Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for scanning. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of scanning are checked below.

L'Institut a numérisé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de numérisation sont indiqués ci-dessous.

- ☐ Coloured covers / Couverture de couleur
- ☐ Covers damaged / Couverture endommagée
- ☐ Covers restored and/or laminated / Couverture restaurée et/ou pelliculée
- ☐ Cover title missing / Le titre de couverture manque
- ☐ Coloured maps / Cartes géographiques en couleur
- ☐ Coloured ink (i.e. other than blue or black) / Encre de couleur (i.e. autre que bleue ou noire)
- ☐ Coloured plates and/or illustrations / Planches et/ou illustrations en couleur
- ☐ Bound with other material / Relié avec d'autres documents
- ☐ Only edition available / Seule édition disponible
- ☐ Tight binding may cause shadows or distortion along interior margin / La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure.

- ☐ Coloured pages / Pages de couleur
- ☐ Pages damaged / Pages endommagées
- ☐ Pages restored and/or laminated / Pages restaurées et/ou pelliculées
- ☑ Pages discoloured, stained or foxed/ Pages décolorées, tachetées ou piquées
- ☐ Pages detached / Pages détachées
- ☑ Showthrough / Transparence
- ☑ Quality of print varies / Qualité inégale de l'impression
- ☐ Includes supplementary materials / Comprend du matériel supplémentaire
- ☐ Blank leaves added during restorations may appear within the text. Whenever possible, these have been omitted from scanning / Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été numérisées.

☑ Additional comments / Commentaires supplémentaires: Continuous pagination.

THE

CANADIAN PRACTITIONER

EDITOR:
ADAM H. WRIGHT, B.A., M.D. Tor.

ASSOCIATE EDITORS:
JAMES F. W. ROSS, M.D. Tor. JOHN CAVEN, B.A., M.D. Tor.
EDMUND E. KING, M.D. Tor.

PUBLISHERS:
THE J. E. BRYANT COMPANY (Limited), 58 BAY STREET.

VOL. XVIII.] SEPTEMBER, 1893. [NO. 9.

Original Communications.

THE MECHANICAL TREATMENT OF TUBERCULAR DISEASES OF THE KNEE.*

BY B. E. MCKENZIE, B.A., M.D.,

Lecturer on Orthopedic Surgery at the Woman's Medical College; Demonstrator of Anatomy, Toronto University; Surgeon to the Victoria Hospital for Sick Children, Toronto; Member of the American Orthopedic Association.

THE knee-joint is the largest joint in the body, and is also one of the most exposed. Its synovial membrane not only covers a large amount of joint surface, but is almost directly subcutaneous throughout a considerable portion of its extent. It has not only a true hinge-joint motion, but also a gliding movement, in the course of which the articular surface of the tibia comes into contact with the posterior aspect of the condyles of the femur, in which position of flexion the outer and inner hamstring muscles, drawing nearly in the line of the axis of the femur, are pulling to a greater or less degree in a line which is at right angles to the axis of the tibia, and thus act at a great mechanical advantage in the production of subluxation, which is so common in chronic disease of this joint.

*Read before the Ontario Medical Association, June, 1893.

Of all the large joints, this one is most frequently the seat of tubercular disease, and only in the vertebræ is this affection found more commonly than in the knee.

It is spoken of as "white swelling," "strumous arthritis," "tumor albus," "scrofulous disease in the knee," "chronic, purulent, or fungous synovitis," and by other names.

The disease is much more common in children than in adults, and in them it more commonly is osseous in its origin, the epiphyses being the parts most frequently affected. In adults the greater proportion of cases begins in the synovial membrane.

FIG. 1.

The fact that both the femur and tibia grow chiefly at the ends which enter into the formation of the knee-joint is of considerable clinical importance. Ollier points out that long bones make fourteen-fifteenths of their entire growth at their epiphyseal areas. So much of the growth of the entire lower extremity occurring in the parts immediately contiguous to the knee-joint makes it a consideration of great moment that as little interference as possible shall be permitted with these growing parts. Senn,

in his book on "Tuberculosis of Bones and Joints," p. 466, gives a figure of a case in which, in the course of resection, both epiphyseal cartilages were removed, with a consequent shortening that brought the foot of the resected limb up to a level with the middle of the tibia of the opposite leg.

As in other joints of the extremities, in nearly all conditions of chronic disease, flexion is a clinical phenomenon which presents itself early, and is likely to persist to the end unless means be adopted to extend the limb and prevent flexion until the termination of the disease.

Fortunately, the knee is so situated that the rest which every joint should have which is affected with tuberculosis can easily and efficiently be obtained without subjecting the patient to the disadvantage of confinement to bed. In this, as in all wasting diseases, it is highly important that such means should be employed as will permit the patient to enjoy the advantages of fresh air, sunlight, and exercise.

In the management of these cases, two problems may be mentioned as presenting themselves for solution: (1) How shall the patient walk without having the foot of the affected limb come into contact with the ground, thus causing jarring and possible traumatism of the diseased parts? (2) In cases where there is flexion of the joint, or flexion with subluxation, how may the limb be extended and the subluxation corrected without causing undue intra-articular pressure?

The first problem finds its readiest solution in the employment of the splint first made and used by the late Hugh Owen Thomas, of Liverpool. Simplicity of construction—always a recommendation—is a characteristic feature of this splint. It is, in effect, a perineal crutch consisting of a padded ring which passes obliquely around the upper part of the thigh, and supporting the body by coming into contact with the ischium and buttock. The plane of this ring forms an angle of 55°, with a bar of steel which passes from it down the outer aspect of the leg to a distance of three or four inches below the foot. A similar bar passes from the inner portion of the ring down the inner side of the leg, and at the same distance below the foot these two bars terminate in an oval ring, which constitutes the walking surface of this crutch. Under the shoe worn upon the sound foot is a sole of cork, raising it so that the feet are brought to the same level. The back part of the leg below the knee rests in a leather support, passing behind from bar to bar, while the front of the thigh is crossed by a broad strap passing between the same bars. In this manner the patient soon learns to walk, stepping alternately upon the elevated shoe of the sound side and the perineal crutch worn upon the diseased limb, without bringing the foot of the latter at any time into contact with the ground.

If the limb is found flexed when the splint is first adjusted, the knee

bars may be bent to take the same shape as the affected limb. If the case is a recent one, very frequently the wearing for a few weeks of the appliance thus adjusted will secure such rest for the joint that partial or complete straightening may be effected without force. The longer continuance of the same treatment often permits of complete extension.

The second problem above suggested is sometimes impossible of accomplishment by mechanical means. The head of the tibia is found carried so far upward and backward that when any attempt at straightening is made the tibia is liable to be thrown quite behind the condyles of the

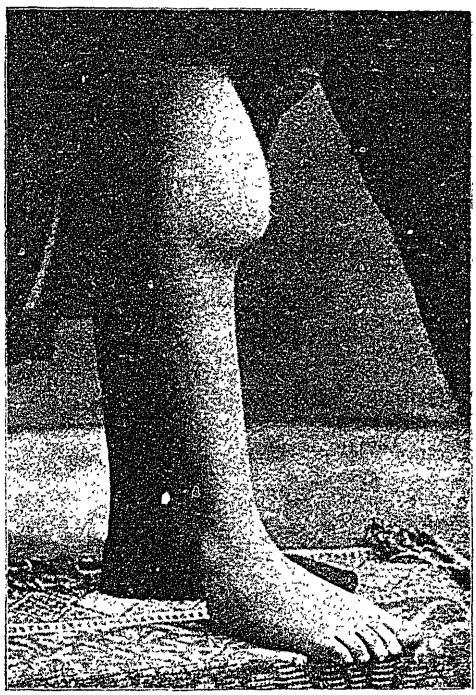

FIG. 2.

femur, thus giving a very insecure member for support. In such a case, excision is the only means by which the bones may be brought into satisfactory coaptation.

In some of these cases, however, especially where the disease is still active, and the tissues about the joint do not form strongly resistant limitations, replacement of the tibia and straightening of the limb may be effected by the employment of traction upon the tibia while continuous force is employed to extend the knee. Loops of steel are attached close to the

bottom ring of the splint where it joins the supporting bars, from which straps are carried upward, and buckled to adhesive plasters bandaged to the leg as high as the knee (Fig. 3). By this means continuous traction is made while counter-extension is secured by the ring which supports the pelvis at the ischium and the gluteal region. In such cases, the leather support which passes from bar to bar behind the leg should be made of sufficient extent to support well the upper end of the tibia; so that while the lower end of the femur is being pressed backward by the strap passing in front of it, and while traction is being made toward the loops at the bottom of the splint, the upper end of the tibia is being pressed forward by its carefully adjusted support.

We have thus three mechanical forces acting in conjunction to accomplish our purpose: (1) The traction and counter traction employed in pulling the tibia downwards and the femur upwards, thus tending to bring their points at the knee into a favorable condition for adjustment; (2) the strap passing in front of the thigh just above the condyles of the femur continuously pressing that bone backwards at its lower end; and (3) the supporting strap behind the leg constituting a means of pushing the upper end of the tibia forward.

The mechanical means thus described are easy of adjustment, and are easily borne by all children and many adults. They secure complete rest for the affected part, and permit the freedom of movement and manner of life which does so much to aid in maintaining the general health of the patient.

Fig. 3

The cases shown to-day and the photographs now exhibited will serve to illustrate the results which have been obtained by the treatment described.

Case 1. D.S., thirteen years. In July, 1890, his right knee was injured. This was soon followed by swelling. The joint was aspirated, washed out with sterilized water, and kept at rest. Family history tubercular.

Sept., 1890. Knee still contains fluid, bones enlarged, motion much limited, extension not permitted beyond 135°, and marked atrophy of muscles above and below the knee. Splint applied.

Feb., 1891. No fluid in joint; no tenderness; movement through an arc of 10°. Right knee, 11½ inches; left knee, 10½

inches. Patella freely movable, eats and sleeps well, goes to school, and wears splint with comfort.

Sept., 1891. In good general condition; goes to school; has grown so much that splint had to be lengthened. Right leg, 27½ inches in length; left leg, 26½ inches. Right thigh, in circumference, 10 inches; left, 12¼ inches. Right knee, 11½ inches; left, 10½ inches. Right calf, 8½ inches; left calf, 9½ inches. No fluid in joint; slight tenderness on pressure at the external part of the line of the joint. The limb is held fully extended and no flexion permitted. Temperature at 4.30 p.m., 100.4°; pulse, 108.

July, 1892. Right knee, 11½ inches; left, 11 inches. Right leg in length, 28½ inches; left, 27½ inches. Temperature at 9 p.m., 98.8°. Voluntary flexion through an angle of 45°; splint has been worn constantly; general health excellent; has gone to school regularly; splint to be left off.

CASE 2. G.C., five years. Family history good, except that father had some painful affection of the knee with swelling when about nineteen years of age. First saw him August, 1891; had been intermittently lame for two years; thinks leg was sprained by nurse in putting on stocking. Left knee, 9¼ inches; right, 8½ inches. Left thigh, 9 inches; right, 10 inches. There is little flexion, the leg having been kept for a considerable time in gypsum. Splint was at once applied as above.

May, 1892. Health good; knees same size; voluntary movement through a few degrees when plaster is removed; no tenderness; no effusion.

April, 1893. Health good. Left knee, 8⅞ inches; right, 9⅛ inches. Voluntary motion through an arc of a few degrees; outlines of knee restored to almost natural appearance; gypsum case left off; splint retained.

June 22. Splint so modified to-day as to permit of his walking with his foot on the ground.

CASE 3. G. McM., five years. Family history tubercular. In March, 1890, a swelling was noticed in the right knee, with slight pain. Shortly afterwards effusion was detected; was painted with iodine, and had gypsum bandages applied. After a few weeks the plaster bandages gave place to a short posterior splint.

Nov., 1890. Right knee, 8 inches; left, 7½ inches. Atrophy of muscles above and below the right knee; flexion to nearly a right angle permitted, and extension to 155°; no voluntary movement at the joint; knee is red, slightly edematous, and circulation obstructed. Plaster of Paris case and Thomas splint employed.

Dec. 31st, 1890. Leg is nearly straight; general condition good; appetite and sleeping improved.

June, 1891. General health not so good; little change noticed in condition of knee; change of climate advised.

Sept., 1891. Has spent two months in the Northwest; general condition much improved.

Jan., 1892. Has continued in good health, grown stouter, has better appetite, and makes no complaint about the knee. Right knee, 7½ inches; left, 8 inches. There is no voluntary movement at the joint when the splint is left off. The external rotation and backward displacement formerly existing are fully corrected.

Sept., 1892. Spent a part of the summer at Sault Ste. Marie. General health excellent; voluntary movement when splint is removed.

April, 1893. Plaster of Paris left off. Left knee, 8¾ inches; right, 7¾ inches. Splint to be left off at night.

June 22, 1893. Mother reports voluntary motion through an arc of 90°.

CASE 4. M.W., thirteen years. In September, 1887, left knee was hurt at school; before Christmas, 1887, was lame; much worse in February, 1888; got better, but never free from lameness since. In spring of 1892 was very lame, but long before that the limb was kept constantly flexed.

May, 1892. Flexion has recently much increased, and now extension is permitted only to 150°. Right knee, 11⅜ inches; left, 12¾ inches. There is more than one inch atrophy in the thigh muscles. Splint applied.

Aug., 1892. Leg permits of extension to 165°. There is more tenderness in the knee than formerly.

May, 1893. Leg about fully extended; no pain; slight tenderness; health good; has gone to school every day this year.

June 22nd, 1893. Was kicked in the knee by a boy when coming from school two weeks ago; came home crying with pain; cold water cloths applied. Now very much tenderness and pain; swelling much increased.

CASE 5. C. P., six years. In December, 1889, had pain in left knee at night, and would wake up crying. Some time previous to that there was an awkward movement in the limb when running. Seemed better in spring of 1890. In June, 1890, there was much swelling and tenderness after a fall. Leg was kept bent at the knee. At that time plaster of Paris case was applied, and he was kept at rest for a month.

Nov., 1890. Leg can now be flexed to a right angle, and extended to 150°; condyles of the femur much enlarged, but not tender. Left knee, 8¾ inches; right, 8 inches. Left thigh, 9 inches; right, 10 inches. Left calf, 7 inches; right, 7¾ inches. Plaster of Paris case applied while moderate extension is made. Thomas splint applied.

Dec. 31st, 1890. Plaster of Paris reapplied; limb now fully extended.

June, 1891. Condition of health improved. Is very active, running about freely, and being much out of doors.

Aug., 1891. Has been much in the country during the summer; knees the same in circumference; condition in every way satisfactory.

Dec., 1891. After coming from the country was allowed, without my knowledge, to walk for three weeks without his splint, his parents considering the knee cured. Soon complained of pain in the knee at night. The knee is now flexed and tender; not much swelling, but left knee is slightly larger than the right.

Jan. 21st, 1892. Left knee, 9¾ inches; right, 8¾ inches. Has been complaining much of pain in the knee; does not walk about much; looks pale; tongue is furred; has frequency of micturition; knee very tender; permits of no movement; no effusion into the joint. The leg is kept at an angle of 150°. There is external rotation, and some backward displacement. Temperature, 100°. Local temperature of left knee very noticeably increased.

May, 1892. Suppuration. Fluctuation most marked above the patella towards its inner aspect. Opened, scraped out with the finger, and dressed antiseptically. Did not determine whether abscess communicated with joint.

Sept. 9th, 1892. Hydrogen peroxide was the disinfectant employed in treatment of abscess cavity; discharge has ceased; flexion, 150°; luxation much increased: no tenderness; knees of same circumference; applied extension while wearing splint as in Fig. 3; general health good.

May, 1893. Extension with good support of the tibia in its upper part has fully corrected the displacement of that bone; no discharge; health good; slight voluntary motion.

CASE 6. N. McM., eleven years. Family history tubercular; is fairly well nourished. History of a fall at four years; not much hurt, and no lameness noticed for some weeks. Shortly afterwards was lame in right leg. In summer of 1891 began to use crutches, and about that time the flexion at the knee increased very much.

July, 1892. Right knee, 12 inches; left, 10¾ inches. Right calf, 8 inches; left, 10 inches. A.G.F., 65°; A.G.E., 120°. Backward displacement of tibia and external rotation very strongly marked. Splint and extension applied.

October, 1892. Attending physician writes that the knee is doing well. Limb almost straight; knee is smaller; much less tenderness; sleeps better at night; parents are delighted with her improvement. Extension is being kept up, and syrup of iodide of iron and cod liver oil are being used.

May, 1893. Leg is fully extended, but backward displacement is very

marked, shortening 1½ inches; no tenderness, infiltration, or local heat; general health excellent; goes to school every day. An attempt will be made to correct the displacement of the tibia.

The cases above related are selected as illustrating the conditions most amenable to treatment by mechanical means. Attention may be called to a few practical lessons gleaned from the history of these cases: (1) In Case 1, where splint was constantly worn night and day for nearly two years, there was no voluntary movement in the joint when the splint had been worn twelve months; but when the appliance had been removed, at the end of nearly two years, there was voluntary movement through an arc of 45°. This should have some weight in setting at rest the question as to whether continued immobilization of a joint causes ankylosis. (2) In Case 5, the parents, finding that the general health and condition of the knee had continually improved, and believing that recovery had resulted, removed the splint at a time when the ordinary functional employment of the joint caused relapse, followed by strongly marked exacerbation of symptoms and suppuration. (3) Even when suppuration occurs, it is not always necessary to make a formal resection, or even arthrectomy (see Case 5). (4) In nearly all the cases related, there was displacement of the tibia, more or less marked, which has been entirely corrected in all the cases except two. One of them has not come directly under my own care, and at a recent examination I found that the mechanical forces had not been employed in such a manner as is desirable. (5) From measurements recorded in such cases, it is noticed that the inflammatory condition, bringing more blood to the rapidly growing portions of the bones, caused a marked lengthening in the affected limb. (6) When a case has been progressing favorably, and recovery appears to have resulted, it is wise to observe great caution in the removal of the protective appliances. It is well to shorten the splint and turn its side bars into the heel of the shoe, permitting the patient to walk directly upon the affected limb while the splint is still employed to prevent the traumatism which might result from accident. (7) If careful observation show a tendency to relapse as greater freedom is permitted in the use of the limb, a speedy return should be made to the most complete protection, and this should be continued until the health and local condition warrant its removal.

The frequency of flexion in the knee after excision, and the little attention given to the subject by surgical authorities, render it of great importance that mechanical protection should be continued for a sufficient length of time after treatment. So constant is the occurrence of relapse, especially in children, that Schede at one time said that he had abandoned the operation in children under seven years. (Transactions of American Orthopedic Association, Vol. iv., p. 54.)

The splint above described forms an excellent walking crutch, which may be used until there is satisfactory solidification at the seat of operation, and until the surrounding tissues have adapted themselves to the new situation.

THE PREVENTION OF TUBERCULOSIS IN ONTARIO.*

By E. Herbert Adams, M.D., Toronto,

Physician to St. John's Dispensary, The Nursing-at-Home Mission, The Yorkville Dispensary, etc.

DURING the last few years no disease has received so much attention nor been productive of so much discussion as tuberculosis. When Robert Koch in 1890 announced to the world the marvellous effects produced by tuberculin many physicians and consumptives made veritable fools of themselves in their eagerness to obtain an early supply of the remedy. The bubble has burst. Many of the patients who were among the first to receive injections are dead; others are living in spite of the lymph; while a third and smaller class have perhaps received some benefit from a judicious use of tuberculin along with climatic and other treatment, and are apparently cured.

It was indeed a wonderful remedy in its selective and specific action on tubercular affections, and, despite the ban it is under at present, may yet in an improved form fill a more or less important place in the materia medica of the future.

Be that as it may, it is certain that this much-vaunted and much-libelled remedy did much to awaken original study and investigation into the nature, cause, and cure of this dread disease, which cannot but be productive of great good in the near future.

The medical magazines and the secular press have been teeming with literature on this subject. For some time past, almost every fresh medical journal has had a description of some new and seductive remedy for tuberculosis. Many of these are more or less useful, while others are utterly useless, and often positively harmful.

After a careful and practical study of the results and possibilities of the better class of these remedies, my conclusions are that pulmonary tuberculosis is curable in a large percentage of cases in the earlier stages of the disease, and not infrequently even in the more advanced stages; but that as the disease is undoubtedly contagious, and as the source of the contagion is capable of being isolated and destroyed with comparatively

*Read before the Ontario Medical Association.

little inconvenience to the individual or expense to the state, that preventive measures are of primary and not secondary importance to medicinal treatment. And it is with a view of advocating a systematic and feasible method of prevention that this paper is written.

PREVALENCE OF THE DISEASE.

It is safe to say that no other disease, no form of accident, no civil or other war, has produced so much suffering or caused so many deaths as tuberculosis. During the twenty-five years ending 1886, the average annual total deaths from consumption in England were 50,000. Other tuberculous affections caused 17,700 deaths, making in all a total yearly death rate of 67,700.

In the United States in 1880 the deaths from this disease, estimated from the census returns, were 150,000.

Baer states that the tubercular death rate of the whole world is 15 per cent., and that in prisons it ranges from 40 to 50 per cent. Between the ages of 20 to 40, it is estimated that from one-half to one-third of all deaths are due to tuberculosis.

From the end of 1880 to the end of 1890, there were in Ontario 24,437 deaths from consumption. This does not include deaths from other than the pulmonary form of the disease, and shows that there were as many deaths from consumption alone in Ontario in ten years as from scarlet fever, measles, smallpox, whooping cough, diphtheria, croup, and typhoid fever combined. And yet the death rate is not the only point to consider; for the duration of illness, and consequently suffering, is greater in this disease than in most other diseases.

Senn,[1] of Chicago, says that most of the large hospitals contain 25 to 50 per cent. of patients afflicted with this disease, and that a very large percentage of surgical operations are due to tuberculosis.

Konig states that in surgical clinics the surgeon will have one hundred cases of tuberculosis of the joints to deal with to one of other classes of inflammation, such as rheumatic, gonorrheal, syphilitic, or suppurative.

From a study of the hospital reports of the Sick Children's Hospital, Toronto, for the ten years ending 1890, I found that over 34 per cent. of all the diseases for which patients were admitted into the hospital during that time were of a tubercular nature.

As a test to prove that this percentage was approximately correct, Dr. George Clingen, the house surgeon, made a careful and thorough examination of all the cases admitted during the year he was house surgeon, and found that 25½ per cent. of all the patients admitted into the hospital that year were suffering from some form of tubercular disease. And so

[1] Principles of Surgery. N. Senn, 1890.

we may consider that from one-quarter to one-third of all the patients that have ever been admitted into the hospital are suffering from some form of tuberculosis.

From the foregoing statements a fair idea can be obtained of the immense ravages of the disease, and the consequent suffering and loss of life and of wealth to the nation.

Nor is the disease confined alone to humanity. The cow, and the pig, and other animals are also victims of the scourge.

Toussaint, in 1888, gave the percentage of tuberculous cattle as 6 per cent. Bitter states that he believes that at least 10 per cent. of dairy cattle are tuberculous in cities and their environs. Of all the cattle slaughtered in Berlin in 1890, 4.5 per cent. were tubercular. In Saxony, in 1889, of 34,975 cattle inspected, 3,986, or 11.4 per cent., were tubercular. The percentage varied in localities from 1.1 to 15.8 per cent. Veterinary surgeons tell me that they know several different dairies around Toronto in which there are tubercular cattle, and in one herd most of the animals are affected. (This herd has since been isolated by the Provincial Board of Health.) It is a startling statement, but, nevertheless, a highly probable one, that about one-sixth of the cattle supplying milk to Toronto are tubercular. This is a source of danger, especially to young children, for the bacillus tuberculosis is present in such milk, and is undoubtedly, in some cases, at least, a cause of intestinal and other forms of tuberculosis.

Sufficient has been said to show the prevalence of this dread disease. Not that it is more common in Ontario than elsewhere. In fact, the death rate is much less here than in many countries and states; but the loss of life and suffering here are sufficiently alarming—for there are few families but have had some relative or near friend die of the disease—to make us all united in the desire to spare neither money nor labor to eradicate the disease, if such be possible.

THE CONTAGIOUS NATURE OF TUBERCULOSIS.

The overwhelming evidences which, during the last decade, have been adduced in favor of the bacillus tuberculosis being the direct exciting cause of tuberculosis have silenced the objections of almost all conscientious scientific doubters. Among old school physicians and others unversed in modern pathological methods of investigation, there are still many strong opponents to this doctrine.

These Prof. Tyndall ("On the Origin, Propagation, and Prevention of Phthisis," *Fortnightly Review*, Sept., 1891) defines as "a number of loud-tongued sentimentalists who, in view of the researches they oppose and the fatal effects of their opposition, might be fairly described as a crew of well-meaning homicides."

Before such a scientific gathering of medical men as this, and in a

country where the standard of medical education is so excellent, it will hardly be necessary to do more than briefly review the data upon which we base our knowledge of the contagious nature of tuberculosis.

Our knowledge on this subject is comparatively modern, though more than a century ago there were many believers in the contagion theory. For sixty-six years, from 1782 to 1848, in Naples, rigorous though somewhat crude laws were enacted for the prevention of consumption on the theory of its contagious nature, and Dr. Lawrence F. Flick, who has carefully studied the condition of Italy before and after the enactment of these laws, states: "It will not be overstepping the mark to place the mortality rate from tuberculosis for the Kingdom of Naples and Italy for 1782 at 10 per 1,000 living. In 1887 the mortality rate from all tubercular affections for all Italy was 1.29 per living 1,000. Expressed in figures, the reduction in mortality from tuberculosis in Italy since 1782 ranges from 60 to 90 per cent.

Villemin, in 1865, was about the first to produce tuberculosis in rabbits by inoculating them with tuberculous material; but it remained for Robert Koch, in 1882, to demonstrate that the true cause of tuberculosis of all kinds was the tubercle bacillus ("Die Ætiologie der Tuberculose," *Berlin Klin. Wochenschrift*, 1882, No. 15). He showed the bacillus to be present in all forms of tuberculosis, and obtaining pure cultures of the bacillus proved that artificial tuberculosis could be produced in animals by inoculation.

His observations have since been abundantly verified by numerous other observers, and at the present time all reputable medical colleges teach their students how to stain, mount, and examine under the microscope sputa or diseased tissues suspected of containing the bacillus tuberculosis. And there is no hesitation on my part in saying that the medical student who is not able to make such examinations successfully should not be allowed to graduate from any Canadian medical college; and also that the general practitioner who does not use this means of diagnosis in consumption is omitting one of the most important elements for the correct and early diagnosis of the disease, and without which he cannot do full justice to his patient.

We know, then, that this peculiar bacillus, which is definite in form and in its susceptibility to certain staining materials, is present in every form of tuberculosis, no matter what organ of the body is affected, and there are few tissues of the body but have been implicated in this disease. We know that this disease is identical in man, the monkey, the cow, the horse, the pig, the rabbit, etc., and that without the presence of this bacillus there is no true tuberculosis. We know also that by inhalation and inoculation of pure cultures of these germs, the same disease can be produced in animals.

Senn ("Surgical Bacteriology," 1889) gives an excellent résumé of results achieved by experimental inoculation in animals, and mentions many cases of inoculation in surgical cases in man after contact with tuberculous material.

Abundant clinical evidence shows that where these germs most abound there other cases of tuberculosis, both of man and animals, most frequently occur. Many instances are recorded in medical literature of several or all the members of a previously healthy family being carried of with the disease after moving into a house formerly occupied by a victim of tuberculosis. You have all doubtless come across many such cases in your practice; though, on account of the slow and insidious course of the disease and the varying length of time it may take to manifest itself, it is very difficult usually to ascribe the exact source of the contagion.

A case is recorded in Paris where, in the course of eleven years, fifteen out of twenty-three clerks employed in an office died of tuberculosis. Cornet showed that 62.8 per cent. of the deaths among the religious orders for the care of the sick in Germany were due to tuberculosis. Flick's study of the death rate for twenty-five years from tuberculosis in the fifth ward of Philadelphia showed that many of the houses had six to eight deaths, and that over 33 per cent. of the houses where deaths occurred from consumption had more than one case. Cornet has published some statistics on the mortality from phthisis in Prussian prisons. During fifteen years, the mortality among males was 45.82 per cent. of all deaths; and among females, 49.33 per cent. of all deaths. Confinement, bad ventilation and lighting, together with the presence of the bacillus tuberculosis in the cells, due to improper cleansing of the compartments after the removal of former consumptive occupants, were the probable causes of the great mortality from consumption.

I have stated that the bacillus tuberculosis is the exciting cause of the disease, but there are certain other contributory and predisposing conditions which are also necessary before these germs can manifest their pathological effects. Among these are hereditary and acquired predisposition, bad drainage, bad ventilation and heating, bad sanitation of all kinds, overwork, and any debilitating influence whatsoever, and I do not wish to belittle in the slightest manner the great influence such conditions have in the production of tuberculosis, but merely to emphasize the fact that *without the presence of the bacillus tuberculosis these debilitating influences will not produce consumption or any other form of tuberculosis.*

Heredity has hitherto been considered the chief of these predisposing causes, and we cannot deny that it has considerable influence in the production of the disease, though, undoubtedly, many cases ascribed to

heredity are due to direct personal contagion and the infection of previously healthy members of the family long after birth, and not due to any hereditary influence whatsoever.

The great source of infection is, then, the inhalation of the dried expectorations of tubercular patients, the ingestion of tuberculous meat and milk from animals affected with the disease, and by the direct inoculation of tuberculous material into the blood through a wounded or abraded surface.

The first is by all means the greater source of danger, as hitherto little has been done towards destroying the bacilli which are so numerous in the expectoration of tubercular patients. The danger of infection, though at present almost universial, is much greater in the localities where the consumptives reside. The bacilli and their spores have considerable tenacity for life in the dried state, and exist for considerable periods of time after expulsion from their former host. Cornet and others have repeatedly shown the presence of these bacilli in the dust taken from the rooms and surroundings of tubercular patients, and by inoculation of animals with cultures taken from such dust have produced tuberculosis in these animals, which resulted in their death.

METHODS OF PREVENTION.

And now we will consider what measures of prevention are necessary and practicable for lessening this great scourge.

In the first place, the reporting of all cases of tuberculosis to the health department should be made compulsory for physicians, householders, and employers. By this means the responsibility would be with the health officer to see that proper methods for the isolation and destruction of the sputa were attended to, and that the surroundings of the patient were in a sanitary condition, and the patient not a source of contagion to others. These matters, in the better class of consumptives, are, as a rule, fairly well attended to on the recommendation of the family physician, but among the poorer classes these conditions are often much neglected. Free microscopical examination of the sputa of the supposed phthisical patients should be made by the health department at the request of any physician, as many physicians are unable to make such examination themselves.

By means of suitable pamphlets, distributed by the health department, the public should be educated to the fact that the expectoration of every patient in the advanced stages of the disease is a source of contagion to others unless such expectoration is destroyed, and that such patients should never expectorate on the floor or in a handkerchief, but always in a sputum cup or some other special receptacle. Other useful hygienic information in reference to the disease should be inculcated in the same manner.

Tubercular mothers and wet nurses should cease to nurse infants, as their milk is a source of contagion.

The public should be secured from danger from tubercular milk or meat by means of a rigid and systematic inspection of cattle, and specially qualified inspectors should be detailed for this work. The notification of the health authorities by owners of infected animals should be made compulsory.

All tuberculous animals should be condemned and killed after having been valued and paid for by the government.

Railroad and street car companies should furnish receptacles for sputa containing water, or a germicide, in their cars and stations.

There should be a careful cleansing and disinfection of the floors and walls of rooms after removal, by death or otherwise, of a consumptive patient.

In prisons and asylums, pulmonary tuberculosis in any of the inmates should be recognized as soon as possible by examination upon entering, and at frequent intervals. Such tubercular inmates should be separated from others, and their compartments cleansed and disinfected after their removal. In such cases the use of sputum cups and cuspidores should be enforced, and their employment in outdoor work, as far as possible, should be urged.

The prevention of consumption would be greatly aided by the erection of special hospitals or sanitaria for the consumptive poor. Municipal and government aid should be given to these institutions. For the poor, the ignorant, the careless, and the friendless, and for all consumptives in whose homes or boarding houses proper sanitary measures could not be used, such places would be a great boon, not only to themselves, but to others to whom they would otherwise be a constant source of worry as well as of contagion.

My own personal experience as a resident physician in a sanitarium for consumptives justifies me in saying that better results can be obtained there in many cases than elsewhere, and, under proper conditions, the depressing influence of segregation is not to be felt.

Selected Articles.

PELVIC PERITONITIS IN THE FEMALE AND THE PATHOLOGICAL IMPORTANCE OF THE FALLOPIAN TUBES IN CONNECTION THEREWITH.*

By C. J. CULLINGWORTH, M.D., F.R.C.P.,

Obstetric Physician and Lecturer on Midwifery and Diseases of Women, St. Thomas' Hospital.

BEFORE attempting to convey an idea of the present state of our knowledge of pelvic inflammation, I must allude to the history of the subject, and especially to the word and writings of the man whom I believe to have been one of the greatest gynecologists of the century—M. Bernutz. At the time when Bernutz published his clinical memoirs, it was the current belief that the hard swellings felt above the vaginal roof on one or both sides of the uterus in cases of pelvic inflammation were invariably due to inflammatory exudation in the connective tissue at the base of the broad ligament, or between its layers. Nonat had for ten years been upholding this doctrine, and under the influence of his authority and dogmatic teaching it had come to be almost universally accepted. Various names were given to these exudations, but whether they were described as pelvic cellulitis, or parametritis, or periuterine phlegmon, there was practically no difference of opinion as to their seat. For some time Bernutz himself participated in the common belief. The fatal termination, however, of two cases under his own care served effectually to change his views, and enabled him "to prove incontestably that the periuterine tumor, which during life presented all the symptoms of the so-called periuterine phlegmon, was not situate in the cellular tissue at all. In the necropsies in question the tumor, which even after death presented all the usual signs, was seen to be formed by the pelvic viscera matted together by peritoneal adhesion."

Bernutz did not, as he is sometimes erroneously represented to have done, deny the existence of a phlegmon or inflammatory exudation be-

* Address in Obstetrics and Gynecology at the Annual Meeting of the British Medical Association held at Newcastle-on-Tyne, August, 1893.

tween the layers of the broad ligament, especially in puerperal cases; but he considered them rare as compared with the swellings due to pelvic peritonitis, and he himself never met with one in the *post-mortem* room. The conclusions at which Bernutz arrived as a result of his researches have been summarized by himself as follows: (1) That inflammation of the pelvic peritoneum is a disease very commonly met with; (2) that the tumor found after death in cases of pelvic peritonitis is formed by various intra-pelvic viscera being matted together as a consequence of the inflammation; and (3) that inflammation of the pelvic serous membrane is always symptomatic, and that it is generally symptomatic of inflammation of the ovaries or Fallopian tubes.

It might be thought that views so clearly expressed and supported by such incontrovertible evidence must needs have met at once with general acceptance, and become part of the common stock of professional knowledge, but they did nothing of the kind. For twenty years the old views continued to be generally taught, and even yet they form the basis of much of the current teaching and practice in regard to pelvic inflammations.

In the year 1872, the operation for the artificial induction of the menopause, by the removal of the healthy Fallopian tubes and ovaries, was carried out by three operators of different nationalities at dates so closely following one another, and yet at places so remote, that it was practically impossible for there to have been any sort of concerted action. On July 27th, Hegar performed the operation at Freiburg in a case of ovarian pain and menorrhagia. Five days later Lawson Tait operated at Birmingham on a case of uterine myoma with excessive hemorrhage; and within three weeks of Hegar's operation, a highly respected American gynecologist, Dr. Robert Battey, of Rome, Georgia, performed a similar operation on a patient with hystero-epilepsy and amenorrhea.

In the course of two or three years the number both of operations and operators began rapidly to multiply. From the good results obtained it was expected that the scope of the operation would soon be widened, and instead of being limited to the removal of the normal organs would be extended to cases where the uterine appendages were themselves the seat of the disease. And this is precisely what took place. In the years 1879 and 1880 Hegar, in Germany, and Lawson Tait, in this country, operated on several patients for the removal of the inflamed ovaries and tubes, and then it was that the accuracy of the observation of Bernutz came to be fully recognized, and his apparently barren discoveries to bear their legitimate fruit. The knowledge at which he had arrived by *post-mortem* investigation was now arrived at in a different, but at least equally conclusive, way by actual inspection and touch during life.

PELVIC CELLULITIS COMMONLY A SECONDARY DISORDER.

During the past five or six years I have performed abdominal section in nearly one hundred cases that in the early part of my professional career I should have regarded as well-marked examples of pelvic cellulitis—namely, cases in which the mobility of the uterus was more or less impaired, and in which hard, irregular fixed swellings could be felt above one or both lateral fornices of the vagina, and often extending into Douglas' pouch. In the vast majority of those cases I found no evideuce of cellulitis at all and, where it did exist, it was clearly secondary to the salpingitis and peritonitis which constituted the principal lesions present. In no case was there any inflammatory exudation in the cellular tissue of the broad ligament or elsewhere sufficient to form a distinct tumor recognizable as such on bimanual examination. In some cases of chronic suppurative inflammation of the uterine appendages, the broad ligaments were the seat of a certain amount of thickening from inflammatory exudation, but this obtained only in the neighborhood of the suppurative disease, and the thickening seldom exceeded one-eighth of an inch, and even in extreme cases never exceeded half an inch.

PELVIC INFLAMMATION USUALLY A PERITONITIS ORIGINATING IN SALPINGITIS.

The usual state of things disclosed on opening the abdomen in these cases is as follows: The contents of the pelvis are generally concealed from view by the great omentum, which has been drawn down so as to cover them in anteriorly, and has contracted adhesions to the peritoneum as it becomes reflected on to the anterior abdominal wall, as well as to the uterus and other pelvic viscera. Along with this screen, as it were, of omentum, it is not unusual to find coils of adherent small intestine. On separating and drawing aside this screen, one side, or it may be the whole, of the posterior part of the true pelvis is seen to be occupied by what appears to be an indistinguishable mass of matted viscera. The uterus itself is sometimes implicated in the mass, but in other cases its upper part at least is free. Tracing the Fallopian tube outwards from the uterine cornu on the side of the disease, it is often found to be normal in size for the first half inch or so, and then to become involved in the adherent mass. This mass, on being separated and brought into view, is invariably found to consist of the uterine appendages more or less altered by inflammation. There is always salpingitis, and the inflamed and thickened tube usually unfolds the ovary. In a large number of cases the ovary itself is normal, except that it is universally adherent. In other cases it is a condition of incipient cystic degeneration. I do not allude to the harmless condition, sometimes spoken of as incipient cystic degeneration, in which several Graafian follicles, distended with serum, cause transparent pro-

jections from the surface of an otherwise normal ovary, but to that condition in which true cysts are found, varying in size from a marble upwards, and in which the normal structures of the organ have become more or less replaced by them. Whenever the lateral swelling is so large as to push the uterus to the opposite side, this condition of the ovary may be suspected. In many cases the cysts in the ovary are found to be in a state of suppuration, their contents having presumably become infected from the inflamed and suppurating Fallopian tubes. Of primary ovaritis, either acute or chronic, which is supposed by some authorities to be a common affection and a frequent cause of pelvic peritonitis, I have scarcely (apart from tuberculous disease) met with a single example.

With regard to the tubes, the first point to be noted is that the evidences of the peritoneal inflammation are always most marked in the neighborhood of the fimbriated end, showing clearly that the pelvic peritonitis has originated by direct extension from the mouth of the inflamed tube, or by the escape of morbid secretions therefrom. When the secretion from the inflamed tube is chiefly mucous in character, with only a slight intermixture of pus corpuscles, the intensity of the inflammation around the abdominal ostium is shown by the extreme density of the adhesions at that spot and nothing more. When the secretion, on the other hand, is wholly purulent, one of two things has found to have happened, according to whether the fimbriated end remains patulous or has become closed. In the former case, an intraperitoneal abscess is found, encysted among adhesions, and fed by the purulent discharge issuing from the open mouth of the suppurating tube.* In the latter case the pus, accumulating in the occluded tube, distends it, sometimes uniformly, but more often irregularly, forming a series of loculi or pouches full of pus here and there along the tube, in either case constituting the condition known as pyosalpinx.

COMPLICATIONS OF SALPINGITIS.

Amongst the secondary changes that occur as a consequence of these inflammatory processes, there are one or two of such importance as to call for special mention. When the salpingitis is unilateral, it is not at all unusual to find that the peritonitis in spreading from its place of origin, the fimbriated end of the inflamed tube, has passed over to the other side of the pelvis, involving the healthy uterine appendages of that side in a mass of adhesions. Under such circumstances closure of the abdominal ostium of the healthy tube is apt to occur, and to be followed by the development of a hydrosalpinx, which, though then simply an incident in the course of an attack of pelvic peritonitis, may in its turn itself become a source of suffering and ill-health. In my experience, this is the commonest mode in

* Pelvic abscesses bursting into the rectum or into the vagina are almost always of this nature and not of cellulitic origin, as has been commonly supposed.

which hydrosalpinx is developed. Hematosalpinx, as a complication of salpingitis, is much more rare. In the great majority of cases, hemorrhages within the tube and hematoceles of tubal origin are the consequence of tubal gestation, but now and then they occur as incidents in the course of the inflammatory processes I have just described, and quite independently of gestation. The outcome of a knowledge of the facts I have laid before you is to give to the Fallopian tubes an enormous importance in the pathology of pelvic inflammation.

It has been somewhat the fashion of late to sneer at those who have become impressed with the pathological importance of the Fallopian tubes as the victims of a mere passing craze, who can see nothing but diseased tubes in every gynecological case that comes before them. The phenomenon is one that need not excite the least surprise, or arouse the least resentment. It is a matter of common experience that those who are left behind by the advancing tide of knowledge, whether it be from prejudice, or lack of opportunity to observe, or the inability to take in new ideas, which is one of the heaviest penalties of advancing years, are tempted to deny that the advance is real, and to ridicule or denounce those who accept it. When the ophthalmoscope was first introduced into this country, a paper was read on the subject before a provincial medical society, when one of the leading oculists of the town, a man of large experience and great ability, rose and said that it was perfectly absurd for any one to come there and describe various appearances seen at the back of the eye; the back of the eye was black, and there was nothing more to be said about it. There always were and always will be people like this old oculist, ready to assert that, where they can see nothing but blackness, nothing but blackness exists. Such men are to be accepted as an inevitable part of what Professor Huxley has recently called the cosmic process, and the true evolutionist consoles himself by the reflection that even they may one day be shown to subserve some useful purpose therein.

The pathological importance of the Fallopian tube is due to its peculiar anatomical position in the human subject. There is, so far as I am aware, no other mucous canal in the body similarly situated. It is exposed to constant risk of infection, owing to the direct continuity of its lining membrane with that of the uterus and vagina, so that it is almost by a miracle if it escapes in any case of acute infective endometritis, whether septic or gonorrheal. But there is the widest possible difference between the danger of an acute endometritis and an acute endosalpingitis. In the former the patency of the cervical canal provides a natural outlet for the morbid secretions; in the latter there is no such natural outlet. The uterine end of the Fallopian tube has, even under normal circumstances, a lumen only just large enough to admit a fine bristle. It will, therefore, be readily

understood that it only requires a very slight swelling of the mucous membrane, such as is probably inseparable from the mildest inflammatory attack, to block up that end completely. Hence, as an outlet for inflammatory secretions, the uterine orifice may practically be regarded as non-existent. The position of matters, therefore, is that there is no outlet at all for the morbid secretions, owing to the closure of one orifice by the swollen mucous membrane and the closure of the other by adhesions, or the only outlet is through the abdominal ostium into the peritoneal cavity. It is this fact of the absence of a safe outlet for inflammatory products that makes an attack of suppurative salpingitis so much more serious a matter than an equally severe attack of suppurative endometritis, and that invests the inflammatory affections of the Fallopian tube generally with such an exceptional and grave importance.

IMPROVEMENTS IN DIAGNOSIS.

But it is not only in pelvic pathology that we have been recently enabled to add to our knowledge; our powers of diagnosis have been enlarged. A little time ago the idea of being able to map out and examine the uterine appendages in the living subject would have been scouted with derision. To-day I should be ashamed for any of my clinical clerks to be found, at the close of their three months' tenure of office, unable to diagnose, under reasonably favorable circumstances, the size, position, consistence, and mobility of the Fallopian tubes, even if not of the ovaries as well, with a fair amount of accuracy.

In order to make a satisfactory bimanual examination in a suspected case of pelvic inflammation, I believe it to be essential that the patient be in the dorsal position, with the knees flexed and separated, the head supported on a single pillow, and the shoulders not raised, as is generally recommended, but lying flat on the couch or bed. To avoid strain (and no examination can ever be satisfactory in which the posture of the examiner involves the least strain), the examiner should stand or sit directly in front of the patient. Only in this way can the full advantage of the bimanual method be obtained. I know that it is usually recommended, more particularly in Scotland, that the examiner, even when the patient is in the dorsal position, should stand at the patient's right side whilst conducting the bimanual examination. But consider for a moment what that involves. The two hands are at right angles to each other. By facing the patient this awkwardness is avoided; the hands and forearms are parallel to one another, and the necessary manipulations are thereby carried out more effectually because more easily. With regard to the respective merits of the dorsal position and the left lateral, or English obstetric, position for purposes of bimanual examination, there seems to me really no room for discussion. No one who has once accus-

tomed himself to place his patients in the dorsal position, and has experienced the vastly increased ease with which the deeper parts of the pelvis can be thus explored, will ever willingly revert to the older plan. It has been said that the dorsal position is less modest than the position on the left side, and therefore more trying to the feelings of the patient. But is this really the case? Of course, I can readily understand that a patient who has been accustomed to be examined on the left side, and is for the first time placed in the dorsal position, will feel strange and uncomfortable, and disposed to resent the unaccustomed posture. Similarly, I can quite enter into the feelings of a medical practitioner who, having been in the habit of attending obstetric cases with the patient in the left lateral position all his professional life, and seeing for the first time an examination conducted with the patient lying on her back, is disposed to regard the proceeding as indelicate. But all this merely emphasizes once more the marvellous force of habit. There is nothing inherently indelicate in the dorsal position, and an examination can be conducted with just as much regard for the feelings of the patient when she is lying on her back as when she is lying on her side. When a woman has made up her mind to submit to the ordeal of an examination at all, she has done so because she wishes to know what is the matter with her, and she would certainly prefer, if the question were put to her, to be examined by that method which would best enable the examiner to form a correct opinion and to give her the information she seeks.

IMPROVEMENTS IN TREATMENT.

But we must not forget, in our eagerness after a more correct pathology and a more refined diagnosis, that the reason of our existence as practitioners of the healing art is to relieve suffering, and, where possible, cure disease. "There is one part of their business," says Oliver Wendell Holmes, in one of his inimitable essays, "which certain medical practitioners are too apt to forget; namely, that what they should most of all try to do is to ward off disease, to alleviate suffering, to preserve life, or at least to prolong it if possible. It is not of the slightest interest to the patient to know whether three or three and a quarter cubic inches of his lung are hepatized. His mind is not occupied with thinking of the curious problems that are to be solved by his own necropsy; whether this or that strand of the spinal marrow is the seat of this or that form of degeneration. He wants something to relieve his pain, to mitigate the anguish of dyspnea, to bring back motion and sensibility to the dead limb, to still the tortures of neuralgia. What is it to him that you can localize and name by some uncouth term the disease which you could not prevent and which you cannot cure? An old woman who knows how to make a poultice, and how to put it on, and does it *tuto, cito, jucunde*, just when and where it is

wanted, is better—a thousand times better in many cases—than a staring pathologist who explores, and thumps, and doubts, and guesses, and tells his patient he will be better to-morrow, and so goes home to tumble his books over, and make out a diagnosis."

I have called attention in the earlier part of this address to some of the indirect benefits that have accrued from operations undertaken for the removal of the uterine appendages, but I have said nothing as yet as to the value of these operations considered in regard to their primary object—namely, as a mode of treatment. It is desirable, in the first instance, to make a clear distinction between the operation for the removal of the uterine appendages when there is no obvious lesion of either tube or ovary, and the same operation when those parts are the seat of manifest disease. Probably owing in some measure to the fact that the one operation grew, as it were, out of the other, the two operations are continually being confounded both by speakers and writers, to the great perplexity of the uninitiated. The scope of Battey's operation—that is, the operation for the artificial induction of the menopause—never very wide, has become narrower and narrower as experience has increased, and is now practically restricted to the treatment of certain cases of uterine myoma.

OPERATIVE AND NON-OPERATIVE TREATMENT CONTRASTED.

In August of last year, a thin, emaciated woman, aged 37, was admitted to the Southwestern Fever Hospital, in London, supposed to be suffering from enteric fever. She had lived a dissolute life, and showed well-marked evidence in the palate of having suffered severely from constitutional syphilis. There was a distinct history of gonorrhea. She had been ill for three weeks with headache and loss of appetite, and for four days before her admission had suffered from pain in the abdomen and diarrhea. The abdomen, on admission, was somewhat distended and tympanitic, the tongue dry, the pulse rapid and feeble, and the temperature 103°. There were no spots, and the chest sounds were normal. On vaginal examination, the whole of the posterior part of the pelvis was found to be occupied by a firm, hard mass. Early in the morning of the second day after her admission, she passed a large quantity of extremely offensive purulent fluid from the vagina, and, four hours later, she died. At the necropsy a considerable quantity of semi-purulent fluid was found in the abdominal cavity, the contents of which were much matted together by adhesions, especially towards the pelvis. The uterus was somewhat enlarged, and its mucous membrane hyperemic. Both Fallopian tubes were found thickened, enlarged, and full of pus. They were curled back upon themselves, and their fimbriated ends, closed by inflammatory adhesions, were adherent to one another in Douglas' pouch. The remainder of the back of the pelvis consisted of a large abscess cavity, containing much offensive

pus. This abscess cavity was found to communicate with the interior of the right Fallopian tube, through an ulcerated opening in the tube wall; it also communicated with the general peritoneal cavity, and, through a small, round opening in the posterior fornix, with the vagina. The ovaries were of normal size, and imbedded in the walls of the abscess cavity.

Here is another instance of death from rupture of a pyosalpinx. On April 8th there was admitted into St. Thomas' Hospital a very stout married woman, aged 41, with symptoms of general peritonitis, and in a state of collapse as though from intestinal perforation. For some months she had had an offensive vaginal discharge. Her present illness had commenced a day or two before admission. She was practically moribund when she arrived at the hospital, and died in a few hours. At the necropsy there was evidence of general peritonitis, most intense in the pelvis. The abdomen contained about a pint of highly offensive pus. Both Fallopian tubes were greatly and about equally distended, being equal in size to a piece of intestine. They were much distorted, and doubled backwards on themselves. Each of them was closed at both ends, and contained about an ounce of the most intolerably fetid pus. On the anterior wall of the left tube, somewhere about its centre, was a perforating ulcer through which pus could be squeezed. There was no other serious disease in the body, except that the mucous membrane lining the uterus was intensely inflamed, and a small, soft, ulcerated, gangrenous polypus projected into it from the left side of the fundus.

Both these exampless of chronic disease ended fatally. Occasionally, however, tubal disease terminates fatally at a much earlier stage, as in the following terribly sad case:

A healthy woman, aged 27, was, a few years ago, admitted into St. Thomas' Hospital, with acute but ill-defined febrile symptoms, which had commenced four days previously. She had been nursing some cases of diphtheria, and, as she had slight soreness of the throat, with shivering, severe headache, vomiting, and aching of the limbs, it was thought she had caught the infection. Her temperature on the day of admission was 102°; the day following it was 104°. On the third day she complained of some abdominal pain, and the evening temperature was 104.6°. At the end of a week the abdomen became somewhat distended. From that time the symptoms were those of general peritonitis. She died on the thirteenth day after admission, the temperature an hour before death having risen to 105.6° At the necropsy there were evidences of acute general peritonitis, most marked in the pelvis. There was little or no fluid in the abdominal cavity, but abundance of lymph and much glueing together of the intestines and other abdominal viscera. In the pelvic cavity there was

an ounce or more of thick pus. The uterus was much involved in adhesions, but otherwise healthy. Both Fallopian tubes were acutely inflamed, and, upon making impression upon them, thick yellow pus in considerable quantity exuded from the outer extremity of each. The inflammation was most marked on the right side. The right ovary was larger than the left, and appeared congested; the left was quite healthy. All the other organs of the body were healthy, except that the lungs were somewhat congested and edematous.

Such is a brief account of three cases of purulent salpingitis that proved fatal, owing to escape of the contents of the tube into the peritoneal cavity; in two instances through a rupture of the tube wall, and in the third through the still unclosed fimbriated extremity of the tube.

I propose now, by way of contrast, to relate three cases of very similar character to the foregoing, in which the diseased tubes were removed by operation.

A young woman, aged 28, with a worn, pale face, and wretchedly thin, was admitted into the hospital on account of severe pain in the lower part of the abdomen, with pyrexia. She had been married five years, but had been separated from her husband for three years. Only once during the three years of their separation had the husband and she cohabited, and on that occasion, which was twelve months before her admission, he infected her with gonorrhea. In a few weeks she became too ill to continue at her work; and had to give up her home and go into the parish infirmary with her children. She came out in three or four months, but soon had to return. She again took her discharge, and resumed her occupation. Her health, however, soon gave way. She suffered great pain in the lower part of the abdomen, in the groins, and in the back, and eventually sitting became so difficult and painful that she had to relinquish her employment. The pelvis was filled with a hard, irregular mass, especially to the right of the uterus and behind it. The uterus was of normal size, pushed over to the left of the middle line, and fixed. Abdominal section was performed. The posterior part of the pelvis was occupied by a mass of inherent viscera, difficult to recognize and separate. Both tubes were thickened and much distended, and each communicated, by its open fimbriated end, with an intraperitoneal abscess, fed, evidently, from the suppurating tubes. The patient made an excellent recovery, lost her pain and ill looks, and became a picture of good health.

The next case is that of a married woman, aged 24, the mother of three children, who complained of severe pain in the back and left iliac region, the symptoms having come on suddenly four days previously. Her temperature varied from normal to 102.2°. She had had a similar attack three months previously, but in the meantime had felt fairly well. The

pain disappeared after the patient had been twenty-four hours in the hospital; but as there was in each posterior quarter of the pelvis a dense irregular mass, a portion of which could be felt as a tortuous and thickened tube, and as it appeared certain the case was one of chronic purulent salpingitis, it was thought the safest plan to operate. The decision was a fortunate one for the patient. The operation was performed. Both tubes were found irregularly dilated, occluded, and full of pus. Their walls were a quarter of an inch thick, and so deeply ulcerated that in places only the peritoneal coat remained. On the anterior surface of the right tube, at a point where the wall was specially thin, there were two small perforations through which pus was escaping. Probably these openings were made during the separation; but it was manifest that even if perforation had not already taken place, it was on the point of doing so. A delay of even a few days would have exposed this patient to a very serious risk. She made an uninterrupted recovery, and, when seen sixteen months later, looked so stout and well as to be scarcely recognizable.

The third case resembled in some of its features that of the nurse whose case I related in the first series. A chambermaid, aged 24, reported that she had been violated by a stranger staying at the hotel. During five weeks she had some pain on micturition and a vaginal discharge. She then felt pain in the right wrist. Three days later she was admitted to St. Thomas' Hospital, supposed to be suffering from acute rheumatism. She had pain and tenderness in several of her joints, without obvious effusion or redness of skin. Her temperature was frequently as high as 102°, and sometimes reached 104°. Five weeks after admission a vaginal discharge was noticed, and pain in the lower part of the abdomen. I was thereupon asked to see and examine her. I reported that she was suffering from gonorrhea, with pyosalpinx, pelvic peritonitis, and pyemia. She was transferred to my care, and a week after I operated. The pelvic viscera were matted together by peritoneal adhesions. The Fallopian tubes were thickened and full of pus. Behind the uterus and walled in by adhesions was an abscess the size of a Tangerine orange, fed by the two Fallopian tubes through their fimbriated ends. The result of the emptying of the abscess and removal of the tubes was immediate and striking. The pyemic symptoms rapidly disappeared, the parts concerned in the operation healed without a trace of suppuration, and the patient made a complete and excellent recovery.

Can there be any reasonable doubt that the lives of the first three of these six patients might have been saved by timely operation, or that the lives of the last three were so saved?

Do not let me be misunderstood. I do not for a moment suggest that every case of inflamed Fallopian tubes should be operated upon.

On the contrary, I am of opinion that most of them recover without. But there is a large residuum of cases, most of them chronic, some few acute, in which nothing but an operation can save life. And there is still a larger number of cases where a timely operation rescues the patient from years of misery, incapacity, and chronic invalidism. Every case has to be considered individually; no rules can be laid down which shall be of universal applicability. The woman who has her bread to earn, or who is the busy wife of a workingman, cannot afford the luxury of an illness extending over several years, and an operation would be justifiable in her case when it would not be in the case of her more well-to-do sister. The operation is, in short, not the one heaven-sent remedy superseding all others, but an invaluable addition to our resources which, when it is adopted in suitable cases, under a due sense of responsibility, and after full explanation to the patient and her friends both of the immediate risk and the ultimate physiological results, is capable of achieving triumphs as remarkable as any operation in surgery.

Progress of Medicine.

MEDICINE

IN CHARGE OF

W. P. CAVEN, M.B. Tor.,

Lecturer in Clinical Medicine in the University of Toronto; Physician to Home for Incurables.

Medical Section of the American Medical Association.

ULCERATIVE ENDOCARDITIS.

The section in medicine at the recent meeting of the American Medical Association in Milwaukee opened by the reading of a paper by the chairman (Dr. Charles B. Stockton, of Buffalo) on "A Review of Ulcerative Endocarditis." The disease was to be considered in its relations to other endocardial inflammations. Since the notable lectures of Osler in 1885, we have really established a new category of endocardial inflammations. These are the result of a great variety of infectious agents, and we must give up the idea that all cases are simple in nature. We cannot say how the infecting agent gains access to the system, and we do not know just what it is, but bedside experience and the results of experiments upon animals alike prove (if we except the clearly rheumatic cases) that in endocarditis some morbific agent gains access to the heart.

As to the nature of rheumatism we are still in the dark. The reader regarded it as an infectious malady. Many cases of arthropathy classified under this head are really not rheumatic at all.

Again, the heart may suffer in Bright's disease and in gout. In the former there may be a development of ptomaines; in the latter a diminution of nitrogenous excretion, both of which act destructively upon the endocardium. In ulcerative endocarditis so-called, we may have either a cell proliferation with adhesion and contraction of valve-cusps, or else a softening and ulceration of the same with a development of infectious emboli. Hence "ulcerative" is too limited a descriptive term, and should be replaced by "malignant." The disease is undoubtedly of bacterial origin, but no pathogenic germ has been found to stand in an isolated causal relation to the affection. Weichselbaum, Franckel, Gilbert, and Leon have all contributed to our bacteriological knowledge along this line. The pneumococcus of Weichselbaum, the diplococcus of Friedlander, the bacillus coli communis have all been isolated from fatal cases. In certain instances the cusps show no ulcerations at all, but are covered with fungating vegetations. Taylor has suggested that certain germs localize their action on the initial valve and others on the aortic. Undoubtedly, certain micro-organisms always cause vegetations, while others may produce ulcerations.

Furthermore, the inflammation may begin either on the surface or in the substance of the valve-cusps, and the portions of cusp surface which are first brought into opposition by valvular closure are the site of the initial destructive process. This form of endocarditis occurs not infre quently on the right side of the heart, thus offering a marked contrast to the simple variety. Anaërobic germs would probably start up trouble here, while the aërobic would be more apt to affect the left side.

The disease is doubtless overlooked or unrecognized. Some are regarded as pneumonia, a thing quite natural from physical signs when we have the right heart involved and casting off septic plugs which stop up the pulmonary vessels.

GASTRODIAPHANY.

Dr. Max Einhorn, of New York, gave a demonstration of gastrodiaphany on two patients, and read an outline paper upon the topic. The procedure is really a translumination of the stomach. A soft rubber stomach tube is passed, in the end of which is a small Edison lamp connected with a battery, with the usual current interrupter at the proximal end of the tube. The latter should be lubricated with glycerine, and previous to its passage the patient should drink a glass of water. On making the connection, the stomach appears as an illuminated dome. Counter-pressure on the abdominal wall increases the brightening of the

zone of illumination. The zone is seen to descend in forcible inspiration as the stomach is pushed down by the diaphragm. This procedure will reveal the presence of gastroptosis, dilatation, tumors, and thickening. No accident has ever occurred. The glass of the lamp should, of course, be very thick.

DIABETES MELLITUS.

Dr. N. S. Davis, jr., of Chicago, read a paper on the treatment of diabetes. He thinks that patients are sometimes placed too quickly on anti-diabetic diet. As a result, there ensues depression, both mental and physical. He has seen two cases in which this sudden restriction led to diminution of urine, mental depression, physical malaise, and diabetic coma with fatal result. The patient should be gradually educated up to the necessary dietetic limitation, at least a week being spent in the process. If the patient can eat a potato daily without any increase in the sugar excreted, and if its withdrawal has no effect on its amount, he should be allowed to continue with it. A little bread can generally be allowed, and wheat brëad is preferable to the gluten product, as most specimens of the latter are impure and cóntain starch. Macaroni in moderation is generally allowable.

In regard to drugs antipyrine, so warmly commended by Germain-Sée, has proven in his own experience practically valueless. Some cases have been benefited thereby, but it gives no uniformly good results. His preference is for Clemen's solution of bromine and arsenic, which since 1885 he has employed in nearly two hundred cases. Its mode of action is unknown. Arsenic is supposed to affect the glycogenic function of the liver, and to increase the oxygenation of tissue; but there is no experimental proof that Clemen's solution does this. In some cases of diabetes occurring in patients with previous renal affection, with dilated glomeruli and arterial sclerosis in the kidney, the solution, while improving the general symptoms, has not lessened the renal flow. The dosage should be begun with three drops after meals, gradually increased to ten or fifteen. An average dose is eight drops. Too large doses (even five drops) at the outset may cause diminution of urine, but at the same time considerable depression.

As annoyances in the use of the remedy, he has seen edema about the eyes, conjunctivitis, pharyngitis, and nausea, though the latter can generally be avoided by free dilution in water. A slow tolerance should be established. Codeine and morphine in large doses will also lessen sugar; but there are, of course, objections to this plan of treatment. Three cases responded well to arseniate of strychnine, with accompanying dietetic restrictions.

Dr. Davis has also used the pancreatic preparations, but without posi-

tive proof of their value apart from diet. Essence of pancreas has been employed for this purpose. Reference was made to the reports of Neville, Wood, Hale, White, and other English writers on the effects of employing pancreas tissue itself and liquor pancreaticus. He has been disappointed in ergot. It has shown no effect on the glycosuria, and but little on the polyuria.—*N. Y. Medical Record.*

Bicycle Kyphosis.

One evil traceable to bicycling is the confirmed stoop which has already declared itself in many wheelmen, a result so common in the less strongly built bicyclists of the continent as to have found its way into classification as the "kyphosis bicyclistarum." The dorsal curvature posteriorly, which used to be rare in boys under fourteen years of age, is, now that the bicycle is so largely used, very fequently met with, particularly among those young bicyclists whose spinal column is developing more rapidly than the ligaments and muscles, and in whose case, therefore, the equilibrium between those parts is more or less disturbed. Were it merely unsightly deformity, the stoop in question ought to be combated in every way; but confirmed dorsal curvature posteriorly has consequences of its own quite mischievous enough to call for immediate counteraction. The displacement, embarrassed functional activity, and arrested or diseased development of the organs which kyphosis inevitably induces, are all too serious to warrant the slightest neglect in remedying them. Exercise of a kind to accustom the spinal column to an action directly antagonistic to the inclination forward of the bicyclist's attitude is what is needed. The use of the Indian clubs or such similar means of incurvating the spine anteriorly, throwing out the chest and maintaining the head erect, should be practised with that object. All the undoubted advantages of bicycling may thus be retained, without that cultivation of the stoop which tends to take a cubit from the stature of its inveterate exponents, and to impose a hunchbacked development on what it would then be a figure of speech to call the rising generation.—*Lancet.*

The Diagnostic Value of Subclavicular Palpation.

Dr. Hottenier calls attention to the value, from a diagnostic point of view, of bimanual palpation of the upper part of the chest. A congestive process limited to the apex may not be distinguishable at its commencement by percussion and auscultation. In such a case Dr. Hottenier recommends the following manœuvre: While one hand is applied over the subclavicular region and the other is maintained over the corresponding scapula, the to-and-fro respiratory movements are followed by the two hands, and a moderate degree of pressure is exercised by the pulp of

the fingers in front during inspiration. Should no pain be thus elicited, no appreciable lesion of that apex exists. Should the patient, on the contrary, complain of pain, it is a proof that congestion is present.—*Lancet.*

Meat Eating and Bad Temper.

One deplorable result of excessive meat eating is the ill-temper which is said to be a chronic complaint in England. "In no country," declares Mrs. Ernest Hart, in the *Hospital*, "is home rendered so unhappy and life made so miserable by the ill-temper of those who are obliged to live together as in England. If we compare domestic life and manners in England with those of other countries where meat does not form such an integral article of diet, a notable improvement will be remarked. In less meat-eating France urbanity is the rule of home; in fish and rice-eating Japan harsh words are unknown, and an exquisite politeness to one another prevails even among the children who play together in the streets. In Japan I never heard rude, angry words spoken by any but Englishmen. I am strongly of opinion that the ill-temper of the English is caused in a great measure by a too abundant meat dietary, combined with a sedentary life. The half-oxidized products of albumin circulating in the blood produce both mental and moral disturbances. Brain-workers should live sparingly, if they would work well and live long. Their force is required for mental exertion, and should not be expended on the task of digestion, for 'they should remember that the digestion of heavy meals involves a great expenditure of nerve force.' The healthful thing to do is to live an active and unselfish life, on a moderate diet, sufficient to maintain strength and not increase weight."

THERAPEUTICS

IN CHARGE OF

GRAHAM CHAMBERS, B.A., M.B. Tor.,

Professor of Analytical Chemistry and Toxicology, Ontario College of Pharmacy; Lecturer in Organic Chemistry and Toxicology, Woman's Medical College;

AND

WILLIAM LEHMANN, M.B. Tor.,

Physician to the Home for Incurables and House of Providence.

Bronchiectasia Apicis Pulmon. Dextri. Pneumotomic. Cure.

A man, 43 years old, who had been sick for five weeks, beginning with fever, stitch in the right side, and then profuse expectoration of fetid-smelling sputum. The examination gave symptoms of a cavity in the region of the right second intercostal space, near the right margin of the

sternum. An incision was made parallel to the rib, 9 cm. long, and the pleura laid bare. The point of a paquelin was then driven into the lung, and a large quantity of stinking pus allowed to exude. The wound was left open, and the case progressed normally until a cure was established and the auscultory conditions again normal.—*Prof. Hofmoke in Centralb. fur Therapie.*

Salicylate of Soda per Rectum.

In all cases where salicylate of soda disagrees with the stomach, it can be administered per rectum without any difficulty. In the clinic at Munich, after an evacuating enema, the following mixture is injected pretty high up in the bowel: 1½ to 2 drachms of salicylate of soda; water, 3 oz., and a pretty large dose of Tr. opii to prevent irritation of the bowel.—*Centralblatt fur Therapie.*

Treatment of Neurasthenia, Melancholia, and Epilepsy by Injections of Normal Nerve Substance.

Prof. V. Babes, of Bucharest (*Therapeutische Monatschefte*), says this method of treatment is contraindicated in irritable conditions, inflammations, and degenerations of the nervous system; but good success has been attained in neurasthenia, melancholia, and epilepsy. The fluid is prepared by rubbing up one part of the gray substance of freshly-killed sheep's brain with five parts bouillon, or a six-tenth per cent. solution of table salt, and straining through gauze or mull, everything, of course, being done aseptically. Each patient received about thirty-five injections, one every second or third day. W. L.

Posture in the Treatment of Acute Pleuritis.

Dr. Volland, in *Therapeutische Monatschefte*, says that if the patient is kept absolutely quiet on the back in bed, the whole course of the disease will be shortened. Exudation will be much less, absorption much more rapid and certain, and operative procedure much less often required. He is as particular about avoiding change of position as he would be in a case of peritonitis or fractured thigh, because, he says, with every change of position of the body—as from the back to the side, or from lying to sitting—there is a change in the location of the fluid. This necessitates an expansion of the part of the lung which has been contracted by the pressure of the fluid, and a contraction of the lung in the new locality; and, as this expansion cannot take place rapidly, there is a tendency to a vacuum, and a consequent suction force which, acting on the fluid in the greatly increased and enlarged vessels of the inflamed pleura, causes a transudation and increase of the effusion.

If slight adhesions have already formed, change of position may tear them, and thus tend to increase the inflammation.

Change from lying to sitting posture is also very exhaustive, and increases largely the already too rapid pulse and respiration. He gives very little medicine; small hypodermic injections of morphine to relieve the pain, if severe, is the principal thing He especially avoids anything that might cause vomiting. W. L.

Salicylate of soda is highly recommended by Koester in acute pleurisy. The fever diminishes, and absorption begins rapidly. He gives fifteen to thirty grains three or four times a day.

Piperazin in Diabetes Mellitus.

Dr. H Hildebrandt, of Elberfeld (in *Therapeutische Monatschefte*), has made some experiments with piperazin in diabetes. He gave phloridzin to a dog to cause the diabetes, and then, while administering both the phloridzin and piperazin together, found that the secretion of sugar, as well as other diabetic symptoms, ceased. He also gave it to a patient suffering severely from diabetes, in doses of about seven grains three times a day, and found, after fourteen days' treatment, that the sugar had decreased from eight per cent. to three per cent., and that the objective symptoms, as well as the nutritive condition of the patient, had improved. W. L.

Salophen.

Salophen seems to be gaining in favor as a remedy in both acute and chronic rheumatism. In doses of one to one and a half drachms daily, it is equal to salicylate of soda in giving relief, and has the advantage of being tasteless and not disagreeing with the stomach. W. L.

Treatment of Myxodema.

J. Henry reports a case of myxodema of fourteen years' standing treated by injections of thyroid extract with marked success; but, on account of the injections causing syncope on two occasions and an abscess on another occasion, he resorted to feeding the patient one lobe of the thyroid gland of a sheep every second day. This method prevented the return of the edema, but had not the same effect on the temperature as the injections had.

J. Shapland gave a patient who showed the first symptoms of the disease ten years before, for two months, the half of a gland every morning, raw, to eat, with very good success.

H. Benson prefers giving the extract internally by the mouth, on account of the greater certainty of the amount given. He gives ten to fifteen drops twice a day. W. L.

Morbus Basedowii (Graves' Disease).

The treatment of Graves' disease (exophthalmic goitre) seems to be passing more and more into the domain of surgery.

Lemke, in *Therapeutische Monatschefte*, reports that his first two cases, reported in 1891, still remain free from palpitations and exophthalmus, and he reports three new cases treated by semi-lateral extirpation. One died, some months after the operation, of influenza and edema of the lung. In the other two—one of which was a complete picture of Graves' disease, the other only palpitation and goitre—the symptoms have entirely disappeared. He prefers extirpation of one-half of the gland to Koch's plan of ligating the thyroid arteries.

Kroenelin reports three cases treated by partial extirpation which are now, after a year and a half, completely cured. He has since treated twenty-nine cases in the same way, twenty-two of which are completely cured.

Wette, who has had abundance of material, concludes that the struma is one of the most essential causes of morbus basedowii, and that the best and most effective treatment exists in the partial removal of the goitre.

Dreesmann reports three cases treated by ligating the four thyroid arteries with complete success, and says that the choice of operation, whether extirpation or ligation, can only be decided by a large amount of material.

Ichthyol.

A remedy which, by comparison, is as new as cantharides is old is ichthyol, yet its great value in a very wide range of cases is so well recognized that it is largely used. Its use has been to a great extent practically empirical, since even now we scarcely know more of it than that it acts differently from all compounds containing sulphur. So far, it seems probable that the wonderful power of ichthyol in dispersing indurations and swellings depends upon its power of dissolving the intercellular cement substance, and so setting free newly-formed cells, so that they are readily dispersed.

Whatever the explanation of its action may be, it will certainly give good results both when applied to acute and inflammatory processes. An ichthyol dressing of twenty-five per cent. ichthyol and seventy-five per cent. lanolin, in cases of erysipelas, is the best application by long odds with which I am acquainted, and in acute articular rheumatism forms the

most efficient application for the relief of the heat, swelling, redness, and pain. In this disease as strong an ointment as fifty per cent. is often better than one of twenty-five per cent. After it is applied, the affected part should be wrapped in patent lint heavily smeared with the same mixture. From its use in a large number of cases of acute rheumatism, I have learned to regard it as a remedy almost as valuable as the salicylates. For the purpose of relieving indurated glands, as after bubo or cervical adenitis, or the limbering up of the sheaths of muscles stiffened by strain, cold, or rheumatic tendency, ichthyol has certainly a most important place. Similarly, I have frequently seen ichthyol remove obstinate skin affections either when they were dry, superficial, and scaly, or when, through chronic eczema, marked subdermal induration arrested the healing process. Of the internal use of ichthyol I can speak but little. Although continental writers claim good results from its employment internally, the few cases to which I have given it have not seemed much benefited.—*Dr. H. A. Hare, in Therapeutic Gazette.*

Calomel Soap in the Treatment of Syphilis.

Watraszewski (*Annales de Dermatologie et de Syphilographie*, vol. iv., 1893) describes the preparation of the soap as follows: The calomel, in the form of vapor, is mixed with a potash soap, in strengths of one to two and one to three. It forms a soft mass of a white color.

From two to three grammes of the soap should be rubbed in every day.

The inunctions should be carried out in the following manner: The parts to be rubbed should first be washed with ordinary soap and water, and, the patient then having taken a bath, the soap should be applied and rubbed in with a rotatory motion of the hand for from ten to fifteen minutes.

The advantages claimed for this method of treatment are as follows:

(1) Its application takes but little time.

(2) The soap is odorless and colorless, and it does not soil the linen.

(3) The inunctions never irritate the skin, except when applied too often in the same region.

The rapidity of cure corresponds in time to that resulting from the use of blue ointment.—*Therapeutic Gazette.*

Creosote Enema in Phthisis.

In Poland, Drs. Chrostowski and Wislocki, of the Hospital St. Roch, Warsaw, have treated fourteen patients with creosote, to whom about eight hundred enemata were administered. The quantity of the remedy thus given was from one to four grammes in the twenty-four hours. The definite conclusions are:

(1) That enemata are very convenient as a means of administration of such large doses.

(2) That the results obtained in the treatment of phthisis with large doses of creosote speak in favor of the theories of Seixert and Haelscher (or Hollszer?), who consider this remedy as an effective means of neutralizing the pernicious influence of tuberculous toxine on the organism.

(3) That all forms of phthisis cannot be treated with large doses of creosote. The best results are reached in those cases which develop rapidly when nutrition still exists, though considerably diminished. It may also serve for the fibrous form where there is complete failure of nutrition.

(4) That in gradually administering augmented doses of creosote, the appearance of a greenish color of the urine should serve as an indication. These results again point to *guaiacol carbonate* as likely to become a most important remedy in phthisis, guaiacol being the active principle of creosote, and guaiacol carbonate being a preparation of it which is non-irritating to the mucous membrane, as creosote and carbolic acid are.—*The Monthly Magazine.*

SURGERY

IN CHARGE OF

L. M. SWEETNAM, M.D. Tor.,

Lecturer on Therapeutics in the Woman's Medical College; Surgeon to the Outdoor Clinic, Toronto General Hospital; Surgeon to St. Michael's Hospital;

AND

A. PRIMROSE, M.B., C.M. Edin.,

Associate Professor and Demonstrator of Anatomy, University of Toronto; Surgeon Outdoor Department, Toronto General Hospital; Surgeon, Victoria Hospital for Sick Children.

Treatment of Wounds With Izal.

Mr. William Bruce Clark, M.B. Oxon., F.R.C.S. Eng., has lately been experimenting with a new substance in the treatment of wounds. The following is an abstract from his paper on the subject, which appears in a recent issue of the *Lancet:*

In November of last year Dr. Klein mentioned to me that he had been making some experiments with a new substance called "izal,"* which exhibited very remarkable disinfectant properties, was non-irritant, and had at the same time no poisonous influence on any of the higher animals, even in extremely concentrated solutions. After carefully reading Dr. Klein's report on the subject, and the account of his experiments, and

*The substance was at that time known by the term of the "Thorncliffe disinfectant." It has since been renamed "izal." It is a by-product obtained by Messrs. Newton, Chambers & Co., of the Thorncliffe iron works and collieries, Sheffield, in the process of coke formation.

after conferring with him upon the subject, I determined to test its efficiency and its applicability as a surgical disinfectant, and now, after some six months' trial, I am anxious to record the result of my investigations.

The cases in which I have used it have been selected by me because their behavior under the more commonly used antiseptics is so well known that it may be regarded almost in the light of a control experiment as regards this new disinfectant. The samples of the fluid which were submitted to me were diluted down to a strength of 1 in 50, and kept in bottles ready for use, the subsequent dilution to 1 in 200 being effected at the actual time of operation. The sponges which were to be used at the operation were cleansed, as is my ordinary custom, in soda and water, and then rinsed several times in fresh water until they no longer caused any turbidity in it. After this they were placed in a jar of izal (1 in 200), and kept there for at least twenty-four hours before use. The gauze which was employed as a dressing was the ordinary gauze of commerce boiled for twenty minutes in a saucepan over the fire, and then soaked for twenty-four hours, at least, in a solution* of izal (1 in 200) like the sponges. The gauze was wrung out just before use and placed in a moist condition over the wound, without the intervention of any protective or other similar substance between it and the wound. A sufficient number of folds were used to allow for any possible soakage that could take place, and the outside was then covered by any substance—*e.g.*, cotton-wool, etc.—which happened to be at hand in order to prevent the bedclothes from being wetted. The instruments were immersed in the same fluid for a quarter of an hour, and one's hands disinfected in it in the ordinary manner. As I am rarely in the habit of using ligatures, and usually employ torsion in their stead, I have not made use of ligatures prepared in this fluid on more than a very few occasions; but whenever I have done so the ligatures have in no single instance given the slightest trouble, nor have they in any way retarded the healing of the wound, so that one may fairly conclude that it is at least as efficacious as carbolic acid for the purpose.

The cases in which I have made use of this fluid may be described under the following heads: (1) Fresh operation wounds which were uncomplicated by ulcers, sinuses, etc.; (2) cases demanding special purification, *e.g.*, ulcers, etc., in which skin grafting by Thiersch's method was em-

*I have used the word "solution" here and in all subsequent instances in reference to this fluid "izal," but to be strictly correct the word "emulsion should be employed, and herein lies, in my opinion, at once the chief advantage and disadvantage of the fluid in question. Being an emulsion and not a clear solution, it is not so easy to see one's instruments when they are covered by it. At the same time, it must be borne in mind that the very fact that the fluid is so singularly unable to form chemical compounds with living animal tissues is in all probability highly advantageous from the germicidal point of view. Unlike corrosive sublimate, which speedily loses its disinfectant power by combining with the albuminous substances of the body, izal retains this power in such a remarkable degree because it will not combine with anything. It is also at the ordinary temperature of the air practically non-volatile, as may be easily tested by placing a few drops on a piece of cotton-wool, and leaving it for several months in an exposed position.

ployed; (3) abscesses and sinuses of varying degrees of complexity, all of which were either septic to start with or at least contained pus; (4) sinuses in connection with mucous membranes, including fistulæ in communication with the urethra, and a case of prostatic abscess opening both into the rectum and bladder; and (5) foul mucous membranes, such as bladders in a condition of cystitis, and mouths rendered foul by operations undertaken in their neighborhood.

(1) *Fresh operation wound.* The first case in which izal was employed by me was an ordinary case of breast cancer. The wound healed completely under a single dressing, and no pain was experienced by the patient after the operation. The same remarks apply equally to two cases of radical cure of hernia. The first was of a simple nature, but the second was complicated by the presence of a large sac and a fair number of adhesions, but no subsequent pain was experienced. The wound assumed an aseptic course throughout. In a case of goitre in which the fluid was applied, one-half of the gland, which was of considerable size, was dissected out and the fluid very freely used to the interior of the cavity. The jugular vein and recurrent laryngeal nerve were both exposed at the time, and were freely bathed with izal, but the subsequent course of the case left nothing to be desired; and this is the more noteworthy, as with carbolic acid and corrosive sublimate there is often considerable constitutional disturbance—an occurrence which has been ascribed by some surgeons to the influence which these substances exert on the cardiac nerves, which are derived from the vagus and pass down the neck.

(2) *Skin grafting.* Where large portions of skin have been lost through ulceration, or in consequence of some extensive removal of a tumor, the skin can be speedily restored by the transplantation of skin after Thiersch's method. This method is, however, liable to fail owing to the difficulty of cleansing the surface, and it sometimes happens that the operation has to be performed a second time in order to ensure success in consequence of the difficulty which is experienced in thoroughly purifying the surface of the ulcer and the surrounding skin with the antiseptics ordinarily in use. On the three occasions on which I have employed izal for this purpose healing has taken place readily, and without the slightest difficulty.

(3) *The purification of abscesses and old sinuses.* For this purpose the antiseptics in ordinary use are of little avail unless the surfaces are very thoroughly scraped, and it is not always possible to effect this satisfactorily. This is especially the case with smaller sinuses, which often remained unhealed for weeks after the major portion of the wound has become cicatrized. I first employed the fluid for washing out a psoas abscess and an abscess in connection with the hip-joint. In both cases the pus was

first evacuated, and the cavity was subsequently flushed out with hot izal (strength 1 in 200). Both the abscesses healed without further trouble, and no subsequent constitutional disturbance ensued. I next made use of it in the case of two sinuses, one in connection with an old palmar ganglion which had become inflamed and burst externally, the other being situated in the region of the loin and of uncertain origin. Both were well distended under pressure with the fluid, and both healed completely about ten days later. These two results are amongst the most striking which the employment of this fluid has yielded. The patient with the palmar ganglion had been attending amongst my out-patients for several months, as well as having been in hospital on more than one occasion, and all efforts which had been directed towards healing the sinus had failed. Several times it had become inflamed, and had necessitated fresh incisions being made in the palm. After the cavity had been hyper-distended with the fluid some considerable pain and uneasiness were experienced for upwards of forty-eight hours, after which it gradually subsided, and a soundly healed hand was the result. The other sinus cannot be regarded as being so striking an instance of the efficacy of the fluid, for, though it healed rapidly, its nature and exact extent were shrouded in mystery. After so excellent a result in the two sinuses just mentioned, I employed the fluid in the same strength in a case of suppurating knee-joint. The joint in question was freely opened, and was thoroughly scraped and flushed out. For a few days the pus diminished in quantity, the temperature fell, and the tenderness of the surrounding parts was lessened. The effect, however, was only temporary in character. The process was repeated a second time with double strength izal, viz., 1 in 100, but with no better permanent result. As each of these applications involved placing the patient under an anesthetic, it was not deemed advisable to make any further attempts at disinfection, and accordingly in this case izal was no longer employed, and the joint was drained in the ordinary manner.

(4) *Sinuses in connection with mucous membranes.* Some of the sinuses of this nature with which one has to deal from time to time may be classed amongst the most tiresome which are encountered in surgery, and, perhaps, amongst the most troublesome of all are those fistulæ which are in connection at the same time with the urethra, prostate, and bladder. The first case of this nature in which I made use of izal occurred in a patient who had a perineal fistula subsequently to urethral stricture. Though the calibre of the urethra was fully restored, the fistulous track refused to heal. It had been dilated, scraped, and injected with various fluids, such as chloride of zinc, nitrate of silver, carbolic acid (1 in 20), etc., but all alike had failed, and rarely a day passed without a certain amount of urine trickling out of the fistula. It was injected with izal, and a week later the

urine ceased to come by the false track, which has remained permanently healed ever since, *i.e.*, for more than three months. The second case was that of a prostatic abscess which had burst both into the rectum and the urethra. A lateral cystotomy was performed, the cavity scraped out with the finger, and freely irrigated with the fluid. The wound completely healed in about five weeks without leaving any fistulous track behind.

The effect of izal on mucous membranes. It only remains to allude to the effect of the fluid on mucous membranes; for example, when it is made use of in cases of cystitis, or as a mouth and throat wash after operations on those parts. In all such cases, it has invariably proved of the greatest benefit. Whilst it produces little or no irritation like carbolic acid, it is considerably more efficacious, and can, of course, readily be employed in inflammations of the mouth, nose, and throat, where a poisonous substance like corrosive sublimate is quite inadmissible.

Concluding remarks. From a consideration of Dr. Klein's experimental researches in connection with the substance, and from my own practical experience of it, I have no hesitation in saying that the antiseptic in question seems likely to prove more efficacious practically than any at present known. It will be obvious to any one who peruses critically the account of the cases in which I have employed it that in many of the instances referred to it was put to a very severe test, and that by its aid some excellent results were obtained. At the same time, it is equally clear that its behavior under all circumstances must be submitted to the test of a more lengthy experience before one can be in a position to predict that exact place which it is destined to take amongst the antiseptic fluids of the future. One thing, however, is certain, viz., that the surgeon will rejoice to hear that at last an antiseptic has been found which is easy to use, does not irritate his own hands or his patient's skin, and is, at the same time, by far the most powerful with which he is yet acquainted.

Spinal Symptoms and Phimosis.

A curious and interesting condition is described by Solon Chomatianos in the *Progrès Médical*, and an abstract of the papers appears in a recent number of the *Neurologisches Centralblatt.* The patient was an officer aged fifty-eight, who had always enjoyed good health, and had never suffered from syphilis. His symptoms consisted of incontinence of urine, paresis of both lower extremities, ataxy in walking or in standing with his eyes closed, loss of the knee-jerk, and finally immobility of the pupils to light. The patient suffered from phimosis, which had followed balanitas of two years' duration. There was no other sensory change or symptom of spinal disease, and after the phimosis had been relieved all the symptoms disappeared, and the patient completely recovered.—*The Lancet.*

Bacillus Coli Communis.

Dr. Rosswell Park (*Annals of Surgery*), concluding an exhaustive and thoroughly practical article upon this subject, says :

This organism, which is constantly present in the alimentary canal, is not always a harmless inhabitant, but becomes at times an active invader. It does not confine itself alone to the intestinal mucosa, where it may set up most active desquamative lesions, but may pass this barrier and penetrate into the general circulation and exercise pernicious activity in numerous other organs, with toxic effects upon the system at large.

Paraplegia and other paralyses are known to be sequelæ of colon infection of various abdominal viscera ; kidneys, liver, etc.

Herniary cholera, so called, is due to intoxication from the toxic products produced from the organism in its virulent condition.

While still confined to the alimentary canal, under certain conditions, it may give rise to infarcts as well as ulcerations, their gravity depending largely upon the activity of absorptions of toxic products.

From the intestinal canal the colon bacillus may ascend along the biliary passages, determining at one time cholecystitis, angiocholitis, and local necrosis, or at another multiple abscess in the liver.

It is known to be one of the frequent factors in peritonitis of intestinal origin. It ranks among the most active agents in case of urinary infection, *e.g.*, cystitis, pyelitis, pyelo-nephritis, etc. Without going minutely into the question of identity of various bacillary forms found in the urine, especially in cases of septic urinary affection, it would be enough for the present purpose to insist that in the kidneys, as well as in the bladder, the colon b.cillus may exert active pathogenic and pyogenic properties, and may be the active agent in producing cystitis, suppurative pyelitis, and their kindred disturbances, as well as pus elsewhere, general infection, and intoxication. These organisms may be introduced from without, as upon a catheter, or may be transferred from their normal habit by some traumatism, or by natural channels. In animals, at least, these microbes are in some measure eliminated by the kidneys after being injected into the circulation. The endocardium, the meninges, the pleura, articular serous membranes, and the lungs, are at times not exempt from the manifestations of its activity.

When ordinary antiseptic precautions are observed, it is probably the most powerful enemy with which the laparotomist has to contend. This fact gives plausibility to the views of those who claim that the best preparation for abdominal section is free catharsis for a few days previous to the operation. The researches of the past two or three years with regard to this organism have certainly justified the views which I have held and taught for some years, that there is a form of post-operative septicemia

which is due in no direct way to the operator or the operation, but is, in fact, that which it has often been called, *i.e.*, entero-sepsis, or intestinal toxemia, a genuine auto-intoxication, active and actual lesions being due to migration from the intestinal canal of the colon bacillus. The necessary inference from this is that constant attention to the intestinal canal should be the watchword of the surgeon, both in his preparation of patients for operation and his care of them thereafter. For a widespread recognition of these facts I have elsewhere and more than once contended, but feel that the profession at large are not yet fully alive to their importance.

If I may sum up the conclusions of Macaigne, with which he terminates his excellent monograph, they are briefly as follows:

The colon bacillus has been identified with the bacillus Neapolitanus of Emmerich, the bacillus fetidus of Passet, the bacillus pyogenes of urinary infection of Albarran and Clado, and the bacillus lactis erogenes, and perhaps with other forms described by other authors.

Ordinarily inoffensive, it may from causes not yet ascertained acquire a greater or lesser degree of virulence, according to which it may determine one or more of the following lesions:

I. Infectious enteritis.

(a) Acute form.

(1) The algid forms: cholera nostras, cholera infantum.

(2) The pyretic form: post-puerperal pseudo-infection, etc.

(b) The chronic form.

(1) The wasting enteritis of children and of adults.

II. Dysentery.

Then, if the intestinal barrier is broken down, we may have peritonitis and herniary cholera. *Probably most, if not all, cases of appendicitis belong also under this head.*

The ascent of the colon bacillus along the biliary passages may provoke, according to its virulence, (1) simple biliary infection, (2) acute jaundice, (3) suppurative angiocholitis.

In the alimentary canal it is capable of provoking—in the mouth, false membrane; in the stomach and intestines, infarcts; and lower down, perirectal abscesses. The bacillus penetrating the intestinal mucosa may infect parts or organs at a distance; for example, the endocardium, the thyroid body, the lungs, etc.

Finally, the bacillus may in some way, not yet fully understood, provoke meningitis, urinary infection, pulmonary and articular lesions.

ILLUSTRATIVE CASES FROM THE PRACTICE OF THE AUTHOR.

CASE I. *Cancer of the intestine, with abscess.* H.C.G., aged twenty-two, was taken sick, apparently with dysentery, during which he rapidly

emaciated and developed a tender, painful tumor to the left of and below the umbilicus. This tumor was watched some time, and finally showed evidence of the presence of pus. It was opened, under ether, and some 75 c.c. of foul-smelling pus evacuated from apparently a subperitoneal cavity, around which there was considerable induration. This cavity closed, then reopened, the tumor grew in size, and subsequently proved to be of malignant character, involving several loops of intestine in one firm, dense mass. The case was under the care of Dr. D. W. Harrington, and the operation was made by myself. In the pus from the above abscess no organism could be found save the colon bacillus.

CASE II. *Recurring peri-appendical abscess.* H.T., aged forty-eight. This patient was operated on April 8th, 1892, for acute peri-appendical abscess. In November, 1892, he returned with another large abscess pointing externally in the old scar. The appendix had not been removed during the first operation, for the reason that it could not be found without what seemed to be injudicious disturbance of the parts. November 26th the patient was operated on the second time, and nearly a pint of material evacuated. The pus from this case gave a pure culture of the colon bacillus, which, however, showed no special virulence.

CASE III. *Acute abscess of the liver.* J.C., aged thirty-three. Fou weeks previous to entering the hospital he was seized with sharp pain in the right side, which caused him to give up work. Since then he has been very sick, and was brought to the hospital four days before the operation with a temperature often as high as 106°, with frequent chills, great soreness, and some swelling in the region of the liver. Referred to me by Dr. Chas. Cary, December 28th, 1892. I anesthetized him and evacuated a very large abscess in the liver by incision between the tenth and eleventh ribs, just back of the axillary line. At the time of the operation about twenty-five ounces of thick, ropy pus slowly escaped. The temperature at once subsided, to remain low, and he made a rapid recovery. In his case the pus was a pure culture of the bacterium coli commune.

CASE IV. *Gangrenous appendicitis.* H.W., aged sixteen, was sent to the hospital by Dr. S. G. Dorr. This was a case of gangrenous appendicitis of eight days' duration. Although the appendix was found gangrenous at the time of the operation, the patient had never seemed very sick. Two days before the operation he was able to walk, and when I first saw him, the day previous, he moved in bed without pain, and was not extremely tender, although the tumor was as big as my fist. From this, on the following day, several ounces of fetid pus were evacuated, and the appendix, almost completely gangrenous, was easily removed. He only stayed eight days in the hospital, and then went home nearly recovered. Pus from this case showed nothing but colon bacilli.

CASE V. *Acute appendicitis, with perforation and obstruction of the bowels.* H.J., aged forty-eight, gives a history of three attacks within the recent past of pain and soreness in the right iliac fossa. January 13th, 1893, he was taken with very severe pain, and became a patient with Drs. Greene, with whom I saw him four days later, when he had fecal vomiting and all the signs of intestinal obstruction, but without any localized tenderness. The same day I operated, and after opening in the middle line, on exploring toward the right iliac fossa, some slight adhesions gave way, and there came a gush of several ounces of fresh thin pus, having a strong fecal odor. As well as I could, under the circumstances, and by gaslight, I examined the region of the cecum, but could find there no definite lesion. The patient died about fifty hours later, and on autopsy there was found a gangrenous appendix with circumscribed gangrene of the adjoining portion of the cecum. Examination of the pus removed at the time of the operation showed colon bacilli, and nothing else.

CASE VI. *Cholecystitis suppurativa.* During the same week I was called out of town to see an elderly woman in whose case both the history and the local symptoms pointed to an acute appendicitis; in fact, every sign of it was present save perceptible tumor. She had had chills and high temperature, and the tumor had been distinctly perceptible in that region within a day or two. Her chills were followed by an alarming collapse. An operation was deemed necessary at once. When I saw her in the evening her temperature was down, and she had involuntary stools, and there was tenderness across the lower bowels. Under ether I made a long oblique incision over the appendix, and upon working my way down to it found it perfectly free and apparently normal. Exploring upward, I came upon a large distended gall bladder, and aspiration with a fine needle showed it to be full of apparently sero-pus. I closed the lower incision, made a second one over the gall bladder, sewed it to the peritoneum with four fine silk sutures, and left it to be opened the following day. The contents of the gall bladder, as withdrawn by the aspirating needle, showed a sero-purulent liquid which contained colon bacilli and streptococci. The patient made a final though slow recovery, over forty gallstones being later removed by Dr. Richmond, of Fredonia, N.Y.

GENITO-URINARY AND RECTAL SURGERY

IN CHARGE OF
EDMUND E. KING, M.D. Tor., L.R.C.P. Lond.,
Surgeon to St. Michael's Hospital; Physician to House of Providence and Home for Incurables; Assistant Pathologist, Toronto General Hospital.

The Presence of a Valve at the Neck of the Bladder.

Dr. Opert states that the presence of a valve at the neck of the bladder, without being associated with diseases of the prostate and bladder, is not uncommon. Mercier assumed that the condition existed only in old people, and operated with the best results in over three hundred cases.

Von Dittel denies the statement that it is not dependent upon prostatic hypertrophy, but believes that it is due to a spasmodic contraction of the prostatic ring or internal vesical sphincter.

Socin claims that the causes may be either hypertrophy of the bladder as a result of stricture of the urethra, or tumors of the bladder, etc., and as a result of the hyperplasia a bundle of transverse muscle fibres is raised up, and possibly proves a hindrance to perfect micturition.

Eigenbrodt reports the case of a man, twenty-four years of age, who, since boyhood, had suffered from difficult urination, so much so that at times the urine could only be voided by great straining. Examination of the urethra with the ordinary catheter was impossible, as only the smallest soft instrument could be made to enter the bladder. The first examination of the urethra was followed by complete retention, and all ordinary measures to relieve the same proved fruitless. As a last resort, the urethra was opened in the perineum, a sound was easily passed until it reached the neck of the bladder, when further attempts at introduction were resisted. A small sound, with a sharp curve, was next tried, and, after considerable manipulation, it entered the bladder; a catheter was then passed along this sound as a guide, and allowed to remain in the wound. Two days later the patient died, and at the *post mortem* the following conditions were found. The bladder was greatly dilated, and the contained urine was purulent. The urethral orifice was covered by a transverse, half-moon shape fold of mucous membrane. This fold consisted chiefly of mucous membrane; the base being somewhat thicker, contained muscular fibres, probably a part of the sphincter muscle. The prostate was normal.—*University Medical Magazine.*

Von Wedekind on the Treatment of Gonorrhea with Hydrogen Peroxide, Undiluted.

After an experience with nine cases, the author claims most excellent results with this treatment. The patient is put upon potassium acetate,

gr. xx., four times a day, and is directed to use, as an injection, hydrogen peroxide, undiluted, 10-volume strength, five times in twenty-four hours. He directs that the injection be held in the urethra for about five minutes. In the entire nine cases the disease was aborted.

"The use of this drug in the early or incipient stage of gonorrhea, I believe, will cause the disease to remain a local trouble, prevent the absorption of the septic material; in other words, prevent gonorrheal septicemia by the removal of the hotbed of infection, as it is supposed to do in diphtheria."

Cases which have been discharging for more than two days cannot be aborted.—*New York Medical Record.*

[I have used the peroxide in a few cases, and am quite confident that in at least two the treatment was responsible for a resulting epididymitis. If the urethritis has become posterior, the danger is increased many fold. Peroxide of hydrogen will ferret out pus, and, should it commence its action in the deep urethra, around or near the opening of the seminal vesicles, there is great danger of an inflammation spreading along the cord. It is a dangerous remedy in tubes or cavities that do not possess a free opening.—E.E.K.]

Methyl Blue in Cystoscopic Diagnosis.

Kutner (in *Deut. Med. Wochensch.*) reports that he has utilized the fact that methyl blue is excreted by the kidney unchanged, and therefore gives a pronounced coloration to the urine, to facilitate the discovery and examination of the ureters in cystoscopic examinations. His method is to exhibit from fifty to seventy centigrammes of methyl blue two or three hours before the examination, by which time the urine will have become deeply colored. The bladder is then thoroughly washed and filled with a clear solution of boric acid, when the colored fluid ejected from the urethral orifices is very easily observed. The passage of the blue dye through the kidney does not deprive it of its power to color living cells, so that the epithelium at the base of the bladder soon becomes deeply stained. In view of the fact that at times the openings of the ureters are extremely difficult to find, even after the bladder has been opened, it is probable in such cases that this method will prove of great assistance.—*International Medical Magazine.*

Blood Changes in Syphilis.

Neumann and Konried (*Wiener klin. Wochenschrift*) have made a study of the blood in all stages of syphilis, with the following results:

(1) The hemoglobin is diminished in the primary stage from fifteen to thirty per cent. It remains diminished during the first part of the erup-

tion and in early treatment, but as the mercurials are pushed it rapidly regains its normal percentage.

(2) Older contracted cases of secondary syphilis have only from forty-five to seventy-five per cent. of hemoglobin. The anti-syphilitic treatment in these cases increases the hemoglobin, but does not raise it to normal.

(3) The late forms of tertiary syphilis are characterized by a low hemoglobin percentage, which improves under mercury.

(4, 5, 6) The red blood corpuscles are not diminished in the primary affection, but when constitutional symptoms appear they are reduced one-third. Anti-syphilitic treatment brings them back to normal. Non-treated secondary forms have about one-third the normal amount, which becomes normal under treatment. In the tertiary stage there is some diminution. The number becomes restored by treatment.

(7) The number of white corpuscles are diminished in proportion to the diminution of the red corpuscles.—*Medical and Surgical Reporter.*

Anuria for Eleven Days, with Recovery.

During (*Internationales Centralb. f. die Physiol. u. Pathol. der Harn. u. Sexual-Organe*) has reported the case of a man, sixty years old, who had suffered for a number of years from gout and renal colic, the urine at times containing small calculi. On one occasion the man was seized with severe pain in the left loin and in the course of the left ureter. The testicle of the same side was retracted. A few drops of urine were passed from time to time at long intervals. There was also vomiting. From this time no urine was passed, despite the efforts of the patient. The bladder was found to be empty. Warm baths, douches, massage, and diuretics were employed, but without avail. On the third day uremic symptoms appeared: vomiting, eructations, somnolence, depression, restlessness, thirst, anorexia. In a short time copious diarrhea set in. On the eighth day the man's condition became alarming, the uremic symptoms becoming more pronounced. This condition continued until the eleventh day, when, while straining at stool, a large amount of bloody urine was passed by the urethra. The urine was not preserved and a possible calculus could not be looked for. During the first ten or eleven hours between twelve and fifteen quarts of urine were passed. The threatening symptoms at once subsided, and in the course of forty-eight hours the patient felt as well as usual.—*Medical News.*

The Rôle of the Posterior Urethra in Chronic Urethritis.

Dr. Bransford Lewis, of St. Louis, in a paper read before the American Association of Genito-Urinary Surgeons held in Harrogate, on the above subject, arrives at the following conclusions:

(1) The causes usually given for the prolongation of cases of clap (the presence or absence of gonococci; strictures of large calibre; the use of certain drugs in treatment, etc.) do not satisfactorily explain them, nor do they furnish reliable means for prognosticating the outcome of a case.

(2) A single widely-prevalent cause for such prolongation of gonorrhea has as yet not proved its right to recognition as such.

(3) Posterior urethritis, by reason of its anatomical seclusion and inaccessibility to ordinarily prescribed treatment, if frequent, offers the best explanation for such prolongation or repeated recurrence.

(4) Scrutinizing clinical investigation shows posterior urethritis to be present in the great majority of cases of prolonged or severe gonorrhea; and

(5) Direct topical treatment to the posterior urethra is therefore necessary in the great majority of cases.

(6) The causes usually given as productive of posterior urethritis are not commonly found to be real factors in the clinic.

(7) The mode of onset usually described does not coincide with that discerned in clinical observation.

(8) These two latter observations confirm the probability that posterior urethral infection is accomplished through the lymphatics, which explains the frequency of such infection.

(9) Posterior urethritis is not a complication, but a natural phenomenon of gonorrhea.—*Journal of Cutaneous and Genito-Urinary Diseases.*

PEDIATRICS

IN CHARGE OF

W. B. THISTLE, M.D., L.R.C.P. Lond.,

Assistant Demonstrator of Anatomy, University of Toronto; Physician to Victoria Hospital for Sick Children; Clinical Lecturer on Diseases of Children in the Woman's Medical College.

Diabetes Mellitus in Infancy.

Duflocq and Dauchez (*Rev. de Med.*, June 10th, 1893) record a case of diabetes mellitus in an infant aged eighteen months, terminating rapidly by coma. The symptoms which were observed when first summoned were great thirst, constipation, feeble uncountable pulse, cyanosis of the face, and emaciation. The illness was attributed by the mother to teething. The child had been ill about a fortnight, but its condition does not appear to have alarmed the parents. It grew rapidly worse, became comatose on the following day, and died in a few hours. Under two years of age diabetes mellitus is extremely rare, and the authors were able to find only two cases of coma on record. Külz and Leroux collected altogether 150

cases of diabetes mellitus in childhood; of these, 9 were under two years of age. Berlioz, in 20,000 analyses of urine, met with sugar in the urine of a child—aged 3½ years—only once. The authors point out that diabetes in infancy is generally very rapid in its course, and suggest that the disease may be compared to an infectious disorder.

Malarial Fever in a New-Born Infant.

In this case the presence of malaria was undoubted in four members of the family, and the origin of the disease in the infant also seems very certain. The first paroxysm appeared eighteen hours after birth, a time far too short for the disease to have been contracted by exposure. The plasmodium malariæ was found to be present in the blood. The only element lacking for a perfect diagnosis was the failure to detect enlargement of the spleen.—*F. M. Crandall, in The Polyclinic.*

Acute Intussusception in an Infant Eight Months Old; Operation: Recovery.

Patient was a well-grown male infant, in good health until onset of symptoms, which began suddenly, child screaming and stretching out its legs. The day following neither the feces nor flatus were passed. An examination showed tympanites and an elongated tumor in right linea semilunaris. Examination per rectum negative, but the bowel contained some blood. Under chloroform ten ounces of warm water were injected in lower bowel by rubber tube and funnel held at a height of two feet and a half. Abdomen was distended, but tumor not reduced. Injection repeated with twelve ounces of water held three feet high. Laparotomy was decided upon. An incision made five inches long in left semilunaris; tumor removed from abdomen, the intussusception proving to be of the ileo-colic variety. There were no adhesions present, but the bowel was deeply congested and thickened. Patient was under the anesthetic thirty-five minutes, and was put to bed in good condition. Slight reactionary temperature to 102.2° F., but it soon subsided. Recovery uneventful. The following points were given in discussion of the case by the author:

It is futile to expect success in infants and children unless abdominal operations are done with the greatest expedition.

Shock is the great cause of fatality.

Peritonitis is generally caused either by infection during operation from without, or from the intestine, owing to rupture, ulceration, or gangrene. Neither should occur.

Injections of warm water should be tried under an anesthetic to accomplish reduction; these are generally futile after forty-eight hours. They are successful only in ileo-colic, ileo-cecal varieties, and in those of rectum and large intestines.

The signs of acute intussusception are clear and unambiguous. They are acute intestinal obstruction plus the discharge of blood and mucus from the bowel, plus a tumor.

Blood is passed in half these cases, and a tumor is often felt either by the rectum or in the abdomen.

As regards safety in operating, the following procedures with the order of preference, as follows: Incision, incision and amputation, resection, and immediate suture, extrusion and artificial anus without resection, and artificial anus preceded by resection.

Resection with immediate suture is an ideal operation.—*C. B. Lockwood, F.R.C.S. Eng., in The Lancet.*

Dietetic Treatment of Constipation in Infancy.

Dr. E. Emmett Holt, in an article on the dietetic treatment of chronic constipation in infants, points out that in order that the bowels may move regularly there must be a certain bulk to the fecal mass. In the adult this mass consists of green vegetables, pulp of fruit, husks of cereals, etc. In infancy the mass of residue must be formed from fat and casein. The ideal stool of a perfectly healthy nursing infant contains in its dry residue, according to the latest and best analyses, from 20 to 40 per cent. fat; this being by far the largest single ingredient. This indicates that nature requires that the infant's food should contain much more fat than can be absorbed. The use of this excess seems to be to keep the bowels in proper condition. Habitual constipation among nursing infants is usually seen in those who are gaining slowly, or in those who do not thrive at all at the breast; and in these cases the examination of the milk, in the great proportion of cases, shows it to be deficient in fat. But not all infants who are habitually constipated do badly; some exhibit all the other appearances of healthy nutrition. It appears to be true in such cases that sufficient fat for the requirements of nutrition is supplied, but there is not sufficient excess to regulate the action of the intestine.

Constipation is the rule in infants fed upon cow's milk simply diluted with water, or upon condensed milk. Good breast milk contains an average of about four per cent. of fat; the average of cow's milk about one-half per cent. less. An infant who gets cow's milk diluted with an equal quantity of water gets one and three-quarters per cent. of fat instead of four per cent.; and if the dilution is two parts of water to one of milk, the fat will not equal one per cent.

What effect has this upon the stools? Since the fat is nearly all absorbed, they consist chiefly of casein residue, which forms hard, dry masses often resembling marbles. It is true that, notwithstanding such stools, and the great discomfort caused by the constipation, and the asso-

ciated flatulence, the child's nutrition may not suffer greatly, and he may be so well nourished that the mother, and often the physician, may take it for granted that the food is all right, and settle down to the use of laxatives or suppositories for the remainder of the first year. The increase of fat in the food in such cases has at once the effect of rendering them softer, yellow, and buttery in consistency. Starchy foods as a rule tend to increase constipation, for although they add to the bulk of the stool the condition of intestinal putrefaction which they set up in the end makes the constipation worse in most instances. This applies to barley water, farina, arrowroot, Imperial Gramm, Ridge's food, and all similar preparations.

In conclusion, Dr. Holt considers deficiency of fat in the food to be the chief dietetic cause of constipation in young infants. The constipation is aggravated if at the same time there is an excess of casein. If from the beginning a proper amount of fat, about four per cent., is furnished, the habit of obstinate constipation is not established, and the bowels are easily kept in proper condition. If, however, the constipated habit has become established, more difficulty is experienced in overcoming this, and the dietetic treatment may not suffice, but it is certainly the most important element in the successful treatment of every case.—*Archives of Pediatrics.*

Peroxide of Hydrogen in Diphtheria.

In the August number of the *Archives of Pediatrics*, Dr. Lewis Smith inquires into the use of peroxide of hydrogen in diphtheria. There is much evidence as to its beneficial action, and also as to its disadvantages. The composition of the fluid varies much, and the poorer qualities, intended mainly for bleaching purposes, are highly irritating from the acid they contain. In some cases this irritating property is so extreme as to give rise to a thin layer of gray membrane similar to that produced by any ordinary caustic. With other less acid solutions a redness or rawness of the surface is produced, accompanied by smarting and excessive secretion. Attention is directed to the frequency with which the use of peroxide is accompanied by hoarseness and indications of involvement of the larynx. The effect of these irritating solutions is to bring about the very condition most favorable to the spread of the diphtheritic infection. Dr. Smith conceived of neutralizing the solution by the addition of bicarbonate of soda, determining the quantity of the bicarbonate necessary by the use of litmus paper. By this means it was thought that the undoubtedly great germicidal and antiseptic properties of the drug might be taken advantage of without incurring the risk of promoting further extension of the membrane. He consulted the celebrated chemist, Dr. Squibb, of

Broocklin, but was informed that it was necessary to have the solution acid, as under other circumstances decomposition took place so rapidly that it would be impossible to keep it. But if the alkaline solution were added immediately before using, the acidity is removed and the germicidal effects of the peroxide in no way interfered with. Following out this idea, Dr. Smith has adopted this plan. He has three bottles, one containing Squibbs' hydrogen peroxide, a second containing a five grains to the ounce solution of bicarbonate of soda, and a third contains ordinary distilled water. A teaspoonful of each is mixed in the bottle of the atomizer immediately before using each time. An extra teaspoonful of water is used when spraying the nose.

Soil in Skin Disease. *

Dr. Allan Jamieson considers that in chronic ringworm of the scalp, as well as in other skin affections, the condition of the soil is of very great importance. The disease, as a rule, to which exceptions are few, is met with in children from shortly after infancy till puberty is reached, at which era, or soon after, it seems, in the immense majority of cases, even though untreated, spontaneously to get well. Now, this is the period during which the sebaceous glands of the scalp, if not most active, are at least most liable to disturbance of function. During this time the hair is becoming thicker and stronger; indeed, the hair-producing energy of the system being expended almost solely in that era. While possibly it would be too much to say that seborrhea of the scalp is then most frequent, it is certainly more rapidly set up than later on. Once the trichophyton has established itself, a condition indistinguishable from the drier form of seborrhea, the pityriasis amiantacea of older writers, is set up, and this persists, unless kept in check by treatment, till, or in many cases even long after, the extinction of the parasite. So much is this the case that chronic ringworm in which the hair grows fairly well over the affected area is often mistaken for an ordinary example of dandruff. A form of seborrhea is therefore closely connected with tinea tonsurans capitis, and this is also supported by a fact which has come under my observation in the few instances in which ringworm of the head in adults has come under my notice, that in them the scalp was particularly scaly.

Again, in psoriasis a seborrheic element must be recognized in a very considerable proportion of instances. Unfortunately, I have no statistics of my own which bear on the age at which psoriasis is most frequent, but Nielsen, of Copenhagen, states that in 548 examples it was reported to have begun in 241, or 44 per cent., before the age of fourteen, showing a peculiar susceptibility of the integument to this complaint antecedent to

*Opening address at Dermatological Section, British Medical Association.

puberty. Again, alcoholism, which favors materially the development of a seborrheic condition, not only aggravates psoriasis, but induces the development of a worse type of the disease. In many cases we can easily determine this seborrheic element; and indeed it is difficult in a certain proportion to say whether they should be classed as seborrheic eczema or as psoriasis. This difficulty arises, perhaps, most often in connection with psoriasis of the scalp, but may also be encountered in cases where the complaint is principally or wholly confined to the trunk. Other examples, again, show little trace of this perversion of glandular activity. Dr. Byron Bramwell showed to the June meeting of the Edinburgh Medico-Chirurgical Society an instance of psoriasis which, when she showed herself at my out-patient *clinique* before her admission into his wards, presented a remarkable dryness of the skin, combined with a disposition to the production of, or transformation into, general exfoliative dermatitis. After treatment by thyroid feeding alone, and rest in bed, on which followed the separation of abundant flakes of dry cuticle, the skin eventually assumed a peculiar silky softness, accompanied by the total disappearance of the psoriasis. Here, so far as we can infer, the soil was directly influenced by the treatment, and to its modification we should ascribe the departure of the disease.

Lupus erythematosus is also associated with disordered sebaceous function, and though it is now agreed that the special inflammatory process, in which in so far as objective symptoms have revealed the disease mainly consists, does not necessarily start from the sebaceous glands or their investment of vessels, still, in many cases, we can easily convince ourselves that the scaly or warty accretion which forms is closely connected with the sebaceous gland system. The disorder may eventuate in destruction of these glands and of the hair follicles, leading to permanent alopecia and general aridity of the surface implicated. The resemblance, too, which some instances at least of lupus erythematosus exhibit to some of psoriasis must have struck many observers.

Lastly, there is an item in common to all these ailments from the therapeutic side. There are at least three remedies which act more or less beneficially on all alike. These are sulphur, chrysarobin, and pyrogallic acid. Sulphur in one form or another has been found to do good service in ringworm of the head and in lupus erythematosus, as well as in the cases of psoriasis in which the seborrheic element is most prominent. Though my own experience has not been great, authorities of note can be cited as to the alleged efficacy of pyrogallic acid in all three. In psoriasis the value of chrysarobin is undoubted; in tinea tonsurans capitis we have, among others, Duhring and Hutchinson, ascribing to it the foremost place in obstinate cases; and quite recently the latter author has recorded some

most interesting examples of cure in lupus erythematosus from the prolonged use of weak ointments of the drug. Part, at least, of this beneficial action is certainly due to the influence these agents exert on the soil. We may not yet, it is true, have the power to affect the soil on which we labor in as powerful a manner as the agricultural farmer can his by means of slag-phosphate powder. This, according to Professor Robert Wallace, when applied to the poorest description of exhausted pasture land, is known to have a marvellous effect in softening and sweetening the herbage generally, but more especially in developing the growth of white clover—an essential preliminary to the production of a thoroughly good and dense cover of permanent grass. Our object is rather to restrain the fertility of the extensive flora dermatologica, which Dr. Unna has shown to be so plentiful on the skin. The care of the soil is a factor in this, attention to which, it is to be hoped, will not be wholly omitted in the discussions.

PATHOLOGY

IN CHARGE OF

JOHN CAVEN, B.A., M.D., L.R.C.P. Lond.,

Professor of Pathology, University of Toronto and Ontario Veterinary College; Pathologist to Toronto General Hospital and Home for Incurables.

Distinct Species of Tricophyton in Human Ringworm.

An interesting communication on this subject has been made by M. Sabouraud. He has found that so far, with scarcely any exceptions, the parasite of ringworm may be one or other of two kinds. In about sixty-five per cent. the hairs from the head of an affected child, when examined after immersion in liq. potassa of a strength of forty per cent., will, so far as diseased, be found to be filled with very fine spores hardly $3m$ in diameter. These are quite in juxtaposition, arranged irregularly, and without discoverable mycelium. They even transgress the covering of the hair so as to furnish it with a sort of external sheath. The patch of ringworm itself presents special characters; it is round or oblong, is not more than two inches in diameter, often less; its surface rises a little above that of the skin around; the derma is thickened and infiltrated. The affected hair is fine, as a rule, and as if atrophied; its fracture is longish. He has named this parasite *Tricophyton microsporon*. In the second variety, which forms about thirty-five per cent. of the cases, there are large spores lying in a visible mycelium, arranged in distinct lines in the mycelial branches. These branches are all included in the hairs, and do not form an enveloping sheath to them. The chief patch is rather large than small, irregular, and there are at its circumference tufts of

healthy hairs encroaching on the diseased. The patch itself is very bald, since the hairs break off very short. They are rather swollen than atrophied; often no more than a black point at the follicular orifice. Formulated shortly, if the hairs are thick and their fracture a short one, the spores are large, from $\frac{7}{8}m$ in diameter; if the hairs are fine, and their fracture long, the spores are small, and have a diameter of $3m$. The variety with large spores he has named *Tricophyton microsporon.* There is a close relationship between the obstinacy of the ringworm and the *Tricophyton microsporon;* in twenty cases the macrosporon was only found once, but it alone has been met with in tinea barbæ and in ringworm of non-hairy parts. According to Sabouraud's observations, if the macrosporon be found in the hairs of an affected child, the case may be pronounced curable in three to four months; not so if the microsporon be encountered; such cases are the intractable ones. Some exceptional cases were seen with parasites not completely conforming to the characters described; such were apparently instances of infection from animals.—*Annales de Dermatologie et de Syphilgraphie.*

Albuminuria in Syphilitic Patients.

O. Petersen, of St. Petersburg, mentioned that in eighty-eight autopsies on syphilitics he had found lesions of the kidneys thirty-four times. In thirty-six cases where the fatal issue was due to syphilis alone, seven patients had succumbed to a chronic nephritis. The author examined the urine of syphilitics, and found that, in the secondary period, albuminuria exists in the proportion of three to eight per cent.—*The Universal Medical Journal.*

Suppuration in the Bovine Race.

A. Lucet (Pasteur Institute, Paris) has studied suppuration in cattle in fifty-two cases, in order to determine whether or not it depends upon the same germs as found in the case of the human being. He concluded that, whilst the microbes of human suppuration are met with in cattle, there are also a number of special forms not hitherto described, these being a streptococcus, a staphylococcus, and three bacilli. These forms may be found isolated, associated with one another, or associated with some of the forms seen in the human being. The following names have been given them: Streptococcus pyogenes bovis; staphylococcus pyogenes bovis; bacillus pyogenes bovis; bacillus crassus pyogenes bovis; bacillus liquefaciens bovis. The most common form is the streptococcus. It is smaller than that of man, and does not liquefy gelatines; the staphylococcus also is smaller than staphylococcus pyogenes aureus. The bacillus pyogenes bovis is smaller than that of tuberculosis, and grows poorly on

gelatines, and not at all on potato. It is inert in rabbits. The bacillus crassus grows readily on all media, does not liquefy gelatine, is non-virulent for rabbits, but killed guinea-pigs in thirty-six hours when intraperitoneally injected. The bacillus liquefaciens liquefies gelatine, and gives rise to abscesses in rabbits.—*Rev. Intern. de Bibliog. Med., July, 1893.*

KETSCHER ON THE PATHOLOGICAL ANATOMY OF PARALYSIS AGITANS AND OF THE NERVOUS SYSTEM IN SENILITY.

In three typical cases of paralysis agitans, the central and peripheral nervous system, and also the muscles, were carefully examined. Pathological changes were found in every case. Atrophy of all the tissue elements was present in varying degrees, and the ganglion cells in the brain were markedly pigmented, and had undergone disintegration. The nerve fibres in the cord were almost completely degenerated, this being especially marked in the posterior columns and also in the peripheral nerves. Muscular fibres partly atrophic and undergoing hyaline degeneration. Increase of connective tissue in the cord, peripheral nerves, and muscles. There is neuroglia sclerosis in the cord, affecting mostly the cortical layer and the blood vessels. This is more marked, however, in the posterior and lateral columns. There are also pronounced changes in the blood vessels, their walls being thickened and the adventitial sheath distended and infiltrated with round cells. Miliary aneurisms and hemorrhages are found scattered throughout the cord, particularly in the lumbar portion.

As a control experiment, he examined the nervous system of ten old people who had never suffered from paralysis agitans. The changes revealed differed only slightly from those found in paralysis agitans in which the same lesions were more pronounced. He agrees with those who claim that paralysis agitans is nothing more than expression of an abnormally high degree or form of premature senility of the nervous system. He is of the opinion that the primary changes occur in the vascular system, and that the nerve changes are secondary.—*The Epitome of Medicine.*

ACUTE PERFORATING ULCER OF THE STOMACH IN YOUNG ADULTS.

W. Soltan Fenwick, M.D., contributes a paper under the above heading to the *Journal of Pathology and Bacteriology* for June, 1893. He excludes from consideration gastric ulceration accompanying the acute specific fevers, pyemia, or burns. The ulcers are multiple as a rule. Dr. Fenwick treats of solitary, acute, perforating ulcer seen at the pyloric end of the stomach, and on or near to the lesser curvature. We are prone to

think of such cases as always chronic in character, the reason being, according to the writer, that by the time death occurs a chronic stage has has generally been reached.

The acute perforating ulcer is always found in young people—16 to 25 years of age—usually females, and anemia is frequently concomitant. The ulcer is seldom larger than a sixpence, and shows no sign of thickening or induration, and microscopic examination will fail to detect inflammation. In cases in which perforation has occurred, the shape will be distinctly that of a funnel, with the apex outwards. After describing the condition of which he means to treat, as above, the writer passes in review the different theories of causation that have been advanced, and criticizes them, adducing the results of his own experimental work to prove that they are inadequate.

(1) Embolism. Whilst it has been shown experimentally that embolism of the gastric arterial branches gives rise to necrosis and ulceration, it has not been shown that in the human being such embolism actually takes place. Clinical experience proves the gastric artery to be uncommonly free from such an accident; and, moreover, that ulceration occurs most frequently in patients in whose bodies no seat of origin for embola can be found. It is also noteworthy that ulcers resulting from embolism artificially produced are most common in the area not usually affected in the idiopathic disease, viz., in the cardiac and middle zones, and that in cases where embolism and ulceration at the pylorus do result from experiment the cardia is always affected too. In conclusion, the writer notes that ulcers produced experimentally always differ in character from the idiopathic form in showing distinct traces of hemorrhage and inflammation.

(2) Arterial Thrombosis. Thrombosis gives rise to ulceration only in those who are subjects of arterial disease, *e.g.*, arterio-sclerosis, and can therefore be but rarely a cause in the young. Moreover, ulceration so produced is always chronic, often multiple and non-perforating. Records, too, fail to show a case in which perforating ulcer has been accompanied by arterial disease.

(3) Ulcerous Obstruction. This cannot be admitted as a cause in the production of the form of ulceration under consideration. On account of the anatomical peculiarities of the ulcers of the stomach (absence of valves, etc.), obstruction must be very widespread to give rise to any lesion. Probably nothing short of plugging the portal vein, and that rapidly, will do much damage, and in case such obstruction does occur the ulceration resulting is multiple and confined to the cardiac portion of the stomach.

(4) Punctiform Hemorrhage. Certain cerebral and spinal injuries, as well as the blood states induced by the acute specific fevers, may lead to

small hemorrhages into the mucous membrane of the stomach, which, giving rise to necrosis, ultimately determine ulceration. Experiment has been successful also, certain hemolytic substances being used by injection. Ulceration so brought about is always multiple, and affects the whole surface of the stomach, as one would naturally expect.

(5) Vascular Spasm. Klebs has upheld the view that anemia, consequent upon vascular spasm, gives the gastric juice the opportunity of eroding the stomach lining, and Talma has shown that when spasm of the pylorus is kept up for some hours by faradization of the left vagus ulceration of the mucosa may result. The explanation is that the blood vessels are compressed and obstructed by the tonically contracted muscle of the pylorus, and erosion then takes place. There is absolutely nothing, however, in clinical experience to support such a theory, and, whilst possibility is admitted, probability must be very small.

All these theories, then, fail, in the opinion of the writer, to account for the occurrence of the acute perforating solitary ulcer as seen in the stomach of young adults.

In proposing an explanation of his own, Dr. Fenwick first glances at some features of the microscopical anatomy of the stomach, and in so doing directs particular attention to the occurrence and distribution of lymphoid tissue of the mucosa. It is found in two forms, viz., as a thin layer, or as definitely limited nodules. In both instances it rests upon the muscular mucosa as a rule; sometimes masses project through into the submucous tissue. Each of the nodules has its nutrient artery, and a lymphatic vessel running from its outer surface; they resemble very closely the solitary follicles of the small intestine, and, in fact, are spoken of as solitary glands of the stomach.

The distribution of these solitary glands in the stomach is also noteworthy. At all periods of life they are most numerous towards the pylorus, and "from puberty onward undergo a gradual diminution, seeming to retreat from the cardia towards the pylorus and lesser curvature." The lymphoid nodule, which penetrates into the submucosa, occurs only towards the pylorus, as far as Dr. Fenwick can discover.

The writer then goes on to show why he thinks acute perforating ulcers are formed in connection with necrosis of these lymphoid nodules.

In the first place, it is to be noted that the gastric solitary follicles are known to undergo inflammatory changes and necrosis in connection with a variety of affections, more rarely, it is true, than their homologues of the intestine, but still frequently enough to permit of accurate study.

Dr. Fenwick claims to have proven it by experiment with guinea-pigs; he also recorded cases in the human being. This being admitted, we have three questions to answer to complete our proof, viz., (*a*) Are the

microscopic characters of the ulcer consistent with the theory of its lymphatic origin? (*b*) Can any similar phenomena be observed in neighboring solitary glands? (*c*) Can the disease be shown to be allied to some general disorder like anemia? In answer to the first question, it is to be remembered that the lymph follicles are of so small a size that it would be possible to recognize lymphatic tissue only at an early stage—at a period, in fact, when we can expect to get but few samples for study. In respect to the second question, whilst the writer is not able of his own experience to give an affirmative reply, he calls attention to the fact that Gerhardt has recorded the tracing of all the stages between simple follicular enlargement and the perforating ulcer. Lastly, he admits his inability to answer the third question in the affirmative, but thinks that this really strengthens his position, since it has been abundantly proven that "when lymphatic ulceration occurs as the result of some general dyscrasia, such as tuberculosis, typhoid, diphtheria, etc., the ulceration is always multiple, and the stomach exhibits all stages of the disease. In the human subject the ulcer is usually solitary, however, and it is therefore obvious that the disease must originate from a local, not a general, cause, and cannot be dependent upon anemia or any other blood disorder."

The local cause may be an abraded condition of the mucosa over a follicle, and while this no doubt occurs very frequently, no ulceration resulting, occasionally the co-existence of anemia or hyperacidity of gastric juice, for example, may prevent healing and aid destruction.

The writer explains the funnel shape of perforating ulcers in this way: The gastric juice, as it dissolves away necrosed tissue, stimulates by its action contraction of the muscle fibres, and thus gradually limits its sphere of action as it goes.

HYGIENE AND PUBLIC HEALTH

IN CHARGE OF
WILLIAM OLDRIGHT, M.A., M.D. Tor.,
Professor of Hygiene in the University of Toronto;
AND
E. HERBERT ADAMS, M.D., D.D.S.

The Deadly Policeman's Club and the Brutal Clubber.

Why does modern civilization permit policemen to strike on the head with their deadly clubs? The club of the policeman is a relic of the barbarous ages, and the man who would use it violently, except in the plainest self-defence of imperilled life, is a barbarian brute, even though he may have been taught to pray to the Holy Virgin and have St. Patrick for his patron saint. There are Christian as well as heathen brutes.

Why should a policeman strike a fellow-man with such a deadly weapon on the head? A resisting prisoner is just as easily overcome by blows on the arms, and the victim's future is not thereby imperilled. The risk of insanity and death are not great from a broken arm.

The damage done by the club is not fully known to the public because its victims belong to the defenceless and friendless class, who go without sympathetic following to the public hospitals, asylums, and to the Potter's field, like poor big-headed Willie, or Hartnett, of St. Louis, now on trial in a distant city for murder done under the influence of insanity caused by a policeman's club on his head in St. Louis several years ago while drunk.

Many of the cases of insanity attributed to drunkenness in pauper asylums are the results of policemen's club violence on the head.

Is there no regulation prohibiting striking on the head? Is there no law on the subject? If not, there should be both without delay.

Aside from the humanitarian aspect of the subject, taxpayers do not wish to have brain diseases and lunatics to be cared for at public expense, made through the brutal use of the club.

But humanity demands that the use of the club be restricted. The club is brutal anyway. It makes both policeman and criminal brutal, and the man who would use it on an unoffending prisoner or upon an offending or offensive one, about the head, except in case of the direst necessity of defending his own life, is "A wretch whom it were base flattery to call a coward."

Science, especially psychological science, and humanity protest against the brutalism of past ages. Let the club be abolished and the clubber suppressed.—*The Alienist and Neurologist.*

A Floating Cholera Hospital.

A floating cholera hospital has been placed on the Thames, within the city limits of London, England, for the reception of cholera patients this season, in case the disease appears there.—*Sanitarian.*

Hypnotism.

The committee on hypnotism of the British Medical Association reported recently, affirming the genuineness of the agency, and prescribing restrictions. Its use should be forbidden to all but physicians, and these should not exercise it upon women except in the presence of relatives. It is further declared useful in relieving pain and procuring sleep, but it is not certain whether it can be successfully employed as a cure for drunkenness.—*Ex.*

Some Yearly Appropriations for Sanitary Purposes.

New York City	$435,000
Massachusetts	111,300
Texas	61,000
Illinois	49,000
Mississippi	46,000
Minnesota	29,000
New York State	25,000
Florida (about)	23,000
New Jersey	21,000
Wisconsin	20,000
Michigan	16,000
Alabama	13,000
Maryland	13,000
California	12,800
Connecticut	10,000

—*Florida Health Notes.*

State Institution for Epileptics.

The American Neurological Association took a step in the right direction when it adopted the following resolution: "It is the unanimous sense of the American Neurological Association that the proper care of the epileptic class, so long delayed, be urged upon the public, upon state authorities, and especially upon all interested in the care of the sick and defective poor, whereby they may be relieved from asylums and almshouses, and may receive the required care in such separate establishments as their deplorable situation demands."—*Medical Standard.*

Effects of Tobacco on Physical Development at Yale and Amherst.

Statistics on this controverted subject are rare. The following remarks are by Dr. Jay W. Seaver, of Yale, a reliable authority. They are based upon observatioms made of a college class of 187 men during their first and final years.

The growth of the men in four of the principal anthropometrical items, of varied character, is as follows:

	Weight.	Height.	Chest girth.	Lung capacity.
Non-users	*11.87 lbs.	.894 in.	1.74 in.	21.6 cu. in.
Irregular users	11.06 lbs.	.788 in.	1.43 in.	14.45 cu. in.
Habitual users	10.66 lbs.	.721 ib.	1.276 in.	12.17 cu. in.

*Metric measurements, also given by Dr. Seaver, are omitted.

If this growth be expressed in the form of percentage, it will be seen that in weight the non-users increased 10.4 per cent. more than the regular users, and 6.6 per cent. more than the occasional user. In the growth of height the non-user increased 24 per cent. more than the regular user, and 14 per cent. more than the occasional user. In the growth of chest girth, the non-user has an advantage over the regular user of 26.7 per cent., and over the occasional user of 22 per cent., but in capacity of lungs the growth is in favor of the non-user by 77.5 per cent. when compared with the regular users, and 49.5 per cent. when compared with the irregular users.

It has long been recognized by the ablest medical authorities that the use of tobacco is injurious to the respiratory tract, but the extent of its influence in checking growth in this and in other directions has, I believe, been widely underestimated.

Dr. Seaver's conclusions in regard to the dwarfing effect of tobacco are fully corroborated by the following statement by Prof. Hitchcock, M.D. of Amherst College, more recently published :

"The matter of tobacco smoking as an influence upon the physical development of Amherst students has been studied in the history of the class of '91. Of this class 75 per cent. have increased in their measurements and tests during the whole course, while 29 per cent. have remained stationary or fallen off.

"In separating the smokers from the non-smokers, it appears that in the item of weight the non-smokers have increased 24 per cent. more than the smokers ; in height they have surpassed them 37 per cent.; and in the chest girth 42 per cent. And in the lung capacity there is a difference of 8.36 cubic inches (this is about 75 per cent.) in favor of the non-smokers, which is 3 per cent. of the total lung capacity of the class."

The Clergy as Hygienists.

A number of the clergy of Philadelphia have appeared before the mayor of that city to urge him to take active measures towards keeping that city cleaner, and also to put in force any laws which may be used to prevent the cholera there this year. The clergy can wield a very great influence, not only on the personal cleanliness of the individual, but also as to his habits regarding his general sanitary surroundings, and it is pleasing to see that our ministerial friends of Philadelphia are showing in a practical manner their regard for the material as well as the spiritual welfare of their flock.

Tuberculin in the Treatment of Pulmonary Tuberculosis.

At the last annual meeting of the American Climatological Association, held at Philadelphia, May 25th, 26th, and 27th, 1893, two papers were

read on the above subject. Dr. Karl von Kuck, of Asheville, N.C., read a paper entitled: "A Contribution to the Results of Treatment of Pulmonary Tuberculosis by Professor Koch's Method." He detailed the further process of twenty-five cases of pulmonary tuberculosis treated with tuberculin, and reported two years previously. In the five cases treated in the early stage, recovery has taken place and no relapse has occurred. Of seven more advanced cases, final recovery took place in six; relapse in one, followed, however, by improvement. Of thirteen far-advanced cases, death took place in seven; six are still alive, three continuing greatly improved, and three others remain improved.

Dr. I. H. Hance, of Saranac Lake, N.Y., read a paper entitled "A Clinical Study of Crude Tuberculin and Modifications of the Lymph in the Adirondack Cottage Sanitarium." He reported twelve cases treated with Trudeau's modification of tuberculin. In all, the sputum contained tubercle bacilli. In four of the cases, the process was incipient; in five, advanced; and in three, far advanced. Three of the incipient cases were cured, and no relapse has occurred now after eighteen months. One has returned to the sanitarium, but the process is confined to one lung, and has assumed a more limited character than usual. Of the advanced cases, one is well (discharged eight months ago), as are three others discharged at later periods; the fifth has been lost sight of. Of the far-advanced cases, two were hopeless and are dead, and the third left the sanitarium with the disease quiescent, but was suffering from gastric catarrh. Since, she has developed diarrhœa, and is probably dead. In all these far-advanced cases, throat lesions were most pronounced.

Editorials.

THE MEDICAL SCHOOLS.

ACCORDING to the various announcements, the medical schools of Canada will open October 2nd and 3rd. It is expected that the number of students commencing the study of medicine in Ontario may be somewhat less than last year, because the new regulations of the Medical Council, which require a five years' course, come now into force for the first time. A great many recognize the fact that our profession now contains too many members, and that, consequently, a smaller number of medical students will be a blessing rather than an evil. We are told,

however, that according to present indications the Toronto medical schools are likely to have large classes. Certain exaggerated reports with reference to financial matters in connection with the medical faculty of the University of Toronto have caused some of its friends to fear that it cannot last much longer; but it is confidently asserted by those who ought to know that the prospects for the future success of the faculty were never brighter than at present. Without discussing details at this time, we may say that we have reason to believe the University is bound to support its medical faculty, and encourage its development in the direction of continuous advance, instead of allowing its usefulness to be impaired in any way. The opening lecture for the coming session will be delivered by Professor A. B. Macallum, in the Biological Department, at eight o'clock in the evening of October 3rd.

The opening exercises in Trinity Medical College will take place October 2nd, when Dr. D. Gilbert Gordon will deliver the opening lecture at four o'clock in the afternoon, in the lecture room of the college.

The opening lecture of the Woman's Medical College will be delivered on the same day by Dr. G. B. Smith. The friends of the latter institution are well pleased with its progress, and expect a large attendance during the coming session. The medical schools of London and Kingston will be opened on the same day.

PAN-AMERICAN MEDICAL CONGRESS.

THE first Pan-American Medical Congress, held in Washington, September 5th, 6th, 7th, and 8th, is reported to have been highly successful. President Cleveland formally opened the proceedings, and delivered a short and appropriate address. An address of welcome was also delivered by the president of the District of Columbia. After the presentation of an informal report by the secretary-general, Dr. William Pepper, of Philadelphia, delivered an admirable address, which is published in full in the *New York Medical Journal*, September 9th.

We are informed that the work done in the various sections was of a high order. We hope to be able to refer in detail to the meeting in our next issue. Various American journals give great praise to the secretary-general, Dr. Charles A. L. Reed, of Cincinnati, who conceived the idea of holding the congress, and has been its principal promoter during the last two years. It is doubtful if the world has ever seen a better organization in connection with any meeting of medical men. Dr. Reed has certainly shown wondrous energy and great executive ability, and well deserves the praise which has been showered upon him from various quarters. We

have much pleasure in offering our congratulations to the worthy doctor who happens to be as genial as he is able, and his active co-workers, on the pronounced success which has crowned their labors.

We regret that there was not as large a representation from Canada a had been expected. Dr. J. E. Graham, the vice-president for British North America, was prevented from attending in consequence of engagements in Europe; and Dr. James F. W. Ross, of Toronto, a member of the executive committee for British North America, was unable to leave home on account of illness in his family. Many others who had made arrangements to go were prevented by accidental circumstances. The World's Fair at Chicago was a great counter-attraction, and many who spent a week or more in the great White City were not able to take a second trip to Washington. Doctors, like other people, are affected by the depression in money matters, and many were unable to afford the rather expensive trip to Washington. Among those who attended from Toronto were Drs. Bryce, Macallum, and Price-Brown.

PELVIC PERITONITIS.

WE publish in this issue an abstract of Dr. Collingworth's address in the Section of Obstetrics and Gynecology, at the late meeting of the British Medical Association, on the subject of pelvic peritonitis in the female, and the pathology of the Fallopian tubes in connection therewith; not because it contains anything absolutely new, but because it gives a concise, clear, and temperate exposition of the subject according to our present lights. His sketch of the history of the subject is especially interesting, and very properly gives due credit to Bernutz, who first recognized the true nature of swellings in the pelvis, which had for so long been considered as the effects of cellulitis. But, as the *British Medical Journal* says, editorially, his work had little practical effect beyond that of correcting errors in morbid anatomy.

It was supposed by most of those who paid any attention to the writings of Bernutz on the subject that such conditions as were described by him might be seen in the *post-mortem* room, but could not be recognized during the life of the patient. The practical work of Battey, Hegar, and Tait changed all of them. Tait, especially, taught us that pus tubes should be removed. Surgeons in all parts of the world are now removing seriously diseased Fallopian tubes, and it is difficult to realize that, a few years ago, the conditions referred were neither recognized nor properly treated. A large number of women suffering from pelvic inflammation were simply allowed to die, or sink into hopeless, chronic invalidism.

We need not tell our readers that "Tait's" operation has been subjected to much hostile and intemperate criticism. It is certainly a fact that injudicious operators have been too fond of removing ovaries and tubes. Dr. Cullingworth's references to his critics are brief, but contain a touch of humor that makes them very readable. The six cases described by the author so clearly illustrate the various views which he has expressed in his address that we have thought it well to give them almost in full.

Dr. Cullingworth's views respecting the dorsal position as the best for the purpose of a thorough examination of a patient will be read with interest by all who know the pronounced views of a large proportion of British obstetricians on the subject. One of the strongest arguments used by the majority in Great Britain, who prefer the lateral position, is that the dorsal position offends the modesty of the patients. The author appears to have broken away from certain British traditions, and gives a positive opinion in favor of the dorsal position, especially when patients are being examined for inflammatory troubles in the pelvis.

We certainly entertain the highest respect for the scruples of our female patients, but we agree with Dr. Cullingworth in thinking that it is no difficult matter to place them in that position in which we can find out most about their ailments without offending their sensibilities in the least degree.

MEDICAL COUNCIL ELECTIONS.

THERE seems to be some doubt as to when the next election of the College of Physicians and Surgeons of Ontario should take place. Certain members of the Defence Association, and a portion of the lay press, are of the opinion that the general understanding of the committee considering council matters at the last session of Parliament was that there should be only one session of the council held after the passage of the amended Act before the next election, which should take place at the ordinary time, that is, the month of March in 1894. Certain members of the council say that there was no such understanding, and that they are to be guided simply by the wording of the Act, which calls for the election in the year 1894, without specifying any particular time in that year.

We do not consider it a very serious matter whether the election of 1894 is held in March or September, but we certainly hope that the amended Act will be carried out in its spirit, as well as in its letter. We are in some doubt as to what the understanding of the committee clearly was, but we know that a certain number of gentlemen, who are not inimical to the council, agreed with those Defence men who assert that the

new election was to be held early in 1894, before the meeting of the council in that year. It certainly will not do for the council to do anything which savors of sharp practice. We believe that the majority of its members have no desire to do anything of the kind. It ought not to be difficult for the officers of the council to ascertain from prominent members of the legislative committee, including the Attorney-General, whether there was any definite understanding on this subject or not. If there was, it certainly should be carried out. If there was no definite understanding on the subject, we have simply to take the wording of the Act before referred to, and allow the council the right to choose the time for the election in the year 1894.

The president of the council, Dr. Campbell, possesses integrity, ability, and good judgment. He has an intimate knowledge of the various negotiations respecting amendments to the Medical Act. He was present at certain meetings of the legislative committee, especially the last and most important one. He ought to be in a position to know, or at all events learn, what the intentions of the committee were. We believe that he will do, as far as he can, what is right in the matter.

If, however, the council at its last meeting definitely decided to hold another session in June of 1894 before the election, he and his brother officers may have no option. Until we get further definite information about certain doubtful points, we shall be unable to give a definite opinion; but we may say to the council that many of its friends, and all of its foes, would like to get some further light.

THE ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION.

We have frequently spoken about the growth and influence of the British Medical Association, which have been the wonder and admiration of the medical world. The sixty-first annual meeting was held in Newcastle-on-Tyne, August 1st to 4th, inclusive, and was, in all respects, a pronounced success. The association is more thoroughly democratic and representative in its constitution and government than any other medical association in any empire, kingdom, or republic in the world. Our attempts to imitate it in the United States and Canada have, so far, fallen short of success as almost to have become dismal failures. The British Association represents no cliques, nor parties; but contains within its ranks all sorts and conditions of medical practitioners. It is magnificent in its proportions, and a wondrous power for good in Great Britain and her colonies.

A fair idea of its growth may be obtained by a consideration of the figures found in the opening address of the president, Dr. Philipson. He called atention to the fact that a former meeting of the association was held in Newcastle in 1870. At that time the association numbered four thousand two hundred and fifty-eight; now it has on its roll fourteen thousand seven hundred members. As he had stated, the proportion of British members of the profession who are not yet members of the association is a steadily diminishing minority. There were at that time six sections; at the meeting of this year there were eleven. These figures, however, can give no adequate idea of the wonderful advancement in various ways in all the different sections. One of the most interesting features of the Newcastle meeting was the annual museum, which was larger and more interesting than the association has ever seen before. It was divided into six sections, as follows: Food and Drugs, Instruments and Books, Sanitary and Ambulance Appliances, Pathology, Anatomy and Physiology, Otology. Some of these sections were again subdivided; for instance, the section devoted to Pathology was subdivided into three parts: Diseases of the Skin, Diseases of the Eye, General Pathology. The section of Pathology has been unusually interesting at the last two meetings. We referred last year to the admirable work of Mr. Victor Horsley, and are glad to know that he still devotes his untiring energies towards the advance of pathological science. A grand opportunity was again afforded to practising physicians and surgeons to learn much of what is new in pathology. The demonstrating lecture lantern was used, and photographic reproductions of specimens were presented. The social greetings and actions of the residents towards the visitors were more than generous, and the grand old University of Durham showed her interest in the association by conferring honors upon certain of it most distinguished members.

One of the most important bodies in connection with the association is the council which does the executive work. Dr. Withers Moore has just finished his term of three years as president of the council, and Dr. Ward Cousins, of Portsmouth, has been elected as his successor. The council, in its report at Newcastle, recommended Bristol as the next place of meeting, and Dr. Long Fox as the president. The report was adopted, and Dr. Fox, in returning thanks for his election, promised a warm and cordial greeting of the resident practitioners of Bristol and neighborhood to the members of the association at the next year's meeting.

Book Reviews.

HYDROPATHY AT SARATOGA. By J. A. Irwin, M.A. Camb., M.D., M.R.C.S. Eng., etc. 270 pages, muslin. The Carsell Publishing Company, New York.

ELEMENTARY PHYSIOLOGY FOR STUDENTS. By Alfred T. Schofield, M.D., M.R.C.S. Eng., etc. 372 pages; muslin. Lea Brothers & Co., Philadelphia.

DISEASES OF THE LUNGS. By R. Douglas Powell, M.D. Lond., F.R.C.P., etc. Fourth edition. Illustrated; 8vo., muslin, 600 pages; price, 18s. H. K. Lewis, 136 Gower Street, London, W.C.

NURSING. Its Principles and Practice for Hospital and Private Use. By Isabel Adams Hampton, Superintendent of Nurses and Principal of the Training School for Nurses, Johns Hopkins Hospital. 480 pages, muslin. Price, $2. W. B. Saunders, Philadelphia.

LESSONS IN PHYSICAL DIAGNOSIS. By Alfred L. Loomis, M.D., LL.D., Professor of the Practice of Medicine and Pathology in the University of the City of New York. Tenth edition, revised and enlarged. Octavo. Illustrations, some in color. 240 pages, extra muslin; price, $3. New York: William Wood & Company.

A CHAPTER ON CHOLERA FOR LAY READERS: HISTORY, SYMPTOMS, PREVENTION, AND TREATMENT OF THE DISEASE. By Walter Vought, Ph.B., M.D., Medical Director and Physician-in-Charge of the Fire Island Quarantine Station, Port of New York; Fellow of the New York Academy of Medicine, etc. Illustrated with colored plates and wood engravings. In one small 12mo. volume, 110 pages. Price, 75 cents net. Philadelphia: The F. A. Davis Co., Publishers, 1914 and 1916 Cherry Street.

This little work gives a very careful review of past epidemics, deals with the matter of infection from a scientific and common-sense point of view, and endeavors to allay unnecessary fears in the public mind, and point them to the many available means of prevention of this dread disease.

DUNGLISON'S NEW PRONOUNCING MEDICAL DICTIONARY.

A new edition of Dunglison's medical dictionary is announced as in press for early publication. It has been thoroughly revised and greatly enlarged, and will contain about forty-four thousand new medical words and phrases. Pronunciation has been introduced into the new edition by means of a simple phonetic spelling. This work has always been noted for the fullness of its

definitions, ample explanation being its distinguishing characteristic. In the new edition much encyclopedic information, difficult of access elsewhere, will be found conveniently at hand. Especial attention has been devoted to matters of practical value. A review will appear in an early issue.

REPORT OF THE SECRETARY OF THE STATE BOARD OF HEALTH OF MICHIGAN FOR 1890 (Printed 1892).

We presume that the struggle, if not for existence, at least for habitation, has had something to do with the tardy appearance of this volume. This condition of affairs is not creditable to a state which was one of the earliest to take its position in the front rank of sanitary reform; and we hope the intelligence of the state will prevail in bringing the obstructionists up with a jerk. We observe that the educating influence of sanitary conventions is, or was in 1889-90, very fully recognized by the State Board, and that very extensive meteorological observations and diagrammatic compilations are still made. In addition, the report gives an account of large amounts of the usual sanitary work of such boards, classified lists of nuisances and action taken in regard to them, accidents, outbreaks of disease, water supply, sewage disposal, advisory action regarding buildings, etc.

A PRACTICAL TREATISE ON MATERIA MEDICA AND THERAPEUTICS, WITH ESPECIAL REFERENCE TO THE CLINICAL APPLICATION OF DRUGS. By John V. Shoemaker, A.M., M.D., Professor of Materia Medica, Pharmacology, Therapeutics, and Clinical Medicine, and Clinical Professor of Diseases of the Skin, in the Medico-Chirurgical College of Philadelphia; Physician to the Medico-Chirurgical Hospital; Member of the American Medical Association, of the Pennsylvania and Minnesota State Medical Societies, the American Academy of Medicine, the British Medical Association; Fellow of the Medical Society of London, etc., etc. Second Edition. Revised. In two Royal Octavo Volumes. Volume I., 353 pages: Devoted to Pharmacy, General Pharmacology, and Therapeutics and Remedial Agents not Properly Classed with Drugs. Volume II., 630 pages: An Independent Volume upon Drugs. Volume I., in Cloth, $2.50 net; Sheep, $3.25 net. Volume II., in Cloth, $3.50 net; Sheep, $4.50 net. Philadelphia: The F. A. Davis Company, Publishers, 1914 and 1916 Cherry Street.

This is, in all respects, an admirable work. Volume I. is devoted to pharmacy, pharmacology, and therapeutics and remedial agents, such as electricity, massage, medicated vapors, water, diet, hypnotism, blood letting, etc.

Volume II. treats of drugs as pharmaceutical therapeutic agents. The author says: "It was my aim to render this volume a complete as well as a practical exposition of the pharmacological, physiological, and therapeutical action of the various drugs now used in medicine." He contends, and most will agree with him, that practical usefulness determines the standard of value of a treatise on therapeutics. We think that he has well accomplished his aim, and has shown excellent judgment in considering and teaching the practical aspects of the curative power of drugs. We believe this work will be

appreciated by general practitioners as one of the best of its kind which has been published. The ordinary practising physician longs for plain, common-sense teaching in therapeutics. We think that we can promise him that he will find it in these two volumes.

NEW EDITION OF GRAY'S ANATOMY.—The thirteenth edition of this standard work is announced for early publication by Messrs. Lea Bros. & Co., Philadelphia. Without expressing any opinion as to the merits or demerits of this book, we certainly have to recognize the fact that it has been, and is now, exceedingly popular. The publishers tell us that it will appear in a form much improved and enlarged. An early review will appear in THE PRACTITIONER.

The following pamphlets and reprints have been received:

ON THE CONDUCT OF THE REST TREATMENT. By J. Madison Taylor, M.D. Reprinted from the *Therapeutic Gazette.*

APPARENT AND ACTUAL MORTALITY. By F. D. Bullard, A.M., M.D., Los Angeles, Cal. Reprinted from *Southern California Practitioner.*

DEFORMITIES OF THE NASAL SEPTUM, and their influence on diseases of the ear and throat. By William Scheppegrell, A.M., M.D. Reprinted from New Orleans *Medical and Surgical Journal.*

THE SURGERY OF GALLSTONE OBSTRUCTION. A NEW AND SAFE METHOD OF CUTTING ESOPHAGEAL STRICTURES. By Robert Abbe, M.D., New York. Both reprinted from the *Medical Record.*

CLINICAL NOTES ON CHANCRE OF THE TONSIL, with analysis of fifteen cases. By L. Duncan Bulkley, A.M., M.D., New York. Reprinted from Transactions of the Medical Society of the State of New York.

SOME OBSERVATIONS RESPECTING THE PATHOLOGY AND PATHOLOGICAL ANATOMY OF NODULAR CYSTITIS. By Samuel Alexander, A.M., M.D., New York. Reprinted from the *Journal of Cutaneous and Genito-Urinary Diseases.*

Medical Items.

DR. MACFARLANE, of Toronto, returned from his trip to British Columbia and California, September 6th.

DR. L. L. PALMER has been made a life member of the Ophthalmology Society of the United Kingdom of Great Britain.

M. CHARCOT died at Morvan, August 16th. He was born in Paris in 1825, and was therefore sixty-eight years of age.

DR. J. W. CROSS (Tor. '80), who has been practising for some years in Victoria, Australia, has recently visited his friends in Canada. He spent a few days in Toronto in the latter part of August.

DR. A. MCPHEDRAN, of Toronto, was confined to his bed for two weeks, during the month of August, with a severe attack of bronchitis. He is now quite well.

DR. MCDONOUGH, who has been away for nearly three months, is now on his way home from Japan. He expects to be able to resume practice on September 19th.

DR. J. E. GRAHAM, after an absence of four months in Great Britain and the continent, has returned to Toronto. He commenced regular practice on September 12th.

SMOKING compartments for ladies are now provided on all Russian railway trains.

PROFESSOR VON ESMARCH has done 20,000 important operations. He is now seventy years of age, and if he lives ten years more he will stop working and write his memoirs.

WE clip the following from the *New England Medical Monthly*. The regular price is high, but at the reduction is cheap :

"We will mail *The Prescription* and *New England Medical Monthly* for one year for $2.50. The regular price is $300."

IN August Prof. Adam Politzer, the distinguished aural surgeon, of Vienna, Austria, visited Dr. L. L. Palmer, of Toronto. A very interesting entertainment was given to a number of medical men of the city who were invited by Dr. Palmer to meet the distinguished stranger. During the evening Prof. Politzer gave a demonstration on the ear, and exhibited preparations showing the conditions existing in certain forms of deafness, and how to recognize them.

A FRENCHS urgeon wanted the autopsy, although he had cured the patient. Professor Gayet, of Lyons, was the surgeon. Having cured a man of an arterio-venous aneurism of the internal carotid artery and the cavernous sinus, and being desirous that this happy result should be verified after the death of the patient, he paid his patient a certain sum for having tattooed on his arm the following lugubrious words : "Anévrisme artério-veineux du sinus caverneux guèri ; priére d'autopsier."

ANTE-MORTEM WILL.—A story is reported from St. Louis of a man named O'Reilly dying of phthisis in a crowded hospital, who told a benevolent lady who visited the hospital with her daughter that he had made a will leaving the daughter $3,000. By the influence of this lady he was removed to a comfortable infirmary. Having found his little trick so successful, he tried it again upon the sisters, saying that he had amended his will, and left half his property to the institution. He was well cared for and properly buried, and it was not until some time after his death, when a dispute arose between the charitable lady and the infirmary, that it was discovered that he had absolutely nothing in the world.—*Medical Press.*

THE one hundred and twenty-eighth annual session of the Medical Department of the University of Pennsylvania will open on Monday, Oct. 2nd. The introductory address will be delivered by the Provost, Dr. Pepper. The matriculating class of this year will enter upon a graded course extending over four years.

DEATH OF DR. VIDAL.—We regret to announce the death of Doctor Emile Vidal, the distinguished dermatologist of Paris, which occurred on the 16th of June, 1893. Doctor Vidal was for many years connected with the Hospital St. Louis, and was at the time of his death one of the editors of the *Annales de Dermatologie et de Syphiligraphie.*

He has enriched dermatology by numerous important contributions, and was an active worker in our specialty up to the time of his death.—*Journal of Cutaneous Diseases.*

DR. FRANK J. THORNBURY, of Buffalo, reports a death from nitrous oxide gas. Four gallons of the gas were administered by a dentist for the extraction of four teeth. The patient soon began to show signs of embarrassed breathing, and the pulse became rapid. Artificial respiration was resorted to; lower extremities elevated; nitro-glycerine administered hypodermically, and ammonia applied to the nostrils. Patient seemed to rally for a short time, but unconsciousness continued, pulse became more rapid and feeble, and the heart's action finally ceased.

DIGITAL COMPRESSION IN THE VOMITING OF ANESTHESIA.—Dr. Bernard Joos describes a method for the control of the hiccough and vomiting during anesthesia which he has found successful for several years. It consists in digital compression of the phrenic and vagus nerve against the sternal end of the clavicle. His method is as follows: As soon as singultus or vomiting begins, the etherizer presses the last phalanx of the left thumb firmly over the sternal end of the clavicle, the body of the thumb being parallel with the clavicle and the hand resting on the chest. The pressure is made with the radial side of the thumb. The vomiting stops at once, as a rule. If needed, or more convenient, the pressure may be made on the right side. Pressure is continued for a few moments to prevent a return of the vomiting. He recommends the trial of this method in cases of seasickness.—*Boston Medical and Surgical Journal.*

THE proportion of the defective and sickly among school children has been shown in a striking way by a committee of the London Charity Organization Society. After two years of labor they publish the results of an investigation into the physical condition of 50,000 school children, all being children of the poor. It was found that of the 50,027 children, no fewer than 9,186, or 18.3 per cent., were defective in some way or other. Examining these 9,186 still further, we find that 5,851 showed defects of development; 5,487 presented abnormal nerve signs; 2,003 were delicate, pale, and thin; 3,679 were reported by the teachers as being dull in school; 1,473 showed eye defects; 67 were deaf; 239 were crippled, paralyzed, maimed, or deformed;

54 were epileptic; 234 were feeble-minded; and 817 required special care and training. It is estimated that about 13 per 1,000 need special care and training.

MR. ERNEST HART, of the *British Medical Journal*, has been in Chicago, and enterprising reporters connected with the daily papers have taken some little interest in him. One represents him as a sort of prize-fighter, who went to a meeting of the congress on Psychical Science, raised a disturbance, and gave the secretary a black eye. It is well known that Mr. Hart is not in sympathy with spiritualistic cranks, and has expressed his opinions about their actions in vigorous English. We understand he attended the meeting referred to with the intention of reading a certain letter which touched on the subject of spiritualism. He did not receive a very friendly greeting, but there was no fist-cuffing, and no man's eye suffered in the least from any exertions on the part of the "worthy doctor's right fist." On a previous occasion Mr. Hart was "interviewed," and gave a decided opinion that the Chicago water was not good. Next day a report appears with flaming head lines: "Dr. Hart, the distinguished English physician, pronounces the Chicago water excellent." Mr. Hart thought that the reporter who converted decidedly bad into superlatively good was approaching the realms of fiction.

THE ESTEEM OF ONE'S FELLOWS.—In the course of the Croonian Lecture, delivered recently by Virchow, he says: "Who of us is not in need of friendly encouragement in the changing events of life? True happiness is not based on the appreciation of others, but on the consciousness of one's own honest labor. How otherwise should we hold our ground in the midst of the turmoil of the day? How should we preserve the hope of progress and of final victory against the attacks of opponents and the insults which are spared to no one who comes before the public? He who during a long and busy life is exposed to public opinion certainly learns to bear unjust criticism with equanimity; but this comes only through the confidence that our cause is the best, and that some day it must triumph. Such is our hope in our wrestlings for progress in science and art; such is our hope in our struggles for civil and religious liberty, and in this hope we gradually become hardened against malicious attacks. It is a kind of immunization which, I acknowledge, has also great drawbacks, for this hardening toward unjust attacks leads very easily to a similar indifference toward just attacks, and, owing to the tendency to contradiction rooted in the nature of human thought, it finally leads also to indifference to praise and recognition. One withdraws again and again into one's self, discontented with the world and with one's self also; but who can so completely retire within himself that the consciousness of the insufficiency of human thought, and that the criticisms of opponents are justified, cannot break through the crust of even the most hardened self-consciousness? Happy is he who has courage enough to keep up or regain his connections with other men, and to take part in the common work. Thrice happy he who does not lack in this work the flattering commendation of esteemed colleagues."

TESTS OF DEATH.—Dr. Edwin Howard describes a case in the *Lancet*, June 10th, in which the question whether death had occurred was entered into at length, because of the lifelike appearance of the body, and a history of a previous deathlike trance. With Sir Benjamin Ward Richardson the following ten tests were undertaken, two of which argued for, the other eight against, the presence of life. The paper is intended to show that the "diaphanous test" (No. 10) is unreliable, as in this case the fact of death was subsequently proved by waiting for decomposition. The list of tests is instructive, and may at any time be useful to a medical man.

(1) Heart sounds and motion entirely absent, together with all pulse movement. (2) Respiratory sounds and movements entirely absent. (3) Temperature of the body taken from the mouth the same as that of the surrounding air in the room, 62° F. (4) A bright needle plunged into the body of the biceps muscle (Cloquet's needle test), and left there shows on withdrawal no sign of oxidation. (5) Intermittent shocks of electricity at different tensions passed by needles into various muscles and groups of muscle give no indication whatever of irritability. (6) The fillet test applied to the veins of the arm (Richardson's test) causes no filling of veins on the distal side of the fillet. (7) The opening of a vein to ascertain whether the blood has undergone coagulation shows that the blood was still fluid. (8) The subcutaneous injection of ammonia (Monte Verdi's test) causes the dirty brown stain indicative of dissolution. (9) On making careful movements of the joints of the extremities, of the lower jaw and of the occipito-frontalis, rigor mortis is found in several parts.

Thus of these nine tests eight distinctly declared that death was absolute; the exception, the fluidity of the blood, being a phenomenon quite compatible with blood preternaturally fluid and at a low temperature, even though death had occurred.

There now remained the diaphanous test (10), which was carried out by the aid of a powerful reflector lamp; the scarlet line of life between the fingers was as distinct as it was in living hands subjected to the same experiment.—*Medical and Surgical Reporter.*

DEATH OF AN OBSTETRICIAN FROM ACUTE SEPTICEMIA.—Full details have been published of the lamented death, recently announced in the *British Medical Journal*, of Dr. Emile Blanc, of Paris, from septicemia of extreme severity. He was only 35. According to Dr. M. A. Poncet, whose clinical report of the case appears in the current number of the *Archives de Tocologie*, Dr. Blanc removed some pieces of retained placenta, at 8 a.m., on May 23rd, from a patient who had already shown signs of puerperal infection. There was a very small agnail on the left forefinger where the skin is reflected on the side of the nail. Shortly afterwards the place became tender. Forty-eight hours afterwards, all tenderness had passed away from the seat of infection. Yet only six hours after infection Dr. Blanc was seized with intense pain in the left axilla. There was no evidence of inflamed lymphatics in the left arm. Two hours later a slight rigor occurred, with cutis anserina, followed by nausea and vomiting, which lasted for two days. The unfortunate obstetrician felt

certain that he had received a deathblow, and took to his bed, never to rise again. On May 24th the temperature rose to over 105° F., the pulse to 130. There was swelling in the left axilla, extending to the subclavicular region; the skin was not red. But the most intense lancinating pains were felt in that part, especially when the arm was moved. It was agreed that the focus of infection in the axilla ought to be excised so as to give the patient a fair chance. Dr. Poncet dissected out some edematous axillary glands, and also opened the subclavian region and cut out some glands there. The edematous connective tissue in those parts was of a saffron color; not a drop of pus could be found. Both wounds were freely touched with the actual cautery. There was complete temporary relief; the pains ceased entirely, but within twenty-four hours they returned and the swelling also reappeared. The raw surfaces of the wounds, which were dressed with antiseptics and had not been sutured, were of a coppery yellow color, and around them was slight swelling of undefined limits. Extreme dyspnea set in, relieved by subcutaneous injections of morphine and inhalations of chloroform. Dr. Blanc died at seven in the morning of May 28th. Though so young, he had done excellent work. Amongst his contributions to medical literature are papers on Forehead Presentations, on the Inferior Segment of the Uterus at the End of Pregnancy, on the Toxic Nature of the Urine in Pregnant Women, and on the Pathogenic Action of a Microbe found in the Urine of Eclamptics.—*British Medical Journal.*

THE WILLIAM F. JENKS MEMORIAL PRIZE.—The third triennial prize, of five hundred dollars, under the deed of trust of Mrs. William F. Jenks, will be awarded to the author of the best essay on "Infant Mortality during Labor, and its Prevention." The conditions annexed by the founder of this prize are that the "prize or award must always be for some subject connected with obstetrics, or the diseases of women, or the diseases of children"; and that "the trustees, under this deed for the time being, can, in their discretion, publish the successful essay, or any paper written upon any subject for which they may offer a reward, provided the income in their hands may, in their judgment, be sufficient for that purpose, and the essay or paper be considered by them worthy of publication. If published, the distribution of said essay shall be entirely under the control of said trustees. In case they do not publish the said essay or paper, it shall be the property of the College of Physicians of Philadelphia."

The prize is open for competition to the whole world, but the essay must be the production of a single person.

The essay, which must be written in the English language, or, if in a foreign language, accompanied by an English translation, should be sent to the College of Physicians of Philadelphia, Pennsylvania, U.S.A., before January 1, 1895, addressed to Horace Y. Evans, M.D., chairman of the William F. Jenks prize committee.

Each essay must be typewritten, distinguished by a motto, and accompanied by a sealed envelope bearing the same motto and containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay.

The committee will return the unsuccessful essays if reclaimed by their respective writers. No envelope will be opened except that which accompanies the successful essay.

The committee will return the unsuccessful essays if reclaimed by their respective writers or their agents within one year.

The committee reserves the right not to make an award if no essay submitted is considered worthy of the prize.

Address, James V. Ingham, secretary of the trustees, College of Physicians of Philadelphia, northeast corner of 13th and Locust streets.

August 1st, 1893.

THE DISCOMFORTS OF AN ALBINO.—An autobiographic chapter of the recently published life of Lord Sherbrooke (*British Medical Journal*) gives an interesting, although not altogether accurate, account of his sufferings as an albino, a misfortune which he shared with an older sister. His description is as follows: "The peculiarity of my eyes consists in the total absence of coloring matter; this occasions, of course, especially in a man, a very marked peculiarity of complexion, amounting in early youth to something of effeminacy. For this evil, however, I have found age a sovereign cure; but as the absence of coloring matter extends to the eye, it necessarily occasions a great impatience of light. The eyelids must always be nearly closed, and so I have never been able to enjoy the luxury of staring any one full in the face. Of course this intolerance of light must be attended with something very closely approaching to pain. I cannot even conceive the state of a person to whom sight is a function free from all pain and distress; but as I have no standard to measure by, I may exaggerate my own misfortune. The cause of this annoyance is the total absence of what is called the pigmentum nigrum, the dark rim which surrounds the pupil of the eye and absorbs the rays of light which are not needed for the act of vision, and only confuse and disturb it. But, in addition to this defect, I had to contend with a malformation of the eye; one eye has never been available to me for reading, and the other was hypermetropic—that is, the refracting power was so slight that the focus must be very near the back of my head. I began life, in fact, very much in the state of persons who have been couched for cataract, with the additional disqualifications that I had only one eye to rely upon, and that had no pigmentum nigrum to protect it." This account is of interest as that of an educated observer without medical knowledge. The degree of "impatience of light," as Lord Sherbrooke rather aptly puts it, varies considerably in albinos, and some are able to pursue ordinary avocations with comparatively little discomfort. The absence of pigment referred to by Lord Sherbrooke is not, of course, confined to the "dark rim surrounding the pupil," but extends to the whole of the uveal tract, iris, ciliary body, and choroid, and this absence renders the iris more or less diaphanous.

AT the final exercises of the Marion Sims Medical College in St. Louis words of love seem to have been the order of the day, and on what more appropriate subject than "Children" could words of love be spoken? We congratulate Dr. Love on his address, sparkling, as it does, with humor, sprinkled

here and there with pathos, and filled with much common sense that men of the world should cherish. At one place he says that "the man who cannot take a joke is unfortunate." At another: "Remember that the best medical college on earth is nothing more than a kindergarten. Continue to be students during all the years of your lives." "Guard the health of your bodies; a half-sick doctor is no doctor at all. The only thing for a doctor to do, if broken down, is to quit the profession, or die." "Do not cultivate local fraternal societies. There are doctors who know more of Masonic matters than medicine, and the public may safely avoid them. A political doctor runs the risk soon of being known more as a bummer or a boodler than as a scientist or a friend of humanity, and is a sight sufficient to make the spirits of Hunter, Harvey, McDowel, Hodgen, and Cross become jangled and out of tune. Join yourselves to no party that does not carry the flag and keep step to the music of the sciences." "You cannot hope to be a social success and a good doctor. The only time that a doctor can cut a swell is when he lances a boil. I advise you to avoid society, for within its domains nimble heels are of more value than brains." "Have your little recreations and hobbies, but let them be merely incidental, and only with a view to your best good." "Develop cheerfulness; develop the disposition to overlook the weaknesses and frailties of man. Never have any grievances." "Do not believe everything that a patient may say in derogation of another doctor; above all, give no ear to statements said to have been made by other physicians reflecting on yourselves. Ninety-nine times out of one hundred they have been misunderstood, and modified in the repeating. Believe nothing disagreeable and unkind that you hear of any one, and very little that you see or know to be true." Then comes a little word of love for the doctor's wife; he tells what a doctor's wife ought to be. "The well-married doctor, other things being equal, is the better doctor. As the doctor's patients always have to show their tongues, the doctor's wife must never show hers." He says that the doctor's wife "must be so thoroughly unselfish that she cannot be jealous." But, in another paragraph: "It will be difficult for one who saw the beautiful, angelic Adelaide Neilson to ever forget her beauty; but any one who was fortunate enough to have heard the gentle, soothing notes of her lutelike voice will never forget them. I think that the faithful one in dying, as he approaches the gates of heaven, may expect to hear notes reminding him of the tones of that voice." Then, further, he says that "the wife will soon learn that her husband belongs more to other people than to her." We have enjoyed reading the paper, notwithstanding its many little peculiarities already pointed out, and we are sure it was enjoyed by the audience who heard it read. We congratulate our friend, Dr. Love, and hope that the "children's rights" are not reserved. We found them in the *Buffalo Medical and Surgical Journal.*

CANADIAN MEDICAL ASSOCIATION.

The following is the programme of the twenty-sixth annual meeting of the Canadian Medical Association, which will be held at London, Ont., on Wednesday and Thursday, 20th and 21st September, 1893 :

WEDNESDAY, 20TH SEPTEMBER.

General meeting opens at 10 a.m.

Members are requested to register at once and pay the annual assessment of $2.00 (payable only for the present meeting).

Members of the profession who wish to become members of the association may hand in their names at any time during the meeting to the secretary, with the names of proposer and seconder.

ORDER OF BUSINESS.—(1) Reading of minutes of last meeting. (2) Election of members. (3) Reading of notes from absentees and communications (4) Appointing of Nominating Committee. (5) General business.

AFTERNOON SESSION—2 O'CLOCK.—President's address, Charles Sheard, Toronto. (1) Treatment of Chronic Endometritis, Conerty, Smith's Falls. (2) Sanitary Science : Some of its Features, W. Canniff, Toronto. (3) Angioma of the Eyebrow, Edmund E. King, Toronto. (4) The General Practitioner and the Insane, J. V. Anglin, Verdun. (5) 1, Some Recent Changes in British Law ; 2, Reform in the Coroner Law, Wyatt Johnston, M. F. Quinn, Q.C., Montreal. (6) Is Alcohol, in all Doses and in all Cases, a Sedative and Depressant ? T. T. S. Harrison, Selkirk.

EVENING SESSION—8 O'CLOCK.—Address in Surgery, W. H. Hingston, Montreal. (1) Displacement of the Kidney, F. R. Eccles, London. (2) Thyrotomy for Large Sub-Cordal Spindle-Celled Sarcoma, with presentation of Case, H. S. Birkett, Montreal. (3) Some Measures for the Prevention of Tuberculosis, P. H. Bryce, Toronto. (4) —— H. Hillary, Aurora. (5) Some Unusual Conditions met with in Hernia Operations, James Bell, Montreal. (6) Two Cases of Laparotomy for Unusual Conditions, T. K. Holmes, Chatham.

THURSDAY, 21ST SEPTEMBER.

General meeting opens at 10 a.m.

Election of Members. Report of the Nominating Committee. General Business. Address in Medicine, A. McPhedran, Toronto. (1) Some of the Uses of Sulphurous Acid, H. Arnott, London. (2) Cosmic Consciousness, R. M. Bucke, London. (3) The Prophylaxis and Treatment of Puerperal Eclampsia, C. T. McKeough, Chatham. (4) Three Cases (two sisters and a brother) of Freidreich's Ataxia, to be presented, Geo. Hodge, London. (5) Report and presentation of a recent Case of Successful Cholecystotomy, R. Ferguson, London. (6) —— H. A. McCallum, London.

AFTERNOON SESSION—2 O'CLOCK.—(1) The Cause of Blindness in Ontario, A. B. Osborne, Hamilton. (2) Multiple Neuritis, D. C. Meyers, Toronto. (3) A Case of Pernicious Anemia, I. Olmsted, Hamilton. (4) The Anatomical Relations of a Large Malignant Growth in the Neck with Secondary Deposit in the Lung. Illustrated by Frozen Sections, A. Primrose, Toronto. (5) The Rawhide Corset as a Spinal Support, B. E. McKenzie, Toronto.

EVENING SESSION—8 O'CLOCK.—Reading of Minutes. Unfinished and Miscellaneous Business. (1) Ophthalmic Memoranda, A. A. Reeve, Toronto. (2) A Cass of Tumor of the Bladder, M. Ahern, Quebec. (3) ——, A. E. Praeger, Nanaimo, B.C.