented the United States on the International Jury of Hygiene.

The Royal Commission on Tuberculosis.—It is understood that the English Royal Commission on Tuberculosis has been tendered the use of two farms situated at Stanstead, Essex County, belonging to Sir James Blyth, for carrying out their experimental work on the prevention and cure of tuberculosis.

The American Medical Association.—The demand for space by exhibitors at the meeting of the American Medical Association, to be held at Saratoga Springs in June, has been so great that a special annex to the Hathorn Spring building is being erected to provide the additional space required.—*N. Y. Med. Jour.*

Dr. Enno Sander Dined.—A banquet was given Dr. Enno Sander, of St. Louis, on the occasion of his eightieth birthday, February 26th. The St. Louis College of Pharmacy conferred the degree of Professor emeritus of materia medica and botany upon the doctor. He was also elected an honorary member of the alumni association of the institution.

Cremation in a Dissecting Room.—A blaze in the dissecting room of the West Penn Medical College, Pittsburg, February 23rd, caused damage to the extent of \$1,500.

Dr. David Robèrge, of Montreal, died, aged 32, from pneumonia. He was a graduate of Laval University, and for some time after graduation served as house surgeon at the Notre Dame Hospital.

International Medical Press Association.—The reunion of the official delegates to the International Medical Press Association will be held on April 7th at Monte Carlo, under the auspices of the Prince of Monaco.

Immense Sums for Harvard.—Harvard University Medical School needs \$4,950,000 to carry out the plans projected. All but \$294,000 has been contributed, and the trustees still have four months in which to secure the balance. One gentleman from New York has contributed \$100,000, and the faculty has subscribed \$75,000.

Down with the Quacks.—Committees from the Wayne County Medical Society, the Detroit Medical Society, and the Homoeopathic Practitioners' Society met March 3 to plan a crusade against the quacks of Detroit, who number about forty. Dr. B. D. Harrison, Secretary of the State Board of Registration, will co-operate with the joint committees in the work.

A High Honor awarded to One fully deserving of it.—Dr. Gelineau, originator of Gelineau's Dragees and Syrup Gelineau, for the treatment of epilepsy and nervous diseases (remedies which have a large sale in France, and are being adopted in Canada by the profession), was awarded by the French Academy of Medicine on November 26th last an Honorable Mention and a prize of 300 francs for his treatise upon the subject of Epilepsy.

St. Louis Exposition.—The surgical department of the Army, which has a most extensive museum in Washington, will send to the military exhibit everything that would be appropriate for the establishment of a field hospital in a camp, composed of U. S. Regulars. In this hospital the most perfect and rigid sanitary measures will be enforced as an object lesson against the accidents in the volunteer camps during the Spanish-American War.—*Philadelphia Medical Journal.*

New University Statute.—The Senate of Toronto University passed a statute two weeks ago, under the terms of which it will be possible, hereafter, for a candidate to secure the degree of Bachelor of Arts at the end of his fourth year, and the degree of Bachelor of Medicine at the end of his sixth year. It is proposed to introduce anatomy as an option in the third and fourth years, and in this way to enable a student at the end of the fourth year in art to proceed directly to the third year in Medicine.

A New Medical Journal.—The *Mobile Medical and Surgical Journal* is the most recent addition to medical journalism. It is to be edited by Dr. E. L. Maréchal, and published monthly. The number contains sixty-four octavo pages of good reading matter. We wish the publication success.

A Total Abstinence Hospital.—The articles of incorporation of New York Red Cross Hospital, approved recently by the State Board of Charities, contains the following sentence: "Alcohol, as alcohol, or in any of its forms, shall never be used in the said hospital for internal medication or as a beverage."

Quebec College of Physicians and Surgeons.—The following physicians were recently elected to represent the different universities of the Province of Quebec on the College of Physicians and Surgeons of the Province: University of McGill, Drs. Craik and Lafleur; Laval University, Quebec, Drs. Simard and Catellier; Laval University, Montreal, Drs. E. P. Lachapelle and Demers; University of Bishop's College, Montreal, Drs. F. W. Campbell and J. H. McConnell.

Congress of French Doctors.—At a representative gathering of the French Canadian physicians of the Province of Quebec, held in Montreal, it was unanimously decided to hold a congress of the French doctors of America at Quebec during the month of June. The congress will be held in conjunction with the celebration of the golden jubilee of the Laval University of Quebec, and it is proposed to make it the largest and most comprehensive of its kind yet held in this Province.

The Montreal Medico-Chirurgical Society is entering upon a new era of prosperity. During the past year fine new commodious quarters have been secured in the West End Branch of the Bank of Montreal. They comprise a large meeting hall, nicely and comfortably furnished, and capable of seating 125 persons. Adjoining is a coat-room and reading-room, with a stock-room for the accommodation of the library and a committee-room. In the reading-room all the important medical journals are kept on file.

Dr. Jessop's Bill.—The special committee of the Legislature appointed to deal with Dr. Jessop's bill to change the composition of the Ontario Medical Council, brought its work to a close on March 13th, after numerous stormy sessions. The result is that the bill is withdrawn. The Medical Council has been requested by the Government to submit a referendum to the profession on the general question of whether there is dissatisfaction with the present composition of the board. It is understood that the referendum will take place along with the elections of the councillors next fall, and in order that a fair vote may be obtained the disqualification will be removed from some 300 doctors who have been refusing to pay their council fees.

Dr. James McLaren Dead.—A veteran medical practitioner passed away on March 7th, at Deer Park, in the person of James McLaren, B.A., M.D. Deceased was born in Nelson Township in 1824, where he received his common school education. He then went to Queen's College, Kingston, where he graduated with honors about 1850, and afterwards studied medicine under Dr. Rolph in the old Toronto School of Medicine, whence he took his degree of M.D. For several years he had lived with his wife, who survives him, at the residence of Mr. McCully, Deer Park. Interment took place at Nelson.

New Woman's Hospital.—At a meeting of the Alumnae of the Woman's Medical School of the Northwestern University, held at the Sherman House, February 27th, it was decided to establish a hospital to perpetuate the memory of the school that has been sold by the Northwestern University. The new hospital will be entirely under the management of women physicians. All the different branches of medicine, including surgery, will be practised. Alumnae of the school which has been sold will act as its physicians. No man can enter this hospital except as guest, janitor or patient. There will be an advisory board composed of women, also.

Honors for a Canadian Physician.—Dr. Harry J. Watson, a graduate of Trinity Medical College of this city, has been appointed chief of the Medical Department of the largest Brigade Hospital in the Philippines. The U. S. Army has over 475 doctors on the active service list in these islands, and it can, therefore, be considered a high honor that has been deservedly won by Dr. Watson. His superior officers have recommended him for a "majority" for distinguished service in the presence of the enemy. We have no doubt but that the graduates of "Old Trinity," Class 1896, will be pleased to see that the doctor is maintaining the traditions of his *Alma Mater*.

The Scope of Carnegie's Gift.—President Gilman, of the Carnegie Institute, states that no part of the \$10,000,000, or the income therefrom, donated by Mr. Carnegie, is to be used in the erection of buildings or the acquirement of real estate. The Carnegie Institution is merely to exist in Washington in offices. There will be no corps of instructors and no college buildings. If a scientist at Yale, Harvard, Princeton, or any other university reaches a point where he is unable to continue for lack of funds, the money necessary to complete his work will be supplied. Washington will be merely the headquarters of the institution, where the board of trustees and officials hold their meetings.—*Phila. Med. Journal*.

Promotion for Dr. William Nattress.—Lieutenant-Colonel William Nattress received his promotion from the rank of Surgeon-Major three weeks ago, and is heartily congratulated on all sides. Some years ago Dr. Nattress succeeded the late Dr. Strange

in his post as military surgeon at Stanley Barracks. Four years ago he went to England and took an important course at Netley and Aldershot. Colonel Nattress is fortunately in his old form again, after some time of illness from catarrh, and is residing "among the pines" at one of the old Denison homesteads, Rusholme, which lies far from the bayside, and on high ground. His advancement is a just recognition of his talents and his hard study and work in his profession, and as such is doubly valuable and gratifying.

Canadian Medical Association.—The annual meeting of the Canadian Medical Association will be held in Montreal on the 16th, 17th and 18th days of September, 1902. The President is Dr. Francis J. Shepherd, 152 Mansfield Street, Montreal; the Local Secretary, Dr. C. F. Martin, 33 Durocher Street, Montreal, and the General Secretary, Dr. George Elliott, 129 John Street, Toronto. Dr. William Osler, Professor of Medicine in Johns Hopkins University, will deliver the Address in Medicine, and Dr. John Stewart, Halifax, Nova Scotia, the Address in Surgery. Arrangements are already well in hand for a very large meeting.

Distribution of Firm's Stock.—The firm of Parke, Davis & Co., manufacturing pharmacists of Detroit, has adopted the policy of other large corporations of encouraging its employees to become shareholders. This company proposes to issue 4,000 shares of its capital stock, and permit the oldest among its employees, especially those in important positions, as managers, superintendents and foremen, to purchase this new stock at \$55 a share. The present market value of the stock is \$70 a share, and face value \$25 a share. The company announces that it is not taking this action for philanthropic reasons, but because it considers it good business judgment to have its men in important positions interested in the profits of the business.—*Medical News.*

Dr. von Bergmann Honored.—Dr. Von Bergmann, professor of surgery at the University of Berlin and director of the university surgical clinic, has been invested with the rank of real privy councillor. This dignity, which is the highest of its class in Germany, carries with it the title of excellency and is, as a rule, conferred only on great officers of State, and persons occupying important positions at court, very few medical men having been thus honored. Professor von Langenbeck, who preceded Professor von Bergmann in the chair of surgery in Berlin University, was invested with this rank, but not until he had reached an advanced stage of his career, although in addition to his scientific eminence he had distinguished himself in two great wars. Professor Es-march, of Kiel, has also been Wirklicker Geheimer Rath, though

his social connections are of such a character as to render this fact somewhat less of a compliment to his ability than in the case of Professor von Bergmann. He and von Bergmann are the only two physicians now bearing the title.—*N. Y. Medical Journal.*

The Medical (Extensions) Act of the English Parliament as it Affects Canadian Surgeons.—The bill to amend the Medical Act of 1858 has been reintroduced into the British House of Commons by General Laurie, a member thereof, who was some years ago a member of the Canadian House of Commons from Nova Scotia. It has been suggested to General Laurie by the fact that the War Office has refused to allow colonially trained surgeons from Canada to attend professionally on other than Canadian troops on active service in South Africa, holding that it was contrary to the Medical Act of 1858. Leading surgeons of Canada, at the opening of the war, volunteered for service, but had to be refused, and on this account General Laurie seeks to remove these disabilities.

Antitoxin Investigation Aftermath.—The logical results of the antitoxin investigation in St. Louis are now taking place. The city authorities have placed the responsibility upon Dr. Ravold, and his resignation followed immediately. There is no question of Dr. Ravold's ability as a bacteriologist, and it was unfortunate, to say the least, that the conditions in the city laboratory made such errors possible. The city should never have undertaken to make antitoxin without a thorough equipment. The bacteriologist was not an independent officer of the Board of Health, but was rated simply as an employee. Now it is proposed to establish the office of "City Bacteriologist," to which the appointee shall give his whole time. Following the conclusion of the investigating committee's work, suits for damages against the city are being instituted by the relatives of the dead children. One suit for \$20,000 is now pending.—*Jour. A. M. A.*

Death of Dr. Jackes.—Dr. George W. Jackes, of Eglinton, died very suddenly on the 7th ultimo, the cause of death being a stroke of apoplexy. He had not been in good health for some months. As late as 10.30 on the morning of his death he was seen on Yonge Street, when he was on his way home, and was stricken just as he arrived there. Deceased was fifty-one years old, and was one of the best known physicians in the suburban districts. He was a member of the Methodist Church. He was a son of the late Franklin Jackes, of Eglinton, and had practised in Eglinton for over twenty-five years. He married a daughter of Capt. Snider, of Eglinton, and two sons, Ernest, of Winnipeg, and Bertram, of Toronto, survive him. James A. Jackes, of Ipswich, Australia, Price Jackes, Chemist, and Charles Jackes, of Jackes & Jackes, Toronto, are brothers, and Mrs. John Laidlaw and Mrs. James Brown, Niagara, are sisters of deceased.

New Method of Taking the Oath.—In pursuance of the recommendation made in the editorial on pages 182 and 183 of our March (1902) issue, the Attorney-General of this Province, at the session just closed, introduced a clause into the statute dealing with this matter, whereby any one in Ontario, compelled to take an oath, may do so if he wishes, after the Scotch fashion of uplifting the hand and repeating the following words: "I swear by Almighty God, as I shall answer to God at the Great Day of judgment, that I shall tell the whole truth, and nothing but the truth, so far as I know it, and the same shall be asked of me." Mr. Gibson's attention has been called, apart from comments such as ours, to the remarks of judges on the unsanitary nature of the practice of kissing the book, avoided by some people by kissing their thumbs. We highly approve of the Attorney-General's action herein.

A Female Physician at Toronto General Hospital.—A female physician is to be appointed to the staff of the Toronto General Hospital. This announcement was made at a meeting of the Woman's College Hospital Executive, held on the 13th ultimo. A communication from the General Hospital Board was read, stating that a woman would be appointed to the staff each year as a house surgeon, and asking that the names of suitable candidates be forwarded after the spring examinations. Two women physicians will also be appointed as registrars. The first appointment of a woman physician on the local hospital staffs was made by the Western Hospital, two or three years ago. The Committee was instructed to interview the Boards of St. Michael's Hospital and the Hospital for Sick Children with reference to the appointment of women surgeons on their staffs.

Victory for the Vapo-Cresolene Co.—The Vapo-Cresolene Company were plaintiffs in an action in the Non-Jury Assizes recently, in which they sought an injunction to prevent Jones & Company, of Toronto, from offering for sale their Carbo-Cres Vaporizer, put up in such a form as to lead people to believe that it was the same as that offered by the Vapo-Cresolene Company, protected by patents. Judge Street ordered that a perpetual injunction restraining Jones & Company from continuing to offer for sale the lamp and censer in question in such a manner as to lead purchasers to suppose that they were those sold by the Vapo-Cresolene Company, and particularly restraining them from putting up the goods in packages of a nature to lead the public into error as to the origin of the goods. Jones & Company were also ordered to pay plaintiff's costs, and if demanded by plaintiff to submit to an examination by the Master in Chancery of the profits made by them upon the sale of these articles, in order that it might be determined what they ought to be adjudged to pay over to the plaintiff. We congratulate the Vapo-Cresolene Co. upon their well-deserved victory.

Decision of the Supreme Court Regarding Healers.—The Supreme Court of Illinois has decided that magnetic healers and osteopaths must have a license to practise, in the case of the People *versus* George P. Gordon, an advertising healer of Rockford. It is said that Gordon was charged with practising medicine without a license, and that after the trial the Circuit Court directed the jury to find for the defendant. The Supreme Court reversed and remanded the case. The following is the text of the finding of the Court: "We all agree that the object of this (the statute) is to protect the sick and suffering and the community at large against the ignorant and unlearned, who hold themselves possessed of peculiar skill in the treatment of disease, and to prevent them from holding themselves out to the world as physicians and surgeons without having acquired any knowledge whatever of the human system or of the disease and ailments to which it is subject. Without some knowledge of the location and offices of the various nerves, muscles and points, the manipulation of those parts, and the flexing of the limbs cannot be intelligently, if indeed safely, practised. Merely giving massage treatment or bathing a patient is different from advertising one's business or calling to be that of a doctor or physician, and, as such, to administer osteopathic treatment. The one probably falls within the profession of a trained nurse, while the other does not."—*Medical News*.

The New York State Amended Vaccination Act.—This Act has been read twice and committed to the Committee on Public Health. Its provisions contemplate far more stringent regulations with regard to the enforcement of vaccination than are at present in force. The vaccination of school children is strongly insisted upon. The Board of Health of each city or town is required to furnish the means of free vaccination or revaccination to all the inhabitants thereof, and can enforce the fulfilment of this measure, whenever in the opinion of said Board the public health and safety demands such action. The local boards of health are invested with the power to quarantine for fourteen days any person who refuses to be vaccinated. Principals of schools, colleges or universities, superintendents of almshouses, State reform schools, industrial schools, hospitals and the like, commanding officers of the National Guard, proprietors or managers of manufacturing or of business houses, heads of police or fire department of any city, or public and municipal officers of any kind, are required to take care that no person shall remain under their charge or in their employ who shall not have been successfully vaccinated within a period of five years, except upon presentation of a certificate, signed by a registered physician, stating that he has twice vaccinated said person without success, and that there exists vacinal insusceptibility.

Tuberculosis in Havana.—The Health Officer of Havana, Major W. C. Gorgas, Surgeon U. S. Army, has recently given much attention to the prevention of the spread of tuberculosis in that city. A sanitary census taken of the city shows the existence of 1,187 cases of tuberculosis, and these have been urged to apply to dispensaries as out-patients for relief, sleep with bedroom windows open, avoid confining occupations, and take proper precautions relative to the disposal of the sputa. Special attention has been given to the cigar manufactories in this respect, particularly since tubercle bacilli were found in cigars which had been made by a consumptive. To this end, cigar workers are required to moisten the tips of cigars, in finishing them, with sponges, instead of with the lips, as was formerly done, and work benches are placed so as to face the same way instead of toward each other. The public reader, a peculiar institution common to all Cuban cigar factories, who is hired to read newspapers, novels, etc., to the hands while at work, will in the future be required to devote a portion of his time to reading matter relating to elementary hygiene and the prevention of disease. The work is essentially educational and persuasive rather than coercive, and is meeting with hearty support from the Cubans.—*Medical Record.*

Cancer Investigation by German Government.—The budget committee of the Reichstag, at Berlin, on March 4th, heard a government representative on the subject of cancer investigation. Various physicians had submitted statistics of 12,000 cases. These seemed to demonstrate positively that cancer is not hereditary. On the other hand, the disease is doubtless contagious. There are certain districts where there is constantly recurrent contagion. The disease is never traceable through plants, but can very often be traced through animals, especially dogs and cats, which are frequent sufferers from the disease. Horses and cattle seldom suffer from it. The Government will now establish a cancer research branch in Berlin, devoting two departments of the Charity Hospital to the treatment of patients. In addition to this, 150,000 marks annually for three years are guaranteed from private sources for the Cancer Institute at Frankfort-on-the-Main, under Prof. Ehrlich, whose studies and experiments, the Government hopes, will result ultimately in the discovery of a certain cure. The committee voted the credit the Government asked to promote investigation. An article by Dr. Mutzdorf has been published, and has attracted much attention. It shows a large increase in cancer since 1892. Statistics do not support the idea that persons of advanced age are chiefly afflicted. They show that the disease attacks its victims earlier than formerly. Dr. Mutzdorf adds that, although women are still more liable than men to contract the disease, the relative immunity of the latter is decreasing.

The Physician's Library.

BOOK REVIEWS.

Manual of Venereal and Sexual Diseases. By WM. A. HACKETT, M.B., P.H.G., M.C.P.S. (Ont.), Professor of Dermatology and Venereal Diseases, Michigan College of Medicine and Surgery; Attending Physician to the Emergency Hospital, Detroit; Member of Wayne County Medical Society, Detroit Medical Society, etc.; and N. E. ARONSTAM, M.D., P.H.G., Assistant in Chemistry and Clinical Dermatology, Michigan College of Medicine and Surgery; Attending Physician to the Emergency Hospital, Detroit; Member of Wayne County Medical Society, Detroit Medical Society, Medico-Legal Society (New York), etc. 1901. Chicago: G. P. Engelhard & Company.

This work is made up of four parts. There are 208 pages, including Index, Table of Contents, and a few illustrations of instruments. The first part is devoted to Gonorrhoea, acute and chronic, with complications. Part II., Chancroid and its complications. Part III., Syphilis. Part IV., Sexual Diseases.

Chapter III., Part I., will be found of especial interest to the doctor who wishes to explain away the urethral discharge of his patient in a more scientific manner than the time-honored water closet. It deals with the subject under the headings of Specific, Due to Neisser's Diplococcus, and the Non-Specific, Due to other Micro-organisms, such as the trichomaines vaginalis, tubercular infection, uric acid diathesis, etc. On page 53 the statement is made that many men contract typical gonorrhoea from women either during or immediately after the menstrual epoch, the women being free from gonorrhoea. These cases are usually severe in character. It is possible for a man to contract gonorrhoea from the secretions of the uterus, a lacerated cervix and perineum, and vulvo-vaginal secretions due to uncleanness." This makes it absolutely necessary for us to find the gonococcus in every case where there is a possible doubt before we pronounce it a pure gonorrhoea. Part IV., consisting of some 50 pages, is devoted to sexual diseases, and will be found instructive to those who wish information on this much neglected and unsavory subject. Altogether, we consider this a very practical and up-to-date work. Price, \$1.00.

W. J. W.

The Medical Annual: A Year-Book of Treatment and Practitioners' Index. 1902. Twentieth year. Bristol: John Wright & Co., Stone Bridge. London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd. Edinburgh: Young J. Pentland. Glasgow: A. Stenhouse. New York: E. B. Treat & Co. Calcutta: Thacker, Spink & Co. Paris: Boyveau & Chevillet. Melbourne, Sydney, Adelaide and Brisbane: G. Robertson & Co. Sydney: Angus & Robertson. Toronto: J. A. Carveth & Co.

We notice among the contributors to "The Medical Annual" for 1902 the names of such men as Herbert W. Allingham, Jas. Cantlie, E. H. Fenwick, Richard Barwell, Prof. Loomis, Wm. Murrell, Jos. McFarland, Jos. Priestley, Boardman Reed, and Norman Walker. It can therefore be readily seen that the material in the twentieth edition of "The Medical Annual" is the very best procurable. When we glance over "The Medical Annual" as published even ten years ago, there is a very big difference in the size of the work then to what it has now assumed. It now covers well on to 1,000 pages, each page bristling with good, practical material. "The Medical Annual" is certainly looked upon as being one of the greatest helps to the general practitioner, so that it is little wonder that the demand for it has increased from year to year. "The Annual" for 1902 is no exception to the rule, but if anything, is better than ever.

Hand-Book of Bacteriological Diagnosis, for Practitioners: Including Instructions for the Clinical Examination of the Blood. By W. D'ESTE EMERY, B.Sc. (Lond.), Lecturer on Pathology and Bacteriology in the University of Birmingham. London: H. K. Lewis, 136 Gower Street. W.C. 1902.

A sure sign of advancing times is the publishing of such works as this. A few years ago the general practitioner knew very little of the value of bacteriology as an aid to diagnosis, much less did he ever attempt any investigations along this line himself, but now-a-days nearly every general practitioner carries on a certain amount of bacteriological research for diagnostic purposes. We have here a neat little handbook devoted especially to the general practitioner, on bacteriological diagnosis.

It is essentially practical, only dealing with the more simple methods, which are easily obtainable, requiring a very moderate amount of technical skill. It points out firstly *when* a diagnosis can be made, and then gives a clear and full description of the methods employed.

We notice a number of repetitions, thus avoiding a continual reference to other chapters. In the majority of cases each section is complete in itself. Following the instructions is the interpretation of the results which may be obtained; this often opens the

eyes of the investigator to the reason why he often does not get the results he expected from his examination.

An important section is the one dealing with the manner of sending specimens, and what to send to the public laboratory in those instances where the general practitioner thinks it advisable for the specialist to do the work. We so often get incorrect reports due to our want of knowledge in this respect. The Hand-Book contains two very good plates of the commoner bacteria, also many excellent illustrations.

The subject is divided into three parts :

Part 1. The Apparatus and Processes.

Part 2. Diagnosis of Certain Diseases.

Part 3. Collection and Examination of Certain Morbid Materials.

The reliable and world-famed publisher, H. K. Lewis, Gower Street, London, has kept this book well up to his usual high standard of excellence. We recommend the general practitioner who intends to do any bacteriological work to invest.

W. H. P.

Hughes and Keith: A Manual of Practical Anatomy. By the late PROF. ALFRED W. HUGHES, M.B., M.C. (Edin.), etc., Professor of Anatomy, King's College, London; Examiner in Anatomy, Royal College of Surgeons, England, etc. Edited and completed by ARTHUR KEITH, M.D. (Aber.), F.R.C.S. (Eng.), Lecturer on Anatomy, London Hospital Medical College, etc. In three parts. Part I.: The Upper and Lower Extremities. Illustrated by 38 colored plates and 116 figures in the text. Published by P. Blakiston's Son & Co., 1012 Walnut Street, Philadelphia. 1901. Price, \$3.00 net. Canadian Agents: Chandler & Massey Limited, Toronto and Montreal.

If for no other reason than that Prof. Hughes, the author of this work, died serving his country (he died Nov. 3rd, 1900, at the age of 39, from typhoid fever a few days from the time he landed in England, after having charge of the Welsh Hospital at Springfontein and Pretoria, South Africa), his book on Practical Anatomy should be purchased. Apart from all that, it is a volume worth a great deal more than the price asked for it by the publishers, and will be found to be a most accurate and comprehensive study of anatomy from a practical standpoint. Yet it is boiled down into three parts. Part I. consists of the Upper and Lower Extremities, and is well illustrated, about forty of the plates being colored. In Part II. we will find the Anatomy of the Abdomen and Thorax, and in Part III. the Head, Neck, and Central Nervous System are to be considered. The author strongly favors the formalin method of preserving subjects now in vogue, and arranges his system of dissection accordingly. We like very much the idea

of a work of this subject being divided into several parts, as one volume is too ponderous, and therefore less suitable for College work. The only objection which might be taken would be that some of the plates are rather too highly colored.

Pediatrics—The Hygienic and Medical Treatment of Children.

By THOMAS MORGAN ROTCH, M.D., Professor of the Diseases of Children, Harvard University. Third edition, rearranged and rewritten. Illustrated by numerous engravings in the text and colored plates. Philadelphia and London: J. B. Lippincott Company. 1901. Canadian Agent: Chas. Roberts, Montreal.

To the general practitioner a knowledge of the management of the diseases of children is of the very first importance, as it is a kind of knowledge which makes his services valuable to the families he attends. In looking over the book we have been particularly attracted by the descriptions given of the exanthems, and have most closely read the chapter on measles. It is a scientific, practical statement of the facts known about that disease. As tuberculosis is a common sequela of measles that exanthem merits more study than it has received from the profession. Much attention is devoted to the subject of infant feeding, and instruction is given as to the preparation of foods, the modification, sterilization, etc., of milk in infant feeding. The language used is clear and concise. The illustrations are numerous, and the photographs, showing life-studies of particular diseases, very instructive. The work is well printed, and is a credit to the publishers.

J. J. C.

Compend of General Pathology. By ALFRED EDWARD THAYER, M.D., Assistant Instructor in Gross Pathology, Cornell Medical College; Pathologist to the City Hospital; formerly Fellow in Pathology, Johns Hopkins University; Instructor in Anatomy Yale Medical College; and Professor of Pathology and Bacteriology, West Virginia University. Containing 78 illustrations, several of which are printed in colors. Price, cloth, \$0.80 net. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1902. Canadian Agents: Chandler & Massey Limited, Toronto.

This is one of a series of eighteen published by P. Blakiston's Son & Co., by different authors, and covering the field of medical science. They are based on the most popular text-books and lectures, and thoroughly represent the present state of the subjects on which they treat. The present volume contains 322 pages, including an index. It is in nice type and on good paper, and the illustrations are good. We are very much pleased with this volume. It is very full and concise, and will be found very helpful by both student and practitioner.

W. J. W.

Nursing—General, Medical, and Surgical, with Appendix on Sick-Room Cookery. By WILFRID J. HADLEY, M.D., F.R.C.P., F.R.C.S., etc., etc., Physician and Pathologist to the London Hospital; Lecturer to Nurses at the London Hospital Nursing School; Assistant Physician to the Chest Hospital, Victoria Park. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1902. Canadian Agents: Chandler & Massey Limited, Toronto.

Part I., on general nursing, occupies the first seventy pages, and gives a great many useful directions for handling the patient, watching the progress of the case, reporting to the physician, and making the various applications ordered. This covers the special work of the nurse very well.

Parts II. and III., on medical and surgical nursing, aim at giving the nurse some idea of the various diseases, injuries and operations, including symptoms and such treatment as is usually ordered for a nurse to apply. We are sure nurses will find this a very useful manual. The volume contains 326 pages including, in addition to the chapters on nursing, an appendix on sick-room cookery, which will be found very useful, and an index.

W. J. W.

Bailey and Cady: A Laboratory Guide to the Study of Qualitative Analysis. By E. H. S. BAILEY, PH.D., Professor of Chemistry, and HAMILTON P. CADY, A.B., Assistant Professor of Chemistry in the University of Kansas. Fourth edition. 12mo, 235 pages. Published by P. Blakiston's Son & Co., 1901. Price, in cloth, \$1.25 net. Canadian Agents: Chandler & Massey Limited, Toronto and Montreal.

This little guide-book has been written not only to teach facts and mechanical methods of carrying out the various operations of analysis, but also to render them more intelligible and interesting to the student. We notice new methods for the separation of arsenic, antimony, and tin, and also for the separation and identification of the acids.

The aim of the author has been to produce a book which would enable the careful student to successfully carry on analysis without the constant assistance of the instructor, and to this end every precaution which considerable experience could suggest has been taken to guard against sources of error. The scope of this work is necessarily limited, but it certainly seems to thoroughly fulfil the intention of the author.

W. H. P.

Where the Sugar Maple Grows. By ADELINE M. TESKEY. Toronto: The Musson Book Company. Cloth, \$1.25.

Pen sketches of village characters, well drawn by a bright Canadian woman, who lives in the vicinity of the place from whence she

finds the material for her story. One special character, The McCloskey Boy, is amusing, as well as interesting, and now he has fulfilled all the hopes and predictions of the Auld Wives of the village by becoming a member of Parliament. It would seem to the reader as though Adeline Teskey was only feeling her way in this bright book, and the woman who has spoken so simply, yet harmoniously, might say very much more, and say it wonderfully well.

W. A. Y.

The Benefactress. By the author of "Elizabeth and Her German Garden." Toronto: The Copp, Clark Company, Limited.

Surely everybody has read, "Elizabeth and Her German Garden," and smiled at her odd bits of satire and quiet humor. Here comes another delightfully restful story by the same authoress, almost as quaintly told and almost as diverting. Open it expectantly, enjoy it thoroughly, close it contentedly, turn over and go to sleep; it's "a brain-rester"—it won't disturb your forty winks. Tastefully bound in olive and gold, and only one dollar and a quarter.

W. A. Y.

Transactions of the American Ophthalmological Society. Thirty-seventh Annual Meeting. New London, Conn. 1901.

Among the most interesting articles may be mentioned those on the treatment of the apparently unaffected eye in monolateral glaucoma; X-ray in injuries from foreign bodies, and the report on standards and methods for examination for acuteness of vision, color sense and hearing.

LITERARY NOTES.

The Cosmopolitan.

No attempt has ever been made to get together any congress representing the highest intelligence of the various nations of the world. The nearest approach to this was the Peace Conference at The Hague. The failure of that body was caused by the fact that it was selected to represent political and personal interests. It will be interesting to note the results which must come from the first World's Congress in which all nations shall be represented by men of the highest integrity and intellectual calibre. The difficulties in effecting such a gathering are almost insurmountable, but *The Cosmopolitan Magazine* is making the effort with a full recognition of the endless obstacles to be overcome. In the March number, *The Cosmopolitan's* plan is briefly outlined. Its agents in Europe and elsewhere are carefully maturing lists of the ablest men of each country, considered with reference—(1st) To their sincerity; (2nd) their earnestness; (3rd) clear thinking; that is, ability to see the truth; (4th) broad experience in affairs.

These names are five times as great in number as the candidates to be eventually selected. Upon these the opinions of leading men in other countries will be secured, so that the final selection will represent a consensus of opinion by the leading men of the world of thought. *The Cosmopolitan* is also endeavoring to secure by contribution a fund of a quarter of a million dollars to provide for the expenses of the first World's Congress.

Macmillan & Co.'s Canadian Branch.

AN item of interest to the Canadian book trade and bookbuyers is the news that Messrs. George N. Morang & Company, Limited, of Toronto, will hereafter be the sole agents in Canada for all books published by The Macmillan Company of New York. Messrs. Morang & Company will sell the books at the same prices in Canada as those at which they are sold by The Macmillan Company in New York, and the same discounts will also be given to the Canadian booksellers and dealers as are given in the United States. Messrs. Morang & Company have now in the press a complete catalogue of The Macmillan Company's publications, which will be issued by them immediately. One material gain to the bookbuyer by this arrangement will be the saving of the two or three days' time which is now taken up in the transmission of orders to New York.

A VERY timely "Treatise on Smallpox," to sell at \$3.00, is announced for publication early this month by J. B. Lippincott Company. It is written by Dr. George Henry Fox, Professor of Dermatology in the College of Physicians and Surgeons, New York City, with the collaboration of Drs. S. Dana Hubbard, Sigmund Pollitzer, and John H. Huddleston, all of whom are officials of the Health Department of New York City, and have had unusual opportunities for the study and treatment of this disease during the present epidemic.

The work is to be in atlas form, similar to Fox's Photographic Atlas of Skin Diseases, published by the same house. A strong feature of the work will be its illustrations, reproduced from recent photographs, the major portion of which will be so colored as to give a very faithful representation of typical cases of variola in the successive stages of the disease, also unusual phases of variola, vaccinia, varicella, and diseases with which smallpox is liable to be confounded. These illustrations number thirty-seven, and will be grouped into ten colored plates, 9 1-2 by 10 1-2 inches, and six black and white photographic plates.

The names of Dr. Fox and his associates assure the excellence of the work, in which will be described the symptoms, course of the disease, characteristic points of diagnosis, and most approved methods of treatment.