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THE TREATMENT OF CYSTITIS.*

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*M*ISCERE *utile cum dulci*, to impart useful information in an entertaining manner in general addresses of the character I am asked to deliver, seems to be a custom as old as, and closely akin to the use of excipients to carry a drug which is not pleasing if taken in its naked strength. Who does not recall with pleasure the "elegant" mixtures, the electuaries and the compound syrups of our forefathers?

I have tried to meet your expectations to-day, by bringing before this large audience, representative of the most advanced medical thought of our day, one of the oldest and most rebellious of the enemies of our race, namely, cystitis, bound in chains, and I trust that you will find no small satisfaction as you thus note that one more step has been taken in the path of therapeutic progress.

The resumé I shall thus give you embraces over eighteen years of a personal experience, largely devoted to this particular subject.

In order not to raise too great expectations, let me declare at the outset that, as is often the case in that difficult art which we profess, I have no single drug or method to propose by which all cases can be cured. It is only by a painstaking study of all the conditions, and persistent patient efforts that cystitis can be understood and successfully combatted. The therapeutic side of the subject in which your interest naturally focuses, is so large that I cannot do more than touch upon history, etiology, pathology, chemical history, and diagnosis.

HISTORY.

Two great names of our fellow-countrymen stand pre-eminent in the history of the treatment of cystitis, and to them alone will I refer in this brief resumé, as they are in danger of being lost sight of in the hurry which characterizes the progress of to-day. One of these is Willard Parker of New York, who, in 1850, at the Bellevue Hospital, operated upon a case of chronic cystitis in the male, stating that, "The object in view was to open a channel by which the urine could drain off as fast as secreted, and thus afford rest to the bladder, the first essential

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indication in the treatment of inflammation." This was reported in the *New York Medical Journal* for July, 1851.

The other is T. A. Emmet, who in 1858 operated for a vesical calculus and by the advice of Marion Sims left an opening in the vesico-vaginal septum for the greater facility afforded in the treatment in the efforts to restore the organ to a healthy state. Subsequently to this, Emmet "made an artificial vesico-vaginal fistula, with a view of giving rest to the organ by the free escape of urine." (*Amer. Prac.* for Feb., 1872.) Emmet records several cases of cystitis treated by this plan in his classical work on vesico-vaginal fistula, published in 1868, while Parker also presented at the New York State Medical Society in 1867 a paper on "Cystitis and Rupture of the Bladder treated by Cystotomy."

One of Emmet's most rebellious cases, a woman who had suffered for three years, after cystotomy and irrigations of the bladder, was examined "endoscopically" by Dr. Newman, June 1st, 1869, and the bladder found free from disease, whereupon Emmet closed the fistula, and with some further slight treatments she fully recovered.

I mention these facts, as I am sure we are too prone to forget the skilful labors of our predecessors, upon which all that we are successful in doing to-day rests as a sure foundation. All honor to these noble painstaking pioneers in this most difficult corner of our field of labor.

ETIOLOGY.

Again I turn with no little pleasure to Emmet, who, writing in 1872, says: "Neglect during labor to keep the bladder empty, exposure to cold, violence, and the habit of long retaining the urine, are the chief exciting causes of the most serious forms of cystitis." In investigating this, as in other inflammatory affections, we have to consider two factors—the predisposing causes which prepare the ground for the cystitis to which we have but little to add to what Emmet has said, and the exciting cause, the particular living organism which is the immediate agent in setting up and in maintaining the disease. It is this last important factor which has given us a new conception of the subject and served to modify and direct our treatments.

Contrary to the opinions of some ten years ago, we now know that the mere presence of organisms is not sufficient of itself to excite a cystitis. This is seen in cases of bacteriuria, where, although the urine is loaded with organisms, there is but a nominal lesion, or no lesion at all, in the bladder.

The following predisposing factors are important:—

1. Localized congestion.
2. Traumatism.

3. Retention of urine.
4. Reduced health.
5. Two or more of these factors combined.

The congestion may result from "catching cold" and exposure, or from the action of toxins or chemical irritants on the bladder, excreted by the kidneys or from a hyperacidity of the urine, or again from the presence of tumors in the bladder.

Traumatisms arise from labor, especially where the forceps are used with the bladder not emptied, from the use of the catheter, and most important, from surgical operations on the uterus involving the detachment of the bladder, and from stones lodged in the bladder.

Retention of urine from faulty emptying of the bladder, as in tabes or after labor, retention from a sense of modesty associated with the use of the catheter is a prolific cause.

Ill health renders the whole body liable to the invasion of organisms, and coupled with any of the preceding factors renders the bladder a *locus minimæ resistantiæ*.

What are the organisms, then, which serve in the presence of such predisposing conditions, to bring about and maintain a cystitis?

I turn to answer this question to an admirable summary of my own cases, made by Dr. T. R. Brown, and published in the Johns Hopkins-Hospital Reports, Vol. X., Nos. 1 and 2 for 1901.

There were 25 cases of acute cystitis, which revealed the presence of

B. coli communis	15 times
Staph. pyogenes albus	5 times
Staph. pyog. aureus	2 times
B. Pyocy. aureus	1 time
B. typhosus	1 time
Proteus vulg.	1 time

and in 22 cases of chronic cystitis Dr. Brown found

B. coli communis	25—17 pure cultures.
Staphyloc. pyogenes aureus	3 times
" " albus	2 times
B. coli communis (with tub. bac.)	1 time
Unidentified (possibly a variety of the B. coli)	1 time
Pyuria sterile	2 times
A staphyloc. albus (which, decomposed in urea, was pyogenic, but either did not liquify gelatine or did so extremely slowly)	2 times

There were also six cases of tuberculous cystitis.

Contrast these findings with those of Melchior, and you will find the similarity is in some respects a striking one. (Fr. VIII., 291.)

Melchior examined 36 cases of cystitis (17 women) and found			
<i>B. coli communis</i>	25—17	pure	cultures.
<i>Streptococcus pyogenes</i>	5—3	“	“
<i>Proteus Hauser</i>	4—1	“	“
<i>B. Tuberculosis</i>	3—2	“	“
<i>Diplococ. ured liquef.</i>	3—2	“	“
<i>Staphyloc.</i> “ “ <i>Lundstrom</i>	3—1	“	“
<i>Streptobac. anthracoides</i>	3	“	“
<i>Gonococcus Neisser</i>	1	“	“
<i>Typhus b.</i>	1	“	“

The great importance to be attached to this study of the etiology of cystitis is the discovery of several factors easily within our control, notably the traumatic. By recognizing this fact we can often do much to prevent a cystitis in many instances.

The most important group opened up by a bacteriological study of the urine, is the tubercular cases, which as a rule call for more aggressive plans of treatment.

I will pass over the pathology, simply noting two important facts which bear powerfully on the treatment of cystitis.

First, that the disease is sometimes purely superficial, being seated only in the mucosa, while at other times it extends deep down even into the muscularis.

Second, the disease is often localized to a few well-defined patches; it is rarely universal.

The following clinical forms may be recognized, apart from the infecting organism or organisms:—

1. Catarrhal, involving the superficial mucosa.
2. Desquamative.
3. Ulcerative.
4. Granular.
5. Papillary.
6. Bullous edema.

The divisions into acute and chronic, separate the cases according to duration and intensity of symptoms.

DIAGNOSIS.

A diagnosis of cystitis may be made when pus is found in the urine, in association with an inflamed area in the bladder; this latter may be inferred by symptoms such as pain and frequent urination, or by a direct visual examination of the interior of the bladder.

I must bear in mind that my remarks may fall into the hands of some very busy practitioners who may find it hard to get time to use

the microscope. I would therefore utter the caution not to mistake a polakiuria (frequent urination) for a cystitis. In my experience this has often been done, and then the active measures of treatment instituted have converted the innocent and annoying disease into a dangerous one.

Again a caution: You are likely to mistake a dysuria from hyperacidity of the urine for a true cystitis, unless you apply some other test than the subjective symptoms.

Yet another caution: A little affection in the vesical trigonum by the intensity of the symptoms it provokes may hide a much graver and more advanced latent affection in one of the kidneys.

The diagnosis, to be sure and satisfactory, should ascertain not only the fact that there is a cystitis, but its extent as well.

A diagnosis which begins and ends with the word "cystitis" is as accurate as the statement that the patient has thoracic disease.

Again, even though we determine the nature of the infecting organism, the diagnosis is still no more accurate than it would be to say that the patient has pulmonary tuberculosis. You see here readily enough how vital are the questions, where is the disease located? and, how extensive is it? Apply like questions to the bladder.

Let the man who is willing to go carefully into his cases rest his diagnosis on these features:

1. History, including symptomatology.
2. Examinations of the urine, microscopic and bacteriologic.
3. A direct inspection of the interior of the bladder.

I cannot urge with sufficient earnestness the ease with which the examination is made through the open cystoscopes without any intervening medium of lenses or water, nor can I sufficiently declare the importance of the results thus obtained in clearing up and giving precision to the diagnosis.

With such examinations cases of bacteriuria become much rarer, as some infection of the vesical mucosa is almost always found, even though there is a remarkable disproportion between the local disease and the numbers of the bacteria.

TREATMENT.

I am glad to address you on the subject of the treatment of cystitis, as I have now had an experience of over 500 cases, which have been carefully collated from my records by Dr. Campbell of this city.

I think we have gone as far as we can under existing conditions and must await some fresh and important discovery to change our present methods materially, and when the specialist feels that he has pretty well thrashed a subject out, it is time to hand his work over to the general practitioner to see how much he is ready and able to appropriate.

Three important factors enter into the successful treatment of cystitis:—

1. A full, carefully written analysis of the case, including a description of the appearances seen in the bladder.
2. A well defined campaign against the disease, progressive in character.
3. Great patience; never give up.

All preliminary discussions as to history, etiology and pathology lead up to the two great practical issues: how to prevent the disease and how to get rid of it.

Prophylaxis.—I am convinced that if we pay closer attention to prophylaxis there will be a prompt and a large percentage reduction in the cases of cystitis. Most of the cases seen nowadays, follow some ordinary surgical operation.

A potent factor in the prophylaxis is the proper use of the catheter, which I may summarize as follows:—

A sterilized catheter; cleansing of the external meatus before introduction.

The general introduction of the catheter without touching the end introduced. The bladder must not be permitted to become distended.

It is also important to remember that the patient, unaccustomed to lying on her back, often empties the bladder very imperfectly. If the urine tends to decompose in the bladder some warm boric acid solution should be thrown in to wash it out every time the catheter is used.

In all abdominal hysterectomies, the bladder should be rubbed, touched and bruised as little as possible. I have looked into the bladder after a hysterectomy for myomata and seen large transverse striæ of fresh hemorrhages on the posterior wall.

In another similar case, in which I reopened the abdominal wound, the bruised bladder was at first mistaken for a large, fresh blood clot.

Further, where there is reason to fear cystitis, and always when the catheter is used, it is well to use urotropin for a few days, in 5 or 10 gr. doses t. d., as a prophylactic. The consensus is that cystitis will but rarely occur if this precaution is taken.

Remove the cause.—The sister of one of our ablest practitioners got up from her lying-in-bed with a bad cystitis which numerous treatments failed to ameliorate in the least degree.

She entered my cystoscopic room for the first time; I put her in the knee-chest posture and looked into the bladder, and lo! there was a white calculus as big as a pigeon's egg lying in the vertex. With the removal of the calculus she made a prompt recovery.

Take nothing for granted; if you can look at a sore throat, you can also, with a reflected light and a little patience necessary to acquire a little more dexterity, look into an inflamed bladder.

Make also a searching examination of every contiguous pelvic organ. If there is a myoma or an ovarian tumor or a pelvic inflammatory mass pressing on the bladder and interfering with its proper evacuation, take the tumor or the mass out.

Another patient with a bad pyuria whose kidney was to be taken out, I found had a small septic dermoid cyst opening into the bladder by a passage; the removal of the tumor and the closure of the orifice cured the disease and saved her from a serious mutilation.

In any obstinate case, especially if it is one of lesser degree, always remember that the source of constant reinfection may reside up in the pelvis of the kidney. If you find tubercle bacilli associated with a cystitis you may be sure that in nineteen cases out of twenty the primary focus is in the kidney.

As we consider the active treatment of a cystitis, let me urge two important factors which serve as controls in testing progress towards recovery.

1. A careful preliminary examination and description of the local condition as seen through the speculum, on the interior of the bladder sphere. If there is any marked improvement examinations from time to time will show it by the variations of color, and in the extent of the lesions.

2. The taking of a measured quantity of fresh urine, say three platinum loops, and spreading this on the slant agar, and then counting the colonies which grow out, as a means of testing the reduction of the amount of infection. These individual foci will often be found to diminish progressively from countless to discrete, to perhaps 100 to 15 or 20 to 2 or 3, to finally none at all. Several sterile cultures ought to be secured before the case is considered free of any risk of relapse.

Let us now consider our resources in dealing with a particular case. They are: Systematic treatment, medicines by the mouth, injections into bladder, direct topical treatments of the vesical walls, surgical treatment including incision of the bladder, and excision of the disease.

Rest in bed is of the most importance, for this reason: I can always do far better for a case if I can get her into my hospital, with rest associate regulated diet, tonics, the due regulation of the bowels, and massage and baths.

Medication by the mouth. Large quantities of bland water is a valuable remedy here as in ordinary pyelitis. The virtue, I think, in the various lauded waters resides in the pure aqua potabilis which they contain, and not in the various salts shown in the analysis. Some patients will take, however, with better grace three or four pints daily of a water which is imported in a big bottle with a sounding name, than the simple

but equally efficacious spring water from a home source. It is the old tale of the bread pill and the placebo.

Urotropin in 5 to 10 gr. doses is of value in the more recent cases, especially where there is a tendency to alkaline changes. (Nicolaiier.)

The citrate of potash is valuable where the urine is too acid, while boric acid is of use to make the urine acid.

There is some advantage in reversing the chemical reaction of the urine under which the organisms are flourishing, though not so great as one would have anticipated.

Cantharidin has been used by Freadenberg with the greatest benefit, in a series of 56 cases, curing 32 rapidly. The R. is Canth. (Merck.) 0.001 in 1.0 alcohol dissolved in 100 water. Take three or four times a day in teaspoonful doses.

I use also fluid extract of corn silk (*Zea mais*) in teaspoonful doses with advantage in the amelioration of the symptoms.

Irrigations form perhaps the most important means of treatment at our command, and with irrigation it is well to combine *distention* of the bladder.

The simple daily cleansing of the bladder in this way is of the utmost value and many cases would recover rapidly if only bland fluids were used.

The two most efficient drugs here are the nitrate of silver, 1-1500 to 1-500 or stronger, and mercuric sublimate 1-1000.

As good a plan of administration as any is to connect a rubber tube with a funnel attachment to the catheter, and then slowly elevate the funnel two or three feet above the level of the pelvis. By the amount borne and the height, one can pretty well estimate the progress of the more difficult cases towards recovery. The great quality of importance here for both patient and practitioner is patience. It sometimes takes weeks or months to secure the first decided step in advance, with many apparent backsets in the interim.

I must confess to you right here that in several of my cases which we have worked over for one or two or even more years, securing a recovery in the end, I would never have had the courage to persevere were it not for the unflagging interest and zeal of Miss Cook, my chief nurse, who has personally conducted almost all of the treatments.

Direct topical treatments. When a cystitis is in the chronic stage and is furthermore localized in a small area in the bladder, one for example which could be covered by the last joint of the thumb, direct topical treatments often hasten the improvement and even effect a cure. The bladder is emptied and the patient put in the knee-chest posture, then through an open cystoscope, using a reflector or other suitable illuminant, the patch of inflammation is exposed and treated just as a chronic

sore throat is handled, making a direct strong application by means of an applicator and a pledget of cotton. Nitrate of silver is best here, used over a small area as strong as 50 p.c. For larger areas 10 or 5 p.c., taking care that there is no excess of the solution to run down over the sound mucosa. I also use freely a 10 p.c. solution of argyrol. Subsequent treatments must be milder and at intervals of from three to seven days. A 1 and a 2 p.c. solution is often valuable in trigonal inflammation (trigonitis).

An admirable effective combination is formed by associating occasional topical treatments with daily injections and distentions.

Surgical Treatment of Cystitis.—It is in the surgical treatment of cystitis that the greatest difference is found between our practice and that of our immediate predecessors of even a decade ago. And it is here that I have some fresh additions to make, bringing some utterly rebellious cases entirely within the scope of successful treatment.

There are two kinds of surgery, minor and major.

Minor cystic surgery consists in the use of a sharp or serrated curette, or a wire brush, or of a bunch of fine wire needles. I expected great help from these instruments when I began to use them, but must confess to disappointment in the issue. The tissue removed is of value in differentiating a tubercular bladder, but I cannot see that the treatment is hastened, while harm may be done, as Sampson has shown if the ureteral orifices are injured, favoring an ascending infection.

Major surgery. When I receive a case of intense vesical inflammation, where all local treatments, even the mildest, are impossible on account of the pain produced, I, without loss of time, resort to major surgery, and propose at the outset to put the bladder at rest by making the Parker-Emmet incision in order to secure good continuous drainage. I do this in a few seconds, often by putting the patient in the knee-chest posture and letting air into the bladder through the urethra. Then lifting up the perineum the anterior vaginal wall is exposed and lifted a little on a pair of curved artery forceps slightly opened. A knife is plunged through the septum at this point and the opening enlarged fore and aft until it is at least an inch long. I wipe out the bladder thoroughly with dry gauze and sew the vesical mucosa to the vaginal at about six points to prevent too rapid closure of the wound. All this takes about the same time to do it that it does to describe the operation.

Such an opening ought to be left, as a rule, for from three to six months. The bladder and vagina should be irrigated every day either *per urethram* if not too sensitive, or *per vaginam*. A continuous daily hot water bath as recommended by Hunner, leaving the patient immersed for hours, is a most valuable adjuvant in the worst cases. In due time the bladder will be found to have cleared up, perhaps wholly,

when the fistula is closed and the patient discharged. On the other hand many cases clear up only to a certain point, and go no further, and of these I wish to speak somewhat particularly, for this is that large residual group of our worst cases of cystitis, generally looked upon as hopeless.

Let me briefly outline the treatment of such a case. In the first place, given one of these intensely inflamed old cases of cystitis in a patient worn out with vigils and suffering, mild courses of treatment are worse than useless, serving only to increase the distress. To avoid discouragement, tell the patient, who has suffered for years, that she must be content to give a few months or perhaps a year or more to getting well. Then begin by opening and draining the bladder, then when you find the organ cleared up to one spot you may try for a few weeks to heal that by direct applications of nitrate of silver or argyrol, and in this you may succeed. If you fail and there is a tendency to relapse, make a suprapubic opening and cut out a crescentic piece, including the entire thickness of the bladder wall, and sew it up with catgut suture on the inside and fine silk on the outer surface.

If you have to open the peritoneal cavity, and the bladder is a foul one, you can sequestrate the entire vesical region by suturing the round ligaments and the uterus to the abdominal wall from side to side, converting the peritoneal cavity behind the symphysis into a closed pouch, which is then drained over the symphysis. In a bad case which I treated in this way and had to open later for an ovarian trouble, there was no trace of the pouch left.

I have not found great help from the making of a small suprapubic opening in association with a vaginal opening for through and through drainage. If, however, worst comes to worst, I would make a big suprapubic opening, partially detach the recti, and put the patient in the hot tub for as many hours daily as she could stand.

I. Mrs. R., age 55, came to me in October, 1899, with a chronic cystitis which had persisted for fourteen years in spite of being several times "cured." I found the entire vesical mucosa covered with scattered foci of ulceration pouring out a curdy pus. The urine was alkaline, containing a short organism, probably the colon bacillus.

She received under my care the following treatments: A borax and soda solution by irrigations, applications of the nitrate of silver (2-4 p.c.), insufflations of boric acid powder against the diseased vesical wall, formalin irrigations (1-15,000 to 1-2000), irrigations of silver nitrate from 1 to $\frac{1}{2}$ p.c. strength.

Under these treatments there was a steady improvement. The organisms decreased, and the capacity of the bladder increased from 60 to 280 cc. She was cured in 41 days and has remained well ever since. I tested the efficiency of the treatment by making cultures on several successive

occasions and noting that there was no growth. So since this cure there has been no relapse.

Let me illustrate the group of difficult cases by giving you a brief outline history of seven of my patients. In two the disease was tuberculosis, in the others the organism was a colon bacillus.

II. Miss J. MacD., 33 years of age, came to me in 1899 suffering from frequent urinations with a slight pyuria and hematuria.

Examination showed an area of intense cystitis at the vesical vertex and as she had suffered for four years I proceeded at once to surgery and opened the abdomen and excised an ulcerated area of the bladder at the vertex $3 \times 2\frac{1}{2} \times 1\frac{1}{2}$ cm. in size. This was closed without drainage, using sixteen catgut sutures in the first and ten in the second layer. She recovered at once and has been in the best of health ever since.

The pathological examination of the greatly hypertrophied bladder wall showed granulation tissue and inflammatory infiltration.

III. Miss J. R., age 29, came to me in March, 1900. She had been suffering with her bladder for five years. It is probable that the frightful cystitis from which she suffered was induced by catheterization in a hyperacid bladder in a nervous woman.

She was in a wretched mental state from the suffering night and day, emptying her bladder every few minutes.

The urine was full of pus and contained blood; cultures showed that the infectious organism was the colon bacillus.

Cystoscopically, the bladder was of an intense angry red color, with extensive areas of ulceration; there was not even a small area of sound tissue seen at any point. She simply screamed whenever she was touched.

She was about three years under treatment, and her recovery is largely due to the untiring efforts of my chief nurse.

The following treatments were used:—

1. Curettage and the use of the wire brush over the whole inner surface of the bladder, followed by a 10 p.c. solution of silver nitrate.
2. Fourteen days later another curettage.
3. Ten days later I was able to catheterize the left kidney and demonstrate a left pyonephrosis, which was opened and drained. At the same time a suprapubic cystotomy was done to facilitate irrigating the sensitive bladder.

I left a mushroom catheter in the kidney wound and a ureteral catheter in the ureter to facilitate washing out the kidney.

4. Dilatation of the renal and suprapubic openings.
5. Left nephrectomy (intracapsular enucleation) by morcellation, Closure of the suprapubic opening.

6. Plastic operation narrowing the urethra, which had been over-stretched before she came to me.

7. Plastic operation repeated.

The bladder was so small when I began to treat her that she could not hold ~~20~~ as 10 c.c. of fluid, and even under extreme anesthesia she strained and forced the fluid out if more was thrown in.

During all the time of the above treatments she received at Miss Cook's hands 135 irrigations of either boric acid or nitrate of silver with boric acid.

Under this regimen the bladder recovered its capacity and normal appearance. To-day she is in perfect health and suffers no pain. The only remaining discomfort is that she urinates often, and this I have been unable to overcome, although I can now put 400 c.c. into her bladder.

IV. Miss C. P., age 52, came to me in October, 1902. I saw her first in bed, a lifeless invalid, suffering intense pain, with spasmodic exacerbations day and night. I never saw a sadder picture. She lay in a constant state of apprehension of pain and screamed when the vagina was touched even for the purpose of making the gentlest examination. The entire bladder was the seat of intense inflammation and ulcerations from the vertex to the left ureter. Its capacity was two-thirds of an ounce (20 c.c.).

She has made a perfect recovery and has remained well under the following treatments:—

1. October, 1902, vesico-vaginal fistula for drainage.

November, 1902, suprapubic fistula to wash through and through; enlargement of vesico-vaginal fistula. Plastic operation, opening the vulvar orifice, which acted like a sphincter to retain the foul urine in the vagina and bladder.

3. January, 1903, dilatation of suprapubic fistula with Hegar's dilators and introduction of a self-retaining catheter.

4. February, 1903, left nephroureterectomy, removing a tubercular kidney and ureter.

5. April, 1903, closure of the vesico-vaginal fistula.

Irrigations of a half saturated solution of boric acid were given from one to six hours daily, amounting in all to 1,000 hours of treatment.

The result has been an absolute recovery, and she is now stout, robust, and able to attend to all her household duties in town and country.

V. Miss L. M., age 24, came to me in January, 1900. She had had a vesico-vaginal fistula made to drain an intensely inflamed bladder three years before.

After trying various palliative measures, I opened the bladder above the pubis and trimmed off numerous granulations from the posterior vesical wall and then drained the bladder with iodoform gauze.

In November, 1902, I excised the entire diseased area, including all the bladder wall, removing a triangular area from the vertex to the base of the bladder 1 cm. in thickness, and closing the opening with interrupted catgut sutures tied within the bladder. This is the case in which the whole bladder area was excluded from the peritoneal cavity by sewing the round ligaments and fundus of the uterus to the anterior abdominal wall. (See Johns Hopk. Bul., 1903, p. 96.)

All of the disease was not removed at this time and I had subsequently, on account of repeated hemorrhages, to open the bladder again (November, 1903), and excise three pieces, one in front, one at the vertex and one at the posterior wall.

The wounds were again closed with interrupted catgut sutures tied on the inside of the bladder. It was wonderful to see how little traces were left of the sequestration operation; there were only a few adhesions between the bladder and tubes and ovaries.

Remarkable features in this case were, first, the fact that giant cells were found in the tissues excised when we had been utterly unable to discover any bacilli in the urine or curettages, examined repeatedly over periods of months' duration.

Second, that the disease was primary, as far as the urinary organs were concerned, in the bladder, there being no renal disease.

VII. Mrs. H. M., age 34, came to me in May, 1901. She was an utter wreck from nine years of suffering, extremely emaciated, and abandoned to die of an advanced tuberculosis of both kidneys and bladder. The bladder was ulcerated from vertex to urethral orifice and there was not a sound spot to be seen.

I began, May 4th, by draining the bladder by the vagina and giving rest from the constant suffering.

May 18, a left nephrotomy was done.

June 15, left nephrectomy and a ureterectomy as far as the pelvic brim.

October 14, closure of the vesico-vaginal fistula.

- October 22, 1902, extirpation of the lower end of the ureter.

April 9th, 1903, closure of the vesico-vaginal fistula; curettage of bladder.

February 24, 1903, suprapubic resection of the bladder, taking away about one-half of the bladder, including the left ureteral orifice.

April 9th, 1903, closure of the vesico-fistula.

With these surgical measures were associated irrigation and distention treatments, as well as typical treatments with silver nitrate.

From holding nothing at all, the bladder has increased to normal capacity in spite of the extensive resection done; in October, 1903, it held 225 c.c.

She is now practically a well woman, stout, hearty, and attending to all manner of household and social duties.

I trust, in conclusion, gentlemen, that I have demonstrated that, granted the important elements, skill and patience, practically all cases of cystitis, even the worst, can be cured.

The first step is to make a correct diagnosis, so as not to treat as a cystitis a case of irritable bladder.

The next step is to determine the grade of the disease and the character of the infection, and, most important, to differentiate tuberculosis.

Again, the kidney must be borne in mind as a possible source of re-infection in cases very slow to clear up.

After a thorough study of the field begins an aggressive campaign on the lines indicated, well defined and progressive until the patient is cured.

ECTOPIC GESTATION.

By S. M. HAY, M.D., C.M.,

Gynæcologist to Toronto Western Hospital, Consulting Surgeon Toronto Orthopedic Hospital.

ALTHOUGH there has been a great deal written about Ectopic Gestation of late, the further study and consideration of a subject of so vital importance may not be out of place, especially when we remember the large number of cases which come to our notice, both in hospital and private practice, where the diagnosis has not been made, or, perhaps, made so late that the life of the patient was in jeopardy, and, in some cases, actually lost. I believe the majority of these cases are diagnosed as cases of miscarriage by the attending physician, and the patient herself believes she is having a miscarriage because she has passed one or more periods, and is experiencing the ordinary subjective symptoms of pregnancy, so, when intermitting pain, accompanied by a colored discharge, comes on, is it any wonder she diagnosis her own case one of miscarriage?

Although this paper does not pretend to deal exhaustively with the subject of ectopic gestation, still it seems well to follow the usual divisions for convenience of study.

Etiology.—The ordinary text-book causes of extra-uterine pregnancy, such as mechanical interference with the passage of the ovum through the tube, resulting from a small lumen, or convoluted course of the tube, or malpositions of the organ due to tumors in or about it, or to adhesive bands, causing distortion, are well known. There is not much doubt that infection of the Fallopian tubes of a mild type is a very frequent cause of ectopic pregnancy.

Dr. Perkins, of Denver, gives an interesting explanation of how an ectopic may take place in healthy tubes. He says that in these cases the woman had imagined herself pregnant, and took medicines intended to contract the uterus and to expel its contents. Ten days or two weeks later she would suffer from a ruptured tube. In all probability the pregnancy had taken place in the tube, and while the ovule was making the descent toward the uterus it was arrested at the cornu, where the tube was closed temporarily by the contractions of the uterus produced by the drugs taken, and that before relaxation occurred sufficiently to allow the impregnated ovule to pass into the uterus it had developed sufficiently and had become sufficiently adherent to the tube that it could not pass.

Varieties.—The usual classification is into 1, Interstitial; 2, Isthmic; and 3, Ampullar pregnancy. The name sufficiently describes the location in each case. These three forms increase in frequency as they approach in nearness to the fimbriated end of the tube, but they increase in seriousness as they approach in nearness to the uterine end of the tube. The Ampullar variety is most apt to end in tubal abortion, and here the hemorrhages are usually intermittent and, consequently, the hemocele is separated from the general peritoneal cavity by adhesions. It might be well to mention here that at least 95 per cent. of cases of pelvic hemocele is ectopic in origin, in fact, the condition is so seldom due to other causes that one is justified in diagnosing all pelvic hemoceles as ectopic pregnancies.

The Isthmic variety nearly always ends by the ovum eating its way through the tube into the abdominal cavity. I have said eating or eroding its way through, as the theory of rupture of the tube by overdistension is almost abandoned. Have we not all seen an ovum not larger than a hazel-nut, which could not have ruptured the tube by distension, find its way into the abdominal cavity. It must have eaten its way into the tubal musculosa, as first described by Fuëth, and established, as a fact, by the researches of others. Goffe says certain tissues possess the property of attacking and destroying other tissues. This faculty consists of a process of digestion, and is supposed to be chemical in character, from which the tissue itself does not suffer, but which will destroy other tissues with which it comes in contact. We also know that other pathological conditions of the tube—pyosalpinx and hydrosalpinx—distend that organ to a much larger size, and, yet, without rupture.

The Interstitial variety is, fortunately, not very common, but it is the most dangerous of all. This is the kind where the patient is apt to die of the initial hemorrhage unless she be so situated that operation can be performed without delay. These cases are very difficult to diag-

nose before rupture, as bimanual examination may fail to locate the trouble. In this class the tube may rupture close to the uterus, or the uterus may rupture close to the tube, and a severe, if not fatal, hemorrhage ensues. I believe it quite exceptional for the primary internal hemorrhage to be fatal, except in the interstitial variety.

Symptoms and Diagnosis.—During the first month or six weeks the ordinary symptoms of pregnancy may be present, although, usually, they are not just so well marked. Fullness of the breasts and morning sickness may or may not be present. It is important to remember that in many of these cases menstruation does not cease. Usually at about six weeks colicky pains of an intermitting character cause the patient to know that everything is not right. In one of my cases these pains came on in an intermitting manner for a few hours in the morning, and then ceased till the following morning. In another case they came on at intervals of two days. During this stage we usually find a discharge of blood from the uterus which may be dark and clotted. This may all cease, only to be repeated again in a few days or weeks. At this time a bimanual examination may reveal an enlarged uterus, perhaps displaced forwards, or may be laterally or frequently both. The pelvic organs will be found quite tender, and a mass will usually be felt behind or at one side of the uterus, occasionally even in front of it. This mass is usually rounded, soft and fluctuating. There may be rectal symptoms or bladder symptoms, according to the location of the mass.

When rupture of the tube takes place with a rapid flow of blood into the general peritoneal cavity a group of symptoms appears, which are as unmistakable as they are serious. A comparatively few conditions will give rise to such grave symptoms. Stanmore Bishop says the *character of pain* has its value in diagnosis. An intense, sudden, tearing, rending pain, often severe enough to produce collapse, and usually associated with sharp vomiting, is common to a comparatively small class of cases. These are:

Perforation of ectopic pregnancy.

Rupture of pyosalpinx.

Rupture of appendical abscess into the general peritoneal cavity.

Rupture of gastric ulcer.

Rupture of duodenal ulcer.

Rupture of gall-bladder.

Note that all these are *rupturas* of important organs, permitting the escape of irritant fluids into a healthy peritoneal cavity. But in addition to pain we have symptoms of a severe internal hemorrhage such as nausea, faintness, pallor, pulse increasing in frequency and weakness, and may become imperceptible, there is restlessness, and sighing. She yawns and exhibits other signs of weariness, and, if

untreated, gradually sinks, maintaining a perfectly clear intellect to the last.

If seen for the first time in this collapsed condition a vaginal examination may be very unsatisfactory, you may only observe a fullness in the posterior cul-de-sac. The patient is in no condition for a prolonged, disturbing examination, but the general condition and appearance, together with the history and evidence of free fluid in the abdominal cavity, dullness in the flanks, etc., make the indications for prompt surgical treatment plain.

Treatment.—The treatment of ectopic gestation is strictly surgical, and that, with very few exceptions, by the abdominal route. When the operation is performed before rupture takes place it is one of the simplest of abdominal operations. When called to operate when collapse is threatening, or actually present, it is not so easy. Here we must avoid all stimulants; we may, with advantage, apply a firm abdominal bandage, and elevate the foot of the bedstead while the preparations for operation are being hurried on with all possible speed. There is some difference of opinion as to the use of normal saline solution under the breasts at this time. Personally, I have not felt justified in using them until the bleeding point has been secured, or is about to be secured. In desperate cases, as soon as the patient is on the operating table, she should be placed in the Trendelenburg position. The needles for hypodermoclysis of normal saline solution should be inserted, preferably, under the breasts, and the operation started while the patient is yet in the stage of excitement of ether anesthesia. The abdomen is quickly opened, and a pair of artery forceps placed immediately on the uterine end of the bleeding tube, another pair may also be placed with advantage near the outer end of the tube. Now cleanse the abdominal cavity of all blood and every particle of blood clot. Replace the forceps by ligatures and removed diseased tube. If there be many dark, sticky clots present it is best to drain with gauze through the posterior cul-de-sac. The breasts are already distended with normal saline, and the needles may be left in position for further use later on. Fill the abdominal cavity with normal saline solution at a temperature of 110° to 112°. By bowel may be given strong black coffee solution in normal saline, with whiskey added. The anesthetist will have given 1/30 gr. strychnine hypodermically as soon as bleeding is controlled. In these, as in all severe abdominal cases I follow, with some variation according to the case, the following routine: 1/30 gr. strychnine by hyperdermic injection, a pint of normal saline solution by bowel, every two hours for twice, every three hours for three times, and every four hours for four times. This takes us over our first twenty-four hours—then the same three times a day, if required.

Remembering that the abdominal peritoneum absorbs quickly and the pelvic peritoneum slowly, it is well to elevate the foot of the bedstead to encourage normal saline absorption, and, on the other hand, to elevate the head of the bedstead when we wish septic material to gravitate to the pelvis and drain through the vagina. The benefits derived from the freest possible use of normal saline solution cannot be too strongly emphasized. I feel that on many occasions I have, by this means, been enabled to turn the scale in favor of life in extreme cases.

Occasionally we will meet with a case where the diagnosis is very doubtful, perhaps a tumor is found lying in the neighborhood of the uterus, and it is uncertain whether it a cyst, pus-sac or an hemocele, the history may be too indefinite to be of much assistance, here it is best to open through the posterior-cul-de-sac and, if cystic fluid or pus is encountered, cease work at once; if blood is found you may diagnose ectopic gestation, and your further treatment must depend on circumstances in each particular case.

THE IMPORTANCE OF COPROLOGY IN THE DIAGNOSIS AND TREATMENT OF INTESTINAL DISEASES.

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(Translated from the Gazette Des Hospitiaux by Malcolm Mackay, B.A., M.D., C.M.)

IN his remarkable series of papers upon the function of the glands controlling digestion, Prof. Pawlow expresses himself somewhat as follows: "The fundamental role which the digestive tract is called upon to fill in the organism may be compared to that of a factory, in which the raw materials, namely, the food-stuffs, undergo a radical chemical change which renders possible their incorporation into the vital fluids of the organism, and their use in building up the system. . . ."

The first part of this paper will deal with the physiological results obtained from experiments; and the second will deal with the practical application of the facts thus discovered, to the examination of the feces in clinical work.

Statement of the facts which recent physiological methods have enabled us to acquire upon the role of the intestine and its glands in the transformation of food-stuffs.

A. *Historical*.—1st. The period in which the preponderating role in the phenomena of digestion was supposed to be played by the stomach.

Influenced by the numerous works on the stomach and its chemistry, the medical profession seemed to accord to this organ the greatest role in the process of digestion, and the intestine, with its large glands, was considered quite a negligible quantity in dyspeptic disorders, save in the case where the symptoms distinctly showed the origin of the trouble.

2nd. The period in which the preponderating role in the phenomena of digestion was supposed to be played by the intestine. But all at once there came about a sudden reversal in the order of ideas. Audacious surgeons, such as Schlatter, following the experiments of Cyerny, Carvalho and Pacton, practised total ablation of the stomach upon the dog, and showed that one could live without much difficulty without a stomach; and that in general this organ had no function in digestion, apart from the secondary role of dissociating, separating and dissolving different kinds of foods, thus rendering them more suitable for future chemical processes of digestion. "Thus," says M. Dastre, "the role of the intestinal glands surpassed everything in the digestive functions; the pancreas took the place of the stomach, the intestine with its convolutions gained importance in the sight of investigators."

3rd. Period in which the functional solidarity of these two organs was recognized. But here recent researches have come to demonstrate that the activity of these glands depends upon the acid secretion of the stomach, once more showing the functional inter-dependence of the several parts of the digestive tract.

B. *Development of advanced ideas concerning the function of the intestine and its glands in the elaboration of fatty foods.*—To follow step by step the acquisitions which have successively come to our knowledge concerning the role of the intestine and its glands in the digestion of food-stuffs, we must be satisfied by taking an example which will call to mind the various researches which have enabled us to learn the manner in which the alimentary fats are elaborated at each stage of the digestive process, under the influence of what juices they are transformed, and in what way they are re-absorbed; in order to obtain data from their physiological changes which may in turn be deduced from the condition of the feces, thus enabling us to base a diagnosis of the clinical condition upon the condition of the excreta.

1. *Histophysiological and chemical proofs IN VITRO of the function of the different parts of the digestive tract in the transformation of fats.*

1st Role of the stomach. Magendie formerly held in his 'Precis élémentaire de physiologie', that the gastric juice was capable of splitting up fats. Morcet, Cash, Ogata, Klemperer and Scheulerer in other

countries have also held this opinion, and more recently in France, following the work of Hanriot on fat-splitting ferments, the researches of Benech and Gryot on the action of a gastric fat-splitting juice with monobutyryn, enables one to believe in the possibility of the digestion of fats in the stomach. One could, indeed, as the works of Duclaux would have us believe, suppose that a microbic action took place upon the fats, if the existence of a fat-splitting element from the gastric glands must be denied. But the experiments of Contejean at the laboratory of Chauveau have justified the first-mentioned opinion, and the researches of Anna Pannof at the laboratory of Nencki at Berne, and those of Wasilieff at the laboratory of Hoppe-Seyler have done as much for the second, so that it would appear from these different works that, granting that the existence of a glandular lipase has not been proven, it is probable that the microbic action upon fats is feeble, and should become still less as the slightly antiseptic gastric juice becomes more abundant; thus one can say that if the stomach takes any part in the digestion of fats, it is but in an accessory way, that in triturating the original food-stuffs in the place where they are mixed, it is but to set them at liberty after rendering them more open to the attack of the intestinal juices.

2nd. Role of the intestine and its glands.—The action of the pancreatic juice.—Since the famous observation of Claude Bernard, demonstrating that the chyloferous ducts are gorged with fats at the time of digestion, at all events those situated above the canal of Wirsung, demonstrations have not been lacking to establish the role of the pancreatic juice in the digestion of fats. For the moment let us only mention that the results obtained by those who have studied the action of the juice *in vitro*, tell us that in these conditions there is first emulsion and then saponification; so that a mixture of neutral fats with alkaline pancreatic juice becomes gradually acid (Cl. Bernard), or further, that a mixture of several decigrams of monobutyryn with 20 grams of pancreatic juice, kept at 40° C. for twenty-four hours, produces butyric acid and glycerine. (Berthelot).

3rd. The action of the bile.—The action of the bile itself is demonstrated by the following experiment, whilst, at the time of digestion, the chyloferous ducts are gorged with a milky fluid in which the microscope reveals the presence of droplets of emulsified fat, if the bile duct be previously ligated so that the bile cannot enter the intestine this fluid remains quite clear; those are also the results of Dastre in the course of his experiments upon a cholecyst-intestinal fistula. "*In Vitro*" bile emulsifies neutral fats; the greater part of these fats appear in the form of microscopic globules capable of passing through the epithelial wall of the intestine.

The action of the intestinal juice.—In regard to the intestinal juice, one may say that if the action of Brunner's glands (i.e., the Brunner's glands situated at the border of the insertion of the canals), as Bernard showed, can help to a certain extent the pancreatic function, it cannot replace it; and in any case that the secretion of Lieberkühn's glands obtained by a fistula of Thiry or in any other way, is unable to effect any change in fats. Since the researches of Pawlow its role appears to be that of an assistant to the fat-splitting juice of the pancreas.

The functional interdependence of the whole digestive tracts.—We know from the memorable experiments of Pawlow and his pupils Becker and Durlinski, that acid excitation of the duodenal mucosa is so to speak the specific excitant of the pancreatic secretion, be it that we admit with him that this excitation has for its starting points a reflex condition, or be it that, with Bayliss and Starling, we consider that it is the result of humoral action, the chemical reaction of the acid on the duodenal mucosa bringing into existence a new product *secretin* which, being absorbed and put into circulation through the blood, thus excites the pancreas. We also know from the researches of Henri and Portier, Gley and Camris, Henriquez and Hallion, that this acid excitation of the duodenal mucosa acts also on the biliary secretion, or, if one prefers the other theory, that *secretin* is at the same time the specific excitant of the two glands which empty their products into the duodenum. Now whence comes this acidity of the duodenal mucosa if it be not from the stomach? As a matter of fact, when the bolus of food passes the pylorus, it presents itself with a total acidity of 1.50 gr. per 1,000 in terms of HCl; and it is this acidity obtained from the stomach which continues through two-thirds of the small intestine, as, indeed, Gley and Lambling have shown in their examinations of the intestinal walls of criminals. Thus the functional solidarity of the digestive tract has been established, and the results go to show that the physician should not be content to limit his observations upon one or another organ, but to include the whole system in his investigations of derangements of the digestion.

2 *Physiological and chemical proofs in vivo of the function of the intestine and its glands in the transformation of fats.*—Basing our remarks upon the foregoing physiological facts, and making our observations upon the feces, we shall proceed to report the work of those who have concerned themselves with the history of injected fats, when the biliary or pancreatic secretions are cut off in an animal, or when both are cut off, or, again, when a greater or smaller portion of the small intestine is removed. These results are what we might term physiological and chemical proofs *in vivo* of the action of the intestine and its glands in the digestion of fats.

First, what happens upon exclusion of bile from the gut?—The results upon this point are numerous and to some extent contradictory, so that we attempted to check them by control experiments. Bidder and Schmidt found absorption reduced to $1/5$ or $1/7$ of the fats ingested in dogs with a biliary fistula; Voit, under the same circumstances, showed that the fats in the feces represented 60 per cent. of the fats ingested, whereas normally it is hardly 1 per cent. Röhmann obtained similar results. Further, these two authors insist upon the fact that the greater or smaller quantity of fat ingested influences the greater or less amount excreted, a fact which Dastre, whose published results contain approximately the same figures, 57 to 65 per cent., explains by saying that the intestine offers an absorption to fats which is very rapidly exhausted. Still further, we have the works of Munk which agree with the last mentioned, and, in addition, state this interesting fact, that the ratio of the fats excreted to the fat ingested is proportional to their melting point. With this quantitative analysis the majority of authors would have us understand that, apart from its favorite role of absorbing fats, the bile influences their breaking up, since the qualitative analysis of the excreta in the case of biliary exclusion enables one to recognize them in very considerable amounts in the form of neutral fats and in smaller quantities as fatty acids and soaps than they are found normally.

Secondly. What happens upon exclusion of the pancreatic juice?—The experiments of Cl. Bernard have enabled us for a long time to demonstrate the presence of non-digested fats in the excrement of dogs deprived of the pancreas. The researches of Abelmann, carried out upon animals whose pancreas had been removed by Mering and Minkowski for their experimental study on diabetes, pointed to similar conclusions; and the greater number of experiments who followed obtained identical results, namely, that the absence of pancreatic secretion brought about a complete arrest of fat absorption, so much so that the fats ingested were recovered in the feces in large amount, and without having undergone appreciable change. The work of Vaughan Harley confirms the above results, and only the experiments of Hedon and Ville, and more recently Lombroso, seem to contradict them in minor details.

Thirdly. What happens upon exclusion of both the bile and pancreatic juice?—It is as easy to imagine what would happen as it is difficult to carry out the conditions experimentally, with the double exclusion the troubles of absorption are profound. Hedon and Ville state that the fats are present in very great quantity in the feces. But these authors have established that in these cases there is a well marked breaking down of neutral fats into fatty acids and soaps, and in the

absence of the pancreatic juice they put the change down to the action of bacteria. In regard to our own work, we have never found either in our experiments or in our clinical work similar cases with large quantities of fatty acids and soaps in the feces. It is true that in our experiments we did not practice extirpation of the pancreas, but we merely diverted the juice by a fistula such as that used by Pawlow. We think that, perhaps, these conditions more nearly resemble the clinical reality than would complete excision of the gland.

Fourthly. What happens upon exclusion of the small intestine?—We have but incomplete returns upon this subject, experimenters having directed their attention to points quite aside from that which interests us here, namely, the digestion of fats. Nevertheless, in the thesis of Druebert and that of Lance we find some indications upon the subject in the reports of their own experiments and those of Sem, Tzelickvy, Kulula and Monari, but it is in the work of De Filippi that we get the most explicit information. The following are the conclusions of this author in a case of almost total intestinal resection in a dog: The animal can still live; absorption shows no pathological condition beyond an incomplete absorption of fats (19 per cent. of loss in the feces), further, the carbohydrates are completely taken up and the albuminoids show but little loss. Our own researches upon a dog under similar conditions agree in every way with these results, and thus demonstrates the role of the intestine in the digestion of fats.

C. *Conclusions.*—Thus, then, in examining all the researches upon the function of the intestine and its glands in the digestion of fats, researches to which we may add those bearing upon carbohydrates and albuminoids, we can understand how that, our physiological knowledge of these organs being considerably increased, we can use it for clinical purposes; and that even as physicians demanded from the chemistry of the gastric contents diagnostic and therapeutic information upon diseases of the stomach, when once the physiologists had become acquainted with the facts, so in the same way they require diagnostic and therapeutic information from the study of fecal matter investigated not only macroscopically, but also microscopically and chemically, following the most recent methods of *coprology*.

II. Statement of coprological methods based upon the foregoing facts. Their use in the diagnosis and treatment of diseases of the digestive tract.

Historical summary regarding one particular phase, namely, the alimentary fats.—If, still retaining the same example of alimentary fats, we now seek to apply to clinical cases these results obtained from physiological study of the digestion, we shall see of what value they can be for giving information in regard to the condition of the digestive

tract. We now know the factors which modify the digestion of fats in an individual, we know, likewise, by numerous experiments how such and such a trouble will modify these results when induced artificially; clinical experience based upon physiological anatomy has enabled us to corroborate these facts, and it is upon this combination of deductions that we base the conclusions which are of use in the functional examination of the intestine.

For many years the presence of fatty material in the excrement has been noticed in man during the course of certain affections of the digestive tract, notably those of the pancreas, and in the monograph of Claude Bernard we find some observations on this head, but the fact is attested by Moyne Eisenmann, Elliosten, Küntzmann, Bright, Unkell, etc., in a rough and ready way. These authors simply mention greasy-looking stools in pancreatic disease, without any attempt to go into details. More than that, their observations passed unnoticed. Dating from the memoir of Claude Bernard the facts have multiplied, and to-day it is a well-known thing that in pancreatic affections fats are badly digested and appear in abundance in the feces to which they give a peculiar appearance, sometimes termed stearrhoea. Further, a few authors examined more carefully into the fats found in fecal matter. They sought to isolate them by extracting with ether or by microscopic examination, among these were Bonamy, Friedrich and Ziehl, the first recognized them by steeping a transparent paper in an ethereal extract; the other two stained the fats with osmic acid, and then examined them under cover glasses in the form of droplets or crystals, the one recognised by the dark stain and the other by their fasciculated aspect.

F. Müller, whose work is that of a pioneer in this clinical field, started these investigations and studied the presence of fats in the fecal matter of the jaundiced, not merely from the quantitative side as did his predecessors, but from the qualitative side. In this work he practically outlines the means of diagnosing biliary and pancreatic diseases by the qualitative analysis of fats. M. Chauffard, after Müller, studied this stearrhoea of the jaundiced, but he drew particular attention to the microscopic characters of the fatty particles, which Notheragel had described in 1884; he did not touch upon the clinical side of the question which is the subject of our present investigation. Thus the works upon this subject are still less numerous until 1887, when M. Parmentier brought out his general review "Recent work upon catarrhal jaundice," for here one finds only the work of Müller quoted upon this aspect of the work. Since that time one can find numerous references in foreign literature. We can mention in Germany the works of Tschernoff and Van Hirling in the case of febrile conditions in the adult; of

Albu in affections of the liver; of Weintrand and Deuscher, in pancreatic disease; of Gratzmann in the case of venous congestion of the intestine; or still further, the works of Biedert in the case of intestinal catarrh in children. In Italy we have the work of Mya on the signification of soaps in the stools, and the important researches of Zoja in diseases of the pancreas and liver. In France this study of fecal fats had not been carried out for diagnostic purposes. Latterly it has been used chiefly with the object in view of ascertaining the value of foods in infants, obese patients, or tuberculous individuals.

As for ourselves, making use of the preceding physiological facts and basing our clinical researches upon many and various experiments, we have made quantitative and, above all, qualitative analyses of fats serve the end of a functional examination of the gut and its glands; so that eliminating the idea of diagnosis of a particular lesion we have generalized the method which Müller and his followers used for their own special researches, and thus we have been able to establish that in an individual suffering from some derangement of the liver, when there is a diminution of bile in the intestine the quantity of fats in a test meal is not nearly so well absorbed, indeed, more than a third is excreted, and that in a form which is not normal, since there is more than one-half of neutral fat in connection with broken-down fats, fatty acids and soaps; when, on the other hand, it is the pancreatic function which is involved, with a test meal the quantity of fats in the feces is considerably increased; more than two-thirds of the alimentary fats are not used, and among these excreted fats we find about three-quarters consists of neutral fats which are not broken up; when the small intestine itself is affected, the difficulty of absorption is still greater, one-third of the fats is excreted but the breaking up of the neutral fats approximates closely to the normal.

But now we have dealt sufficiently with the question of fat digestion, and we believe that after this example of our methods that from the knowledge acquired upon intestinal digestion, the clinic can draw a useful profit in asking the laboratory for definite information from a complete study of the feces. We shall now investigate the practical methods of conducting this examination.

Coprolological technic.—In the same way as in the study of the gastric contents the examination should always begin with a test meal logically composed for putting into play the special activity of the intestinal glands of which we wish to know the functional value; further, we must have some convenient means of delimiting as nearly as possible the fecal residue corresponding to the meal. It is also necessary that this meal should correspond to the digestive capacity of a normal man's intestine, and that its composition should be such that in the case of

good digestion one can only with difficulty recover the foods ingested in the form in which they were given; these ought to be all transformed and for the most part used up, so that the extent of this utilisation will inform us upon the functional capacity of the intestine and its glands. We have made up a test meal of the following component parts: white bread, 100 grammes; beef, 60 grammes; butter, 30 grammes; milk, 500 grammes; potatoes, 100 grammes. These are the maximum quantities, which may be modified according to the exigencies of the case; but it is always necessary to determine the weight with the greatest exactitude, so that if one has recourse to a chemical examination of the feces the clinician may calculate approximately the quantity of food-stuffs, expressed in their simplest terms, contained in the complex foods ingested, and then comparing them with the excreta; following some tabulated list of reference such as that of Balland. This precaution is unnecessary if one merely wishes a microscopic examination, care should always be taken, of course, not to exceed the figures above mentioned, lest the digestive capacity be overtaxed.

The manner of delimiting the feces corresponding to the test meal.—We have found that the use of a carmine powder mixed in the test meal is the most convenient method of delimitation, and that it should be given in cachet at the beginning, middle, and end of the meal. The food should be taken in the morning, or at a sufficient interval after the last repast. It is easy to recognize the red coloured material and to recover the whole of the test meal thus marked off. If time is of no object we may for a few days put the patient on a liquid diet, and then, say on the morning of the third day, give him a test meal with the cachets of carmine; six hours later return to the milk diet for one day; thus we find the red feces sharply delimited among the grey, practically odourless, feces of the milk regimen. This process is naturally adapted to adults only, as in the child it is very often sufficient to make macroscopic and microscopic examinations of the feces to have sufficient evidence upon the state of the digestive tract. If we wish to gage chemically the excreta according to the amounts ingested, it is necessary to take further precautions, and knowing the amount of nourishment (milk, flour, etc.), which has entered the alimentary canal during six days, we collect the fecal matter excreted for three days, and make our calculations in these proportions.

The general physiological characters as well as the macroscopical appearances of the feces are too well known to be dwelt upon in this paper, and, consequently, our attention will be devoted to the microscopical and chemical characters of the feces corresponding to the test meal.

Microscopic characteristics of the feces.—The microscopic examination of the feces is carried out in a very simple manner, and is, after all, not particularly disagreeable. It is sufficient to take up small quantities of fecal matter, diluted with water or not according to their consistence and crush them between the cover glass and the slide. If the centrifuge is used one may treat the residue with alcohol, ether, or acids in order to eliminate such parts as are not required in the particular examination, it is the same idea as destroying the red corpuscles in making a leucocyte count. Then we can use the various micro-chemical reagents to distinguish the objects by their reactions, as, for example, aqueous solutions of eosine, methylene blue, saporium, 20 per cent. osmic acid, iodine, alcohol, ether, chloroform, acetic acid, 30 per cent., and Hydrochloric acid either concentrated or dilute with test meal which we have mentioned. If there is any digestive trouble, we will find microscopically in the feces particles of vegetable cells, muscle fibres, connective tissue and fats in greater or less quantity.

When we find starch granules practically unchanged with white bread in rather large quantity we may conclude that the trouble is in the functional activity of the small intestine. The simple observation of muscular fibres and elastic fibres in the feces after our test meal is a proof in its turn of functional trouble in the intestine, and more particularly of pancreatic as well as intestinal involvement. It is easy to recognize fibres of muscle with a high power even though their yellow colour and transverse striae are more or less altered; as for elastic tissue unless in great abundance its presence is not significant, it is easily recognized by their contour and curled-up form. Under other circumstances and in other cases droplets of fat, which may be dissolved by ether or chloroform, are seen, some have an amorphous appearance, others glistening more or less yellowish in colour and somewhat darkened by osmic acid; one can also make out acicular crystals of fatty acids or, again, yellow soaps of calcium polygonal in shape, and usually broken in outline, finally there are soaps of magnesium. The observation of these different fatty materials is of capital importance in the chemical examination, for, as we have already seen, the greater or less abundance of neutral fats, fatty acids, or soaps, and their relative proportions can indicate whether the trouble be dependent upon the biliary or pancreatic functions or upon intestinal changes.

We can also find crystals of various forms in the feces such as those of ammonia-magnesium phosphate, which signify intense intestinal putrefication; or, again, masses of phosphate of lime of greater or less volume, and which have but little pathological significance; further, there are cholesterin crystals which indicate digestive disturbances, particularly marked in the upper portion of the small intestine, with in-

creased peristalsis; finally, we may have hematoidin crystals which are characteristic of intestinal haemorrhages which have occurred several days before.

Chemical characteristics.—The chemical examination of the feces is in practice a little more complicated, but it furnishes us with results of sufficient interest to make it worth while for us to describe the technic. First of all let us investigate the meaning of the reaction, which normally neutral may be modified either by alkalisation or acidification, we not only make a qualitative analysis of this reaction, but, if we find it acid, we also make a quantitative analysis. This reaction is important, for it may be modified by the motor sufficiency of the gut, by the glandular secretions and by the difficulty of intestinal absorption. We next study the agreement between the weight of dry substances with the weight of those which are fresh, which, associated with the trial of the alimentary passage, enables us to firmly establish the value of the terms constipation and diarrhoea. In connection with these investigations an examination into the digestion of fats should be carried on, the importance of which we have already seen. This investigation should be quantitative, but, above all, qualitative. For the former we take a certain quantity of feces which has been dried in an oven. This mass is weighed and triturated in a mortar with glass and sand which has been well washed in HCl. Then a simple extraction is made with ether and HCl, the latter of which decomposes the soaps.

For the qualitative analysis we proceed as follows: the dried and crushed material is triturated with ether, this removes the neutral fats, fatty acids and soaps, the weight of which is obtained by Soxhlet's apparatus for the extraction of fats or some similar appliance. When this extract has been dried, weighed and redissolved in ether; we can, if we wish, either treat the fatty acids separately by an alcoholic solution of potassium titrated by means of phenolphthalein, and the soaps by weighing them after precipitation by chloride of barium, the neutral fats being calculated by subtraction; or, instead, we may transform all the fats into soaps of barytes, and then weigh them, then in two successive steps we may transform the neutral fats and fatty acids into soaps, precipitate these soaps by chloride of barium, and judge the amounts by weight. We discover in the same way the amount of hydrocarbon in the residue either by the method of saccharification or by the method of fermentation. The principle of the latter method consists in the fact that feces left in an incubator for twenty-four hours presents a remarkable amount of fermentation with acidification of the mass in proportion to the hydrocarbons, and more particularly to the starches which they contain, so that one may, with a fair degree of

accuracy, judge the amount of the hydrocarbons in the feces by the amount of fermentation. The presence of these substances in abnormal quantities indicate an alteration in the absorptive faculty of the gut, whatever may be its origin, functional, or organic, but this observation is of little value unless associated with the quantitative and qualitative analysis of the fats and albuminoids. This last-mentioned investigation has, for its object, the qualitative analysis of albumin, which is calculated by filtering an aqueous extract of the feces, treating it with acetic acid and calculating the heat; next, it has the aim of making a quantitative analysis of the peptones in the feces, here, after treating the aqueous extract as above, and precipitating the proteins by ammonium sulphate we make our calculations by means of the Biuret reaction; further, we may make a quantitative analysis of the albumoses by Schmidt's method of secondary digestion; finally, we may complete this research by Kjeldahl's method of calculating the total amount of nitrogen. One notices in carrying on these researches that the absence of bile is of but little import in the digestion of nitrogenous foods; that the absence of pancreatic juice brings about a very much diminished absorption, but that above all functional difficulties in the absorptive capacity of the intestine bring about defective assimilation of nitrogenous foods.

By following out the methods thus described the physician is enabled to give a rational diet to his patients, following in each case the individual peculiarities of the person being treated. More particularly is this applicable to tubercular cases in which forced feeding is being carried out, we can, by examining the feces, verify the extent to which the foods are assimilated, and investigate which factors depend upon the individual, and which upon the food itself. In other words, when treating patients one should always keep the old saw in mind: "Man lives not by what he ingests, but by what he digests."

DIONIN IN DISEASES OF THE EYE.

By G. STERLING RYERSON, M.D., L.R.C.S.E.

Professor for Ophthalmology and Otology, Medical Faculty, University of Toronto.

"**O**CULAR Therapeutics," a book written by Dr. Darier, of Paris, some two years ago, marked an epoch in the treatment of eye diseases. Among the therapeutic agents enumerated and described by Darier Dionin takes a prominent place. To him, however, was not due the honour of first employing the drug, but to Wolffberg, of Breslau, though Darier's writings have been valuable in bringing it before the profession.

Dionin, a synthetic product, ethel morphine hydrochlorate, discovered by Gimaux, is a white crystalline powder soluble in 7 parts of water, $1\frac{1}{2}$ of alcohol, but not at all in either ether or chloroform.

It is analgesic and lymphagogue, and is of the greatest value in the treatment of opacities of the ocular dioptric structures, and of iritis and other painful diseases of the eye. I have lately been experimenting with it in mucous catarrh of the middle ear with some degree of success. I think that its action is resisted to some extent by the epithelium of the drum head, and I propose injecting weak solutions into the middle ear in suitable cases, and will report the results of my experiences at some later date.

The following cases illustrate its uses :

A gentleman, aged 55, of rheumatic diathesis, was attacked by severe binocular iritis as the result of exposure while out shooting ducks. The eyes were extremely painful. Atropine, belladonna fomentations, leeching and salicylate of soda afforded but little relief. The pain could only be controlled by morphine, which produced unpleasant after-effects. I used a 2 per cent. solution of dionin with amelioration of symptoms and a rapid recovery, with the exception of a few tags of adhesion.

A little boy, aged 6, was struck in the left eye by a stone thrown by a companion. The cornea was penetrated and traumatic cataract occurred, the anterior chamber being nearly filled with lens matter, when I saw him, a week after the occurrence. I used atropine and dionin, separately. The disappearance of the lens matter was rapid and most remarkable. Later I broke up the lens further by needling and again used dionin with the most gratifying results. Four weeks after the accident the pupil was clear.

I have also used dionin after extraction of senile cataract where some soft matter was left behind with good results. I am now using Dionin, 5 grains, combined with $1/16$ grain of eserine in nearly all cases of extraction. I have also used it with good success in opacities of cornea accompanying interstitial keratitis after the acute stage has passed, and I am confident that the long process of clearing of the cornea has been shortened. In old opacities it has, of course, less effect because of organic change in the structure of the membrane which has occurred.

In opacities of the vitreous I have had good results. Two cases of old vitreous hemorrhage have been improved, but I have had a striking case of improvement in a recent hemorrhage. A boy aged 5 was shot in the eye by an air gun. The anterior chamber and vitreous was filled with blood, vision being reduced to perception of light. In four days the blood had entirely cleared up, and fundus could be

distinctly seen. As the child cannot read I am unable to give his record of vision. Under former methods of treatment I would have expected a month to elapse before vision was restored.

Solutions of dionin as weak as 1 per cent. when introduced into the conjunctival sac produce an intense redness with chemosis, but no pain beyond a dull ache. This passes off in the course of an hour. The relief of pain is gradual in most cases. Altogether, I think we have found a therapeutic agent of great value in dionin.

ARTIFICIAL TEETH AND PLATE IMPACTED IN THE PHARYNX.

By W. C. BLACK, M.D., Paisley, Ont.

WHAT I consider a very remarkable case came under my care some weeks ago, and, as it may be of some interest to your readers from the point of view of curiosity, at least, I send you the details.

A farmer, of 60 years of age, consulted me regarding a bad attack of tonsillitis, which began some five weeks before, and, notwithstanding medical treatment, was not getting any better. His health had failed, as he could not eat, it being necessary for him to live entirely on liquid diet. Some five weeks before, he, in the night-time, had some kind of epileptoid fit, and, in a semi-unconscious condition, rushed outside coughing and strangling. A medical man was sent for, and pronounced it tonsillitis, but treatment since then had failed to bring relief.



His voice was of the character that accompanies, but, on examination, I found the tonsils were quite normal, but the pharyngeal vault showed some aurora-like streaks, shooting upwards. I placed the

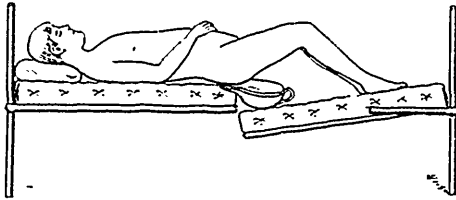
depressor well back to the root of the tongue, drawing it well down and forwards. I got a momentary glimpse of what appeared to be a set of teeth. I asked him if he had worn false teeth and had lost them. He said he had lost them the night he took sick, in fact, had raked the grass around the door but could find no trace of them.

With a depressor, and a curved vulsellum forceps, I went after the erring ones, and great, indeed, was his amazement and delight when a strong pull relieved him of all his troubles. The accompanying photograph shows the plate. The lower end measured two inches transversely, by two and a quarter fore and aft.

A NEW INVALID'S BED.

By ERNEST A. KALL, M.D., Vancouver, B.C.

THIS bed is the result of a suggestion made by a patient who, after appendectomy, suffered severely each time the bed pan was used. The mattress is in two sections, the mechanism allowing the central end of the foot section to be lowered eight inches, thus facilitating the placing of the bed pan without disturbing the patient. The mattress is lowered and raised by a crank, which can be worked at either side of the bed by the nurse, very little force being required for this purpose.



The sheet covering the mattress curves downwards, and does not impede the action. This bed has been tested for several months with excellent satisfaction. The bed contributes both to the convenience of the attendant and the comfort of the patient.

The mechanism is simple, and will add but little to the cost of the ordinary hospital bed.

QUEBEC MEDICAL NEWS

Conducted by MALCOLM MACKAY, B.A., M.D., Windsor Mills, Que.

At the invitation of the Medical Board of the Royal Victoria Hospital, a special meeting of the Montreal Medico-Chirurgical Society was held at the Hospital on the evening of December 8th. A very large number of medical men availed themselves of the opportunity of seeing a little of the work which is being carried on in the institution, and to hear the discussion upon the cases as they were brought up.

The meeting was held in the large ward "A," which was cleared for the purpose. Dr. Roddick presided, assisted by Dr. England, the President of the Medico-Chirurgical Society. The programme was divided into four sections, taken in the following order: I., Card Specimens, Microscopical and Macroscopical; II., Living Cases; III., Clinical Reports; IV., Pathological Specimens.

The Card Specimens were carefully arranged, and, in the case of the microscopical work, were beautifully mounted and finished. The following specimens were shown: 1, Ray fungus; 2, Sections of arteries (illustrating Dr. Klotz's work on arterio-sclerosis, and showing the changes in the media of the radial artery as compared with the changes in the intima of the aorta); 3, Sections of a sarcoma (illustrating case shown by Dr. Byers); 4, Section through Graafian follicle, showing the nucleus and nucleolus; 5, Coronal section of embryo, showing the various structures at a very early stage of their development. This embryo was perfect, and a complete series of sections has been made for the purpose of studying it as a whole; 6, Display of stones removed from the kidney, bladder, and gall bladder; 7, Foreign bodies removed from the antrum (including a match, a wad of chewing gum, etc.).

Living Cases.—1. Dr. Martin showed a patient (Greek female), who had a wandering spleen. There was a definite history of malaria, and the present condition showed the spleen to be very much enlarged—about the size of an adult head—and very easily moved to any part of the abdomen. 2, Dr. Garrow showed a case of excision of the temporo-maxillary articulation for an old, unreduced dislocation. He also showed a wrist injury caused by a blasting accident, in which two of the carpal bones, the pisiform and cuneiform, were dislocated, producing a "pseudo silver-fork" deformity. Stereoscopic x-ray photographs had been taken of the wrist, and the lesion showed up most distinctly. 3, Dr. Byers showed a case of evisceration of the orbit for local recurrence of sarcoma of the choroid, with microscopic sections.

He also demonstrated a case of metastatic gonorrhoeal conjunctivitis. 4. Dr. Jamieson showed two cases of submucous resection of the nasal septum.

Clinical Reports.—1. Two recent cases of actinomycosis by Dr. Bell, with demonstration of the ray fungus by Dr. Keenan; 2, Acute pancreatitis, with specimen showing marked fat necrosis in the omentum, etc., by Dr. Archibald.

Pathological Specimens.—1, By Dr. Gardner: (a) colloid ovarian cysts. (b) hydrosalpinx; (c) necrotic fibroid; (d) skiagraphs of rechteic pelvis in Caesarean section case; 2, Two cases of malignant tumour of the lung, with specimens by Drs. Hamilton and Adami; 3, A case of ankylosis of the cricoarytenoid articulation, with specimens by Drs. Birkett and Adami; 4, Radial sclerosis on its relationship to general arterio-sclerosis, with specimens by Dr. Klotz. This was a preliminary demonstration in the wide field of investigation which is being carried on by Dr. Klotz, and proved of very great interest both from the clinical and pathological standpoint. It showed that there were changes in the media of the radial and intima of the aorta. The sclerosis may be present in both radials and absent in the aorta, and no hypertrophy of the left ventricle be found, or, again, it may be absent in the radials and present in the aorta, with hypertrophy of the left ventricle. 5, a case of hydrosalpinx, with specimen by Dr. Goodall. This patient died of malignant disease, and the condition of hydrosalpinx was first noticed at autopsy.

After the presentation, and discussion of the cases and papers, remarks were made upon the excellence of the programme submitted, and it was hoped that this would not be the last of similar demonstrations in the hospitals of the city.

At the regular meetings of the Medico-Chirurgical Society the following papers were submitted. 1, Pylorotomy for Gastric Cancer, with living case, Drs. Reilly, England and McCrae; 2, Horseshoe Kidney and Unusual Situation of Internal Maxillary Artery, by Dr. Henderson; 3, Pulmonary Embolism following removal of stone from Ureter, by Dr. Garrow; 4, Echinococcus cysts of Omentum and Peritoneum, by Dr. Henry; 5, Pericarditis, with analysis of thirty cases, by Dr. W. F. Hamilton.

At the annual meeting of the Governors of the Notre Dame Hospital the Medical Superintendent reported as follows:—

During the year 2,230 patients had been treated, an increase of four over the previous twelve months, each patient costing \$1.13 per day, an increase of four cents over the cost last year. Of the number

treated, 1,303 were men, and 927 women; Catholics, 2,124; Protestants, 106; Canadian-born, 1,937; other nationalities, 293. Those improved or cured numbered 1,871; not improved, 183; died, 165; of the latter 53 were brought to the hospital in a dying condition. The doctors attending to the different dispensaries gave 20,991 consultations during the year, as follows: Surgery, 6,585; medicine, 5,001; diseases of the eye, 3,412; children's diseases, 1,574; skin diseases, 1,072; nervous diseases, 807; women's diseases, 807; dentistry, 193; besides 1,557 emergency cases. There were given, during the year, 25,898 free prescriptions, and there were 1,245 ambulance calls. The report dealt at length with the St. Paul's Contagious Disease Hospital, as already reported. The new contracts already given out for the new Notre Dame Hospital amounted to \$246,881, the total cost being estimated at over \$600,000. The total amount of subscriptions received to date amounted to \$58,400.

The Hotel Dieu has installed a new and up-to-date electro-therapeutic department, under the direction of Dr. H. A. Desloges. The new instruments consist of two static x-ray machines, a high frequency apparatus, a powerful therapeutic lamp, together with numerous instruments for electrical massage. This valuable acquisition will be of immense benefit to the medical, as well as to the surgical, departments of the hospital.

At a meeting of the Montreal Citizens' Committee in connection with a memorial to the late Charles Alexander, it was proposed that a fund should be raised to aid the General Hospital, and that this fund should be applied as the Governors saw fit for the use of this institution. The general opinion seemed to be that the hospital should first be put upon a solid financial basis, and that, then, if possible, a sum of money should be set apart for extension of the building. A more worthy object could hardly be found, and a more fitting commemoration of the life of a philanthropist could not be chosen. The work is in the hands of able men who will push the matter to a conclusion, and the scheme has the hearty support of the press.

The Medical Students' Medical Society was favoured by a visit from Dr. Lorand, an Austrian scientist of note, at a recent meeting. He stated that the subject he had chosen was one upon which he had devoted a great deal of time recently, and one which was of great interest to the medical profession in general, namely, the function of the ductless glands. The thyroid was treated of in extenso, and the lecturer spoke for upwards of an hour and a quarter in very fluent English upon its functions in health and in disease. A very hearty vote of thanks was tendered Dr. Lorand by the president of the society.

CURRENT CANADIAN MEDICAL LITERATURE.

The Canadian Practitioner, December, 1905.

THE TONSILS OF WALDEYER'S RING.

Dr. J. Price-Brown, Toronto, discusses at considerable length the important relationships which the various tonsils of Waldeyer's ring bear in the etiology of disease. These tonsils are the pharyngeal of the nasopharynx, the two faucial between the pillars of the fauces, and the lingual on the posterior fourth of the tongue at the side of the glosso-epiglottic fold behind the circumvallate papillae. These masses of lymphoid tissue are connected with each other by lymph channels. The pharyngeal and lingual tonsils are regarded by some as consisting of two, but they may be regarded as one. These tonsils show no enlargement at birth, and their site free from glandular enlargement. The pharyngeal and faucial tonsils develop between the first and eighth years, and the lingual about puberty. Sometimes the pharyngeal and faucial tonsils are well formed at birth, an indication of subsequent hypertrophy. When these tonsils are of normal size, they contribute to the well-being of the individual. It is only when they become enlarged, and their tissues lose their proper balance, that they require surgical treatment.

The pharyngeal tonsil may be conglomerate or racemose. It may invade the region of the Eustachian tube and Rosenmüller's fossae. When normal it never interferes with respiration. Atrophy commences after the eighth or tenth year, and is complete by the age of adolescence. The faucial are developed and undergo atrophy about the same ages as does the pharyngeal, but their crypts are deeper and more numerous, and they are much more liable to bacterial invasion than the latter. The lingual tonsil is fully developed after adolescence, and is not very subject to infection.

In a minority of persons the pharyngeal tonsils becomes hypertrophied. Syphilitic and tubercular conditions and a tendency towards increase of lymphatic tissue are predisposing factors. Among the exciting cause may be mentioned damp climates, unhealthy localities, impure and dusty air, faulty exercise, food and defective clothing. Enlargement of the pharyngeal tonsil may give rise to mouth breathing and all its evils. The Eustachian tubes may become obstructed, and the passage of air into the middle ear interfered with, and the hearing consequently impaired. The air in the ear is absorbed, the membrana

tympani is pressed inwards, and bacterial infection may result. The interference with breathing impedes the oxidation of the blood.

When the faucial tonsils are hypertrophied and soft, with open crypts, they are ready avenues for infections to enter. Such children are more subject to scarlatina, measles, diphtheria and tonsillitis than others, and tuberculosis may find an entrance through such tonsils to the glands of the neck. When the tonsils are the subject of frequent attacks of inflammation, their crypts become filled with unhealthy debris. In time these hypertrophied tonsils become fibrous. These enlarged, fibrous tonsils often discharge lumps of a foul cheesy-like substance, or are infected by bacteria, causing suppuration; and through these unhealthy crypts various infections enter the system as the germs of influenza and rheumatism.

In the case of enlargement of the lingual tonsils the symptoms are mainly local, as the risk of infection it is not great. The quality of the voice is changed, and there is the sensation of some foreign body in the glosso-epiglottic region, and the presence of mucus in the throat.

The advantages of removing these masses of lymphoid tissue, when hypertrophied, are universally admitted. These patients should be relieved from the risk of infection, and the mechanical effects caused the presence of these diseased masses of glandular tissue.

INTERNAL SECRETIONS.

The importance of the internal secretions of the several glands of the body is brought under careful review by Dr. E. R. Hooper, in his presidential address before the Toronto Medical Society. He refers to the two methods of medical advance—the one by crisis, the other by progress. To the former belong discoveries such as those of Simpson and Morton on anaesthesia, Holmes and Semelweiss on puerperal fever, Harvey on the circulation, Paré on the use of ligatures, Laennec on auscultation, Jenner on immunity, etc.; of the latter there are the advances made by the steady elaboration and working out of the details and the application of discoveries to the study and nature of disease and their treatment.

The glands which yield some important active secretion are the thymus, thyroid, pituitary, pancreas, adrenals, ovaries, testicles, carotid and coccygeal. The thymus, thyroid, adrenals and pituitary are ductless. The thymus reaches its full size at two years, and then remains active till puberty, when it rapidly atrophies. The thyroid ceases to be active at from 30 to 46. The thymus gland contains some lymphoid tissue. The thyroid, adrenals and pituitary are types of epithelial glands.

When the thymus gland atrophies during infancy, the child falls into a state of marasmus, and the condition of the thymus is an index to the state of nutrition and growth. When the thymus gland becomes hypertrophied or remains active after puberty the condition known as status lymphaticus is developed, during which sudden death is very liable to occur.

It would appear that the pituitary body has some intimate connection with the activity and nutrition of the nerve tissues. When this body becomes hypertrophied it appears to cause ravenous appetite, thirst, polyuria, hard pulse, muscular and osseous hypernutrition. The statement Andriezen is the pituitary gland exercises a trophic action on the nerve tissues, which enables them to take up and assimilate oxygen from the blood stream, and to destroy and render innocuous the waste products of metabolism. It has been regarded by some as the governing body of the nervous system.

The thyroid gland is surrounded by many unsolved problems. It practically ceases to have a functional activity at ages varying from 30 to 46. When it is removed from the young very serious results follow, and post-operative myxoedema is common; but if removed after it has become practically functionless such is not likely to occur. When the thyroid is too active the condition of exophthalmic goitre results. It has been held that the excess of the active principle of the thyroid gland stimulates the pituitary body, and this in turn the adrenals, leading to hyperoxidation. But recent investigation on the parathyroids has thrown some additional light upon the function of the thyroid. It would appear now that the disease known as Graves' disease is more one of deficient function of the parathyroids than over-action of the thyroid. Removal of the thyroid causes myxoedema, while removal of the parathyroids cause Graves' disease.

Turning to the pancreas there are several interesting problems. The pancreas secretes a fluid which is poured into the digestive canal. But Langerhans has shown that there are groups of epithelial cells that are not engaged in the secretion of pancreatic juice, but in the formation of an internal secretion which acts upon the glycogen stored in the liver, muscles, and other parts of the body, the glycogen being the main fuel of the body. When the secretion of the cells of Langerhans unite with a certain enzyme in muscle very active changes are effected upon the sugar in the body. When the islands of Langerhans are destroyed sugar combustion fails.

The suprarenal glands are of much importance. The classic symptoms which result from their disease by tuberculosis or atrophy are well known. The glands yield an active principle that cause symptoms the reverse of many of those noticed in Addison's disease,

such as high pulse tension, etc. The active principle of these glands has been administered with considerable advantage in Addison's disease. The statement is made that in chronic nephritis the adrenals are irritated or stimulated, and secrete too much adrenalin, causing the high arterial tension of Bright's disease, which leads later to thickening of the arterial walls or arterio-sclerosis. If adrenalin be given it contracts the kidney, and lessens the excretion of urea, but this can be overcome by the giving of vaso-dilator. Many early cases of Bright's disease could in this way be improved.

The testicles and the ovaries secrete some active principles which have much to do with the characteristics of the male and female as distinguished from each other, as seen when these organs have been removed during the period of growth.

DR. AYLSWORTH'S PRESIDENTIAL ADDRESS.

In his presidential address to the Collingwood Medical Society, Dr. G. M. Aylsworth took as his subject the advances in medical and surgical therapeutics.

The statement is made that about 95 per cent. of those who seek aid from the medical profession do not require surgical attendance. Strong ground is taken against those who take a pessimistic view of the help which the physician can render his patients. A strong protest is made against the statement of a prominent Chicago doctor who says we have no remedies that will influence the course of pneumonia.

He then refers to the days when Tanner's text book was the leading authority on the practice of medicine, and the expectant treatment of disease held sway. For many years surgery was making great strides, and he quotes from Osler to the effect that medical pathology was keeping pace with surgical advance, but that medical therapeutics had lagged behind.

The germ theory of disease made great changes in surgery. Due to the work of Lister and others, the new surgery kept infection out of wounds. It may be truly said that the evil effects of microbes in surgery were things of the past.

But the medical side of the healing art was laying to heart the progress made by surgery along the lines of antiseptics and prevention. It was now known that much could be done for a typhoid fever patient by proper care of the intestinal canal by suitable medication in the form of aperients and drugs to render the digestive system as little septic as possible. This was a great advance upon the expectancy of Tanner and the astringent to control the diarrhoea of typhoid fever patients. A word of warning is raised against the mere routine administration of salines in this disease.

A STUDY OF CHOREA MINOR.

Dr. Robert King, of Montreal, contributes this paper, based upon an analysis of 173 cases of this disease, or true Sydenham's Chorea.

There were none under four years of age, and only two at four and five years, respectively. It is fairly a disease of school life, as 78.2 per cent. of the cases were between 6 and 15 years of age. Ten patients were over 20 years, the oldest being 27. As to sex, 73.2 per cent. were females. As much as 69.2 were school children. As to season the highest point is reached in March. The next rise is in June and July. In 22.6 per cent. there was a history of rheumatism, and in 10.4 per cent. the attack was preceded by joint pains which generally ceased when the chorea began. There was a history of tonsillitis in 12.2 per cent. of the cases. Endocarditis was fairly well established in 69.6 per cent. of the cases, and probably in 6 others.

With regard to treatment, rest is of importance. The writer does not think there is any danger to other children associating with a choreic. Arsenic was employed in 75.7 per cent. of the cases; in 8.7 per cent. no drugs were used; while in 9.6 per cent. sodium salicylate was prescribed. As yet the merits of arsenic and sodium salicylate cannot be formulated. Chorea is a functional nerve disease, closely associated with rheumatism, with very frequent heart disturbance, and without a specific drug treatment.

FATAL CASE OF VERONAL POISONING.

Dr. F. S. Farncomb, of Trenton, Ont., reports a case of poisoning by veronal. The patient had been troubled with insomnia, for which some veronal powders had been prescribed by a doctor. When these powders were all used, he bought two boxes of veronal and measured out his own doses. On 28th October he took a dose, and fell into a comatose condition, and died on 1st November, without rousing from his stupor. On 31st October the temperature was 103, pulse, 160 to 180; respiration, 42 to 48. There was considerable mucus in the throat. The temperature rose to 107 $\frac{1}{5}$ before death.

The Dominion Medical Monthly, November, 1905.

THE PHARYNGEAL TONSIL.

This paper was read at the meeting of the Ontario Medical Association last June, by Dr. J. Price-Brown, of Toronto. This tonsil, or, as it is sometimes called, Luschka's tonsil, is situated in the upper and back part of the naso-pharynx. It forms the upper quadrant of

the pharyngeal lymphoid ring. This tonsil is bounded on either side by the fossa of Rosenmüller and the protuberance of the Eustachian tube.

It is composed of lymphatic adenoid tissue held together by bands of connective tissue. It is quite vascular, is covered by ciliated and columnar epithelium, and contains many follicles. The gland, though not large, is present during the years of childhood, and showed atrophy between the years of twelve and twenty. There may be some of this gland tissue found in the Eustachian tube. At the lower end there is a crypt or depression, known as Luschka's bursa, which tends to take on catarrhal symptoms.

This glandular tissue is liable to become hypertrophied. This condition was described by Wilhelm Meyer, who did much to point out the evils of this hypertrophy and the methods of treatment. The hypertrophy may be irregular in shape, in ridges, fringes, or in cushion-like masses.

When this tonsillar tissue is hypertrophied mouth breathing, with its many evils, results. The voice is nasal, there is faulty development of the nasal cavities and bones, there is liable to be an arched condition of the palate, and the upper jaw is narrow and protuberant. In addition to the foregoing conditions, the presence of enlarged adenoids has a very depressing effect upon the mental development of the child, and often gives rise to much disturbance of disposition. The child's schooling is greatly hampered. An adenoid vault is a catarrhal one, the whole naso-pharynx being full of muco-serum, or muco-pus. These secretions may find their way into the middle ear. The adenoid tissue may press upon the mouths of the Eustachian tubes the muscles at their orifices atrophy and the tubes collapse. Air does not enter the middle ear, and hearing becomes impaired. Or infection may reach the middle ear, causing acute otitis, and, perhaps, deafness.

The pharyngeal tonsil may be enlarged from acute naso-pharyngitis, in the cyanotic conditions due to kidney or liver trouble, or from intestinal irritation. In these cases proper treatment may remove the obstruction, and operative interference not be called for.

The operative treatment is the one worthy of consideration. The electro-cauteries and snares are condemned, as are also the various forms of cutting forceps. Gottstein's curettes and the human digit are the best instruments. The latter is the most convenient and efficient in suitable cases.

In older persons who can control themselves a general anaesthetic is not necessary, indeed, should not be used. The nasal fossae should be cleansed with a weak antiseptic solution. These and the pharynx should be sprayed with a weak solution of cocaine. This done, a 5 to

8 per cent. solution should be made to the growth by an applicator. The cocaine lessens sensation and contracts the mucous membrane, permitting the escape of blood more readily.

The patient is seated erect, the mouth is widely opened, when, with a reflector and light, the naso-pharynx is brought well within view. Two or three sweeps of the curette clears the region of the adenoids. The bleeding is usually profuse, and most of it escapes through the nostrils. Small portions that may be left can generally be removed by the finger afterwards, having been located by the rhinoscope. Keeping the naso-pharynx clean is all the after-treatment required.

In the case of children no previous treatment is given the naso-pharynx; but the child should have the bowels well moved, and a general anaesthetic employed, chloroform or the A. C. E. mixture being preferred. The child's clothing are made loose, placed on its side, and the head well back. The mouth is kept open by a gag, and the finger passed into the naso-pharynx. By a rapid movement of the finger the soft, friable adenoids are readily removed by the finger nail. The hands should be cleansed before the operation. The bleeding is free for a short time, but the blood readily escapes and only cleanses the parts.

The after-treatment is very simple. Light diet and gentle laxative are usually all that are required. In some cases a carbon oil may be used as a spray. Very seldom do the adenoids return.

The Montreal Medical Journal, November, 1905.

RECENT VIEWS ON THE THERAPEUTIC VALUE OF ALCOHOL.

Such is the title of the paper by Dr. A. D. Blackader, of Montreal, at the meeting of the Canadian Medical Association. He first lays down the objections that have been urged against the use of alcohol. These are that it does not stimulate the heart, that it is a narcotic, that it is not an antipyretic, that it lessens natural resistance, that it is not a food, and that its continual employment deranges metabolism. He also remarks that its use has come down to us from ancient times, and that a vast amount of honest work has been devoted to the elucidation of its value.

On the vascular system the result of recent investigations go to show that in moderate quantities it does not act as a cardiac stimulant. There may be a slight acceleration for a few minutes, but this is followed by a depressant action. On the blood vessels there appears

to be some contraction in the splanchnic and a dilatation of superficial vessels of the body. The arterial pressure is not raised. In large and toxic doses there is a distinctly depressant action on the heart and vascular system, and a fall of blood pressure. The experiments of Drs. Cobot, Crile, Patterson and others go to show that "the action of alcohol upon the heart is too slight and indefinite to be depended upon in therapeutics."

In moderate doses it is not a respiratory stimulant.

The action of alcohol upon the nervous system is complicated, but may be stated thus: It is not a cerebral stimulant at all, but a depressant. The increased thought and motor activity under the moderate use of alcohol is not due to the stimulation of the brain, but to a depressant action upon the centres for judgment, discrimination and self-control. When these are weakened the lower centres are relieved of their inhibitory influence and act more freely. It is like removing the brakes from an engine, without adding any more steam pressure. Cushing and Kraepelin endorse these views.

The experiments of Thomas and Laitenen are noted with the object of showing that moderate doses of alcohol do not increase the power to resist sepsis, while large doses decidedly weaken resistance to every form of sepsis and bacterial infection. It is noted that some have claimed good results from heroic doses of alcohol in sepsis, but it is likely the good results were due to the other therapeutic measures and attention to the patients.

Alcohol is of more value as a food. The researches of Atwater, Rosemann, and Goddard go to prove that a man of 160 lbs. may burn up in his tissues about 3 ounces of alcohol or 6 ounces of whiskey in 5 or 6 hours. This would be equal to about 5 ounces of sugar or starch. As a food it has the advantages of entering the system at once from the stomach, of imposing no digestive effort upon the organism, of stimulating the peptic follicles, and it also conserves proteid metabolism.

In conditions of cold surface and extremities with congested splanchnic area, repeated small doses of alcohol may prove very useful, as it dilates the surface vessels and relieves the internal congestion. By this means the urine flow and perspiration may be considerably increased. On the nervous system it is a narcotic, allaying the feeling of fatigue, relieving nervous strain, and promoting rest. In infections of all forms it should be used with extreme caution. It is at times a valuable food element, also aiding in digestion, and modifying metabolism.

RADICAL MASTOID OPERATIONS, AND THE INDICATIONS FOR ITS EMPLOYMENT.

This paper is from the pen of Dr. W. Gordon M. Byers, of Montreal. He gives an excellent summary of the anatomy of the middle ear and its relations to surrounding parts. A full account is given of Zaufal's and Stacke's Operations. Coming to the indications for the operation he sums up the matter thus:—

It is perfectly clear that in those cases where the attic has been already involved for some time, and cerebral conditions are threatening—as evidenced by pain, headache and vertigo—operative measures are imperatively and instantly demanded; and it is also clear that, once intra-cranial or sinus mischief has been set up by direct extension, nothing short of a radical operation will thoroughly clean up the local condition, and leave a free field for the work of the general surgeon. So, too, in those cases of chronic suppurative otitis media where the inflammation has extended from the attic to the antrum and mastoid cells the only procedure that can be successful is one which attempts not only to establish drainage as in the ordinary mastoid operation, but to remove as well all carious bone and inflammatory debris from the diseased temporal bone. And, finally, in those cases of acute mastoiditis which do not subside after the ordinary operation, but lapse into a chronic condition, it is advisable to thoroughly clean up the field by a radical operation.

Difficulty arises only when we come to the surgical treatment of chronic suppurative otitis media pure and simple. Some surgeons operate in every case, once a diagnosis of chronic suppurative otitis media has been established, and there is much to be said in favour of this attitude. But the majority of otologists are inclined to be more conservative; since it is perfectly true that the majority of cases of chronic discharge from the ear can be brought to a standstill by much simpler methods. It is only in a certain few cases which resist treatment, or cannot be kept under close observation, that surgical intervention is indicated; and those are especially to be feared, in which the attic is more or less certainly involved. A perforation in Shrapnell's membrane, with or without caries of the outer wall of the attic, is positive proof of disease of this area; and we can be sure of disease of the attic and adjoining aditus and antrum when, with a perforation of the posterior-superior quadrant of the "dangerous" type, the pus is seen to come from behind and above on mopping away the secretion. Cases of this character, when accompanied by signs of advanced bony necrosis, call for radical and energetic measures in the absence of an immediate and marked improvement under the simpler methods commonly employed.

But in numerous other cases the question of the advisability of an operation is more difficult, and many factors have to be carefully considered before a proper judgment can be formed. In this endeavour, the character, size and situation of the opening in the membrana tympani is helpful. Perforation of the drum membrane are classed as dangerous or non-dangerous, according, as they do, or do not touch upon the bony tissue. The inference is that in perforations of the dangerous type the inflammation has extended to the contiguous annulus tympanicus and set up there a necrotic process. With small perforations, and with perforations situated high up, the danger is obviously greater than with those of larger size, or with those situated lower down in the tympanic membrane. As a further aid to the detection of necrosing bone a delicate probe carefully handled gives valuable information; and accompanying necrosis the discharge has often a thin watery consistency, and a peculiarly foul odour which are characteristic to the aural surgeon.

The presence of cholesteatomatous material in the discharge, as indicated by characteristic whitish flakes, or caseating masses of a peculiar odour reveals another condition which always calls for serious consideration. The cholesteatomatous process has a very especial tendency to invade out-of-the-way cells which are difficult, or impossible, to reach by the ordinary channels. It tends directly by the pressure of its own growth, and indirectly by the stimulus it gives to the development of bacteria, to produce bony necrosis; and often it is insidious in its progress. While, therefore, there are exceptions to the rule, the undoubted presence of cholesteatomatous formation is another strong reason in favour of operative interference, and often of interference of a very extensive character, because of the widespread nature of the condition, and its well known tendency to recur unless every diseased cell is removed. Naturally, of course, the state of the patient's general health is another factor which can never be left out of consideration.

Eventually, however, the question comes to be in every case one of expediency. The surgeon must decide how long it is safe to allow any given ear to continue to discharge, and this can only be done by close observation of the case and a careful consideration of the factors enumerated above.

Finally, in brief, the indications for the radical mastoid operation may be summarized in part as follows: (1) Cases of chronic suppurative otitis media in which cerebral complications are threatening or have been already established; (2) Mastoiditis secondary to chronic suppurative otitis media; (3) Cholesteatomatous formation; (4) Cases of chronic suppurative otitis media not yielding to milder measures.

BALZAC, THE HERO OF OVERWORK.

Dr. G. M. Gould, of Philadelphia, contributes a paper on Balzac. It is well known that Dr. Gould has done very excellent work on the study of lives of eminent men who have suffered in various ways from ill-health.

Dr. Gould refers to what Balzac's sister says that her brother's eyes were far-sighted. But Gould quotes many passages from Balzac's writings to prove that his trouble arose from that form of eye-strain due to the inability to see near objects with ease, hence his distress from so much writing. Referring to many features in his life Dr. Gould concludes by saying: "These things cannot be explained except upon the theory of eye-strain, which had long lessened his resisting power, and which, when reinforced by presbyopia, finally produced the nephritis which killed him."

Maritime Medical News, November, 1905.

OPENING OF THE PAYZANT MEMORIAL HOSPITAL.

The Payzant Memorial Hospital was opened at Windsor, N.S., on the afternoon of October 24th, in the presence of a large number of spectators.

Mayor Arthur Armstrong expressed his pleasure in having present Hon. G. H. Murray, the Premier of the Province.

Speeches were delivered by Premier Murray, Attorney-General Drysdale, and Dr. J. B. Black, M.P., who has taken great interest in the building of this well equipped hospital.

The Payzant Memorial Hospital was established by a bequest of \$20,000 in the will of Godfrey P. Payzant. Mr. Payzant founded the late Commercial Bank of Windsor, and was its first president, and continued president up to the time of his death, a period of thirty years. This bank was incorporated with the Union Bank of Halifax on the 31st day of October, 1902.

By the 39th clause of his will, Mr. Payzant devised the sum of \$20,000 to the corporation of the town of Windsor, to assist in building, maintaining and supporting an hospital for the sick, diseased and suffering of all classes, as soon as a like sum of \$20,000 was raised by the corporation. If this additional sum was not obtained in seven years after his decease, his executors were directed to pay over and divide the \$20,000, share and share alike, between Godfrey Payzant and Charles Bradshaw Paulin.

It was owing to the Premier's generous liberality, in connection with the Attorney-General, that the grant of \$14,000 was made by the Legislature of Nova Scotia. Without that grant the institution could not have been built.

CURRENT MEDICAL LITERATURE

MEDICINE.

Under the charge of A. J. MACKENZIE, B.A., M.B., Toronto.

A CASE OF CATALEPSY.

In *The Medical Times and Hospital Gazette*, August 5th, Miles reports a case of genuine catalepsy, which, while not peculiar, is rare enough to merit notice in view of the possibilities such a case suggests of the subject being buried alive. The patient was a married woman aged 22, who had always had fairly good health, and with a good history, except for paternal tuberculosis. She retired about ten o'clock, after drinking a glass of stout, and almost immediately lost consciousness. Dr. Miles saw her at 10.30, when she was apparently quite dead, her head was high on the pillow, eyes wide open, pupils dilated, apparent absence of breathing, limbs stretched out, neck rigid; the limbs were stiff, and, when raised, they remained in the position in which they were placed. The face appeared like marble to the touch, and was cold and stiff like the limbs. The condition simulated death in every respect.

On examination the reflexes were absent, and the temperature sub-normal; the pulse could not be felt, but on auscultation the heart sounds could be distinctly made out. The patient remained in this state for six hours, when consciousness suddenly returned, and she seemed quite herself again. During the continuation of the fit she knew nothing.

HEART POINTS.

In *The New York Medical Journal*, September 2nd, Ellis has an article on some points in the examination of the heart for medical examiners in which he calls attention to the fact that there is a mortality from heart lesions in selected cases equal to ten per cent. of the total, a condition of affairs that indicates that many such examinations must be made in a very unsatisfactory manner, and he gives a summary of the commonest errors and the most important points in such examinations that is worthy of reproduction.

Common Mistakes.—I. Excited, nervous heart, beating against thin chest walls; diagnosed as hypertrophy.

2. Loud systolic murmur, widely diffused over left chest and behind, and disappearing with the anæmic condition; diagnosticated as mitral regurgitation.

3. A loud mitral systolic murmur clearly heard six months after typhoid fever, miscalled organic mitral regurgitation. In three months such a heart may regain its muscular strength, the dilated mitral orifice may contract to its normal size, and the leak prove to be only relative.

4. Flint's aortic regurgitation heard at the apex miscalled mitral stenosis, though the peripheral signs show the true lesion.

5. Forgetting to hunt for the aortic murmurs at the third and fourth left and second right interspace because the sounds at the apex are clear.

6. Diagnosticating a cardiorespiratory murmur heard about the apex, in the axilla, and behind, as mitral regurgitation.

7. A condition where the apex beat is two inches to left of nipple line, a heaving heart, a clear first sound, an intensified second, with tense arteries, miscalled a normal heart.

8. An aortic systolic murmur diagnosticated as true aortic stenosis, when there is a strong aortic second sound, no cardiac thrill, and no low plateau pulse. It is well to remember, as has been said, that there are ten possible causes for an aortic systolic murmur, one of which is aortic stenosis.

9. The greatest mistake of all, and often the real cause of most mistakes: Listening to a heart through the clothing—from a thick shirt to shirt, waistcoat, and coat.

General Points.—1. A musical ear is of great value in heart examinations.

2. Most murmurs are functional or cardiorespiratory. Advanced heart lesions may show no hypertrophy, no dilatation, but merely a diseased valve with signs of heart muscle degeneration.

3. Cardiorespiratory murmurs disappear after a full expiration. Relative murmurs from hearts weak after acute disease disappear when the heart muscle recovers its normal tone.

4. Limit all murmurs to one diseased valve, if possible, since post mortem examinations usually show one diseased valve with relative leakage at another valve.

5. An aortic regurgitation may produce four murmurs with but one diseased valve.

6. Each murmur must have its own maximum intensity and its own area of diffusion.

7. An organic murmur is not always attended by the expected changes in the heart, in the pulmonary and peripheral circulation.

8. The pulmonary second sound is usually greater than the aortic second until thirty years of age; about the same until sixty years, and less than aortic second after sixty years.

9. Knew well the classical pulmonary, peripheral, and cardiac signs of the various cardiac lesions, and see how many of these signs are practically noted in each special case, remembering that no two hearts, normal or abnormal, are ever exactly alike. If the valves are in such a good condition as to require exercise to increase the force of the blood current before the murmur is heard, such condition should be mentioned on the application.

A long, loud murmur may indicate a strong heart with little valve change, while a short, blowing murmur may indicate a weak heart with great valve change. Hypertrophy may be caused by over-exercise, by pulmonary or peripheral circulation resistance, as well as by valve lesion.

The order of frequency of valvular lesions is: Mitral regurgitation; aortic regurgitation; mitral obstructive; aortic obstructive.

Severe exercises after acute disease may temporarily enlarge a cardiac orifice without impairing the valves in the least. Post mortem records show that about one half of all valvular lesions are recognized during life.

The tricuspid valve is very seldom diseased, though it often leaks to relieve overtension in the right ventricle. Any examiner can hear a loud murmur from a strong heart forcibly pumping blood through diseased valves, but few recognize a low murmur from a weak heart feebly pumping blood through diseased valves.

A bad heart does not necessarily mean a valvular lesion any more than valvular lesion means a bad heart.

A pulse that intermits occasionally may be considered physiological, but an irregular, intermittent pulse is almost always pathological.

First study the heart as a pump muscle, then study the valves, then the vessels; and last, the non-organic murmurs.

DISPLACEMENT OF THE HEART IN PHTHISIS.

In *The Los Angeles Medical Journal*, for September, Herbert discusses the displacement of the heart in phthisis. Other complications are frequently found as diminution in size, functional weakness; displacement is not so common, because, as it gives rise to no discomfort it may well be overlooked, and is usually discovered accidentally. Two classes may be found, active and passive, the former due to traction of adhesions in chronic pleurisy, to tubercular pericarditis,

etc.; the latter is not due to involvement of the pleura or pericardium, but to shrinkage of the lung; this process tends to cause a vacuum, and the heart is moved in to fill it. In some of these cases the heart is movable with changes of position, and in many the exact location is a matter of difficulty to determine. The writer cites seven cases from his practice in which displacement had taken place, to the right in five, and to the left in two.

MORTALITY STATISTICS OF THE TWELFTH CENSUS.

The abstract of the twelfth census of the United States is discussed by Handerson in *The Cleveland Medical Journal*, and some very interesting points are made out. The statistics are derived from the registration area which includes only those states and cities in which the reports were sufficiently accurate to be of value. Nine states and 153 cities outside these states are included, and seven of these states are in the North Atlantic region; one, Michigan, in the North Central Division; and the District of Columbia, in the South Atlantic Division. The population included is 28,807,269, about 38 per cent. of the total population of the United States; and Dr. Handerson calls attention to the following interesting facts:

1. The death rate from pneumonia, 186.9 per 100,000 in 1890, increased in 1900 to 197.9 per 100,000.

2. The death rate from consumption (including general tuberculosis), which in 1890 aggregated 245.4 per 100,000 shows in 1900 the flattering decrease to 190.5 per 100,000. So far as they go, these figures seem to indicate that the recent campaign of popular instruction as to the causes and treatment of the greatest scourge of our race is bearing abundant fruit in a greatly decreased mortality.

3. The mortality from apoplexy, 49 per 100,000 in 1890, is increased in 1900 to 66.6 per 100,000. Manifestly the notorious "strenuousness" of American life has not yet been materially tempered by the peaceful influence of pastor Wagner.

4. "Old age," according to the table, occasioned in 1890 the death of 44.9 persons per 100,000, and in 1900 54 per 100,000. We men of a maturity bordering upon senescence may at least receive this ambiguous information with a hesitating smile. It seems, at all events, to indicate the approaching desuetude of Oslerian anesthesia.

5. The mortality from diphtheria, 70.1 per 100,000 in 1890, is cut nearly in two by the reduced mortality of 1900, 35.4 in 1900.

6. Typhoid fever in 1890 occasioned the death of 46.3 persons per 100,000. These figures are happily reduced to 33.8 in 1900.

7. Railroad accidents in 1890 destroyed 14 in each 100,000 of our population. A reduction of this rate to 13.2 in 1900 should attract the attention of commercial travellers, and be brought promptly to the notice of the directors of the Equitable Life Insurance Company.

8. Appendicitis, for another decennium at least, must furnish continued material for the sanguinary struggle between the surgeons and the pure physicians, for a mortality of 9.9 per 100,000 from this disease in 1900 is balanced by no figures in 1890.

9. The mortality from cholera infantum decreased from 79.7 per 100,000 in 1890 to 47.8 in 1900—one of the most beneficent advances recorded in the tables.

10. Cancer, the *bête noir* of both physician and surgeon, apparently increased its mortality from 47.9 to 60 per 100,000 in 1900

CARBONIC ACID IN THE TREATMENT OF TUBERCULOSIS.

In the *St. Louis Medical Review*, November 4th, Rose, of New York, discusses the method of treatment advised by Weber, and agrees with him that tuberculosis is affected by the presence of carbonic acid in the blood or in contact with the tissues, and that this gives a key to the method of treatment. The article is devoted chiefly to the support of the idea by examples, and some of these are interesting. The frequent association of diabetes with tuberculosis is quoted, the explanation being the insufficient combustion of sugar in diabetes, and the consequent reduction in the amount of carbonic acid. Patients with heart disease and considerable venous hyperaemia of the lungs—i.e., lungs charged with carbonic acid—enjoy a certain immunity from tuberculosis, while children born with stenosis pulmonalis always die from it. Those affected with emphysema are, to a considerable extent, immune from tuberculosis, due to the overcharge of carbonic acid, the same is true as regards hunchbacks with their deformed chests. Dettweiler's recumbent treatment depends on the accumulation of venous blood in the lungs. Weber suggests the introduction of the gas by means of the administration of soda bicarb, or, preferably, levulose, while Bergeon suggested the introduction of the gas by means of enemata, from whence it rapidly passes into the blood and is excreted by the lungs.

ON THE DISCRIMINATION OF "PHYSIOLOGICAL ALBUMINURIA" FROM THAT CAUSED BY RENAL DISEASE.

In the *Lancet*, London, October, 1905, there appeared an article by A. E. Wright, M.D., Dub., Pathologist to St. Mary's Hospital,

London, and G. W. Ross, M.B., Tor., Pathologist to the City of London Hospital for Diseases of the Chest, on the differentiation of the two kinds of Albuminuria, and the means of checking it where it occurs apart from disease.

The presence or absence of albumin in the urine is no longer regarded as a criterion of the competence of the kidney, a more just decision depends on the ability of the kidney to elaborate out of the blood a concentrated saline solution, and with this as a criterion the investigators have recently, in a series of cases of physiological albuminuria, estimated the percentage of salts in the urine by a method which one of them had devised. The cryoscopic method had been used for this purpose in the past, but it is complicated and difficult; the method used in its place depended on the determination of the number of times it is necessary to dilute a salt solution before it will completely dissolve a given quantity of blood corpuscles. The technique of the estimation, while not difficult as described, does not admit of a full description here, but it will suffice to say that by means of a capillary tube the different dilutions can be made with definiteness, and in plain sight of the investigator.

A similar method was used to determine the "excretory quotient" which was interpreted to mean the expression for the efficacy of the kidney which is obtained by dividing the salt content of a patient's blood into the salt content of his urine; a comparison being made between the haemolytic power of the serum and of the urine, samples being taken as nearly as possible at the same time.

By the use of this method it was determined that in cases of physiological albuminuria the efficacy of the kidney is not impaired, and one is inclined to conclude that in such cases the condition is dependent on the transudation of lymph into intact urinary tubes. This view is supported by the fact that in these cases of physiological albuminuria the increase in hydrostatic capillary pressure is followed by an increase in the amount of albumin in the urine. The relation of these cases to those of giant urticaria, where there is under certain stimuli a great exudation of albuminous fluid under the skin would form an interesting supplement to the experiments which we have described.

The natural conclusion of these results presented to the investigator the suggestion that these cases could be affected by the increase of the coagulability of the blood, and it was shown in a series of cases that by the administration of large doses of calcium lactate that the excretion of albumin was checked in those of the class in which there was no disease, but in the cases of renal disease it was not materially affected. Here, then, we may be able to reduce the discrimination to the question of the effect in a given case of the administration of calcium salts.

A CASE OF ANTHRAX.

In the *Medical Record*, November 18th, Jones, of Utica, reports a case of Anthrax without visible initial lesion. The patient, a farmer, had lost a number of cattle out of a certain swampy pasture for some time past, one, which died after a day's illness, was examined by a veterinary surgeon, who said that the cause was not anthrax. The farmer skinned the carcass, and a week after he noticed a swelling on the palmar surface of the left forearm, without any pimple or redness of the skin. This he attributed to a strain. It was not painful, and he continued at work for two days. The arm then began to swell rapidly, and became covered with blisters. He was then brought to the hospital. Below the elbow, at that time, the arm was greatly swollen, and œdematous above the elbow as far as the axilla. The glands were not much enlarged; the temperature was 101.2. Free linear incisions were made, and cultures taken, which proved to be positive of anthrax. The patient became rapidly worse, the muscles seeming to bulge out through the skin and fascia. He died two days after, without change in the condition of the affected area.

It would appear probable, as the patient was certain that there was no pimple or vesicle on the skin, that the bacilli had lain on the arm and gained entrance later through some scratching of the surface, the case shows the possibility of anthrax developing without malignant pustule.

A CASE OF DIABETIC COMA WITH RECOVERY.

In the *Boston Medical and Surgical Journal*, November 30th, Sears reports a case of unusual interest in which a patient recovered from diabetic coma under an alkaline treatment. At time of admission to the hospital he was 13 years of age, and had been under observation for several months, during which time he had suffered from excessive hunger and thirst, had lost strength and weight, had passed large quantities of urine, and had, in the last few days, become weak and dull. Examination on entrance showed emaciation, enlargement of spleen and liver, rapid, weak pulse, cyanosis, temperature 99, urine pale, acid, 1033, albumin, acetone and diabetic acid present, sugar 5.3 per cent., amount in 23 hours, 156 oz.

Immediately after entrance he was given stimulants and eight ounces of sterile salt solution saturated with soda bicarbonate was injected under the skin of each breast. A solution of the soda was given by the mouth in as large quantities as he could take; an attempt to give it per rectum failed. The stupor rapidly decreased, but he remained drowsy for several days. Convalescence was interrupted by

an attack of convulsions apparently uraemic. In spite of the large quantities of alkali given the urine remained acid, the sugar under diet treatment was reduced to 1 to 3 per cent., and acetone was generally perceptible. Abscesses followed the injection, and were slow in healing. The patient was dismissed four months after in fair condition.

The writer recites a series of cases in which recovery has followed treatment after reaching the condition of coma, although some of them are not clearly free from chance of error in diagnosis, success has followed in some of these the introduction of alkalis in large quantities, and the venous route is the best in serious cases.

THE REST CURE IN PHTHISIS.

"1. In the treatment of phthisical patients the rest cure is the indispensable complement of a sojourn in a salubrious climate and of forced alimentatio...

"2. Since the lungs participate in all excessive activity, the effect produced is an active congestion in the region of the tubercular focus, and new tears in old adhesions.

"3. Every organism which fatigues, suffers more abundant organic losses (increased katabolism). These losses are still more augmented in the phthisical subject who, when overexercised as a consequence of fatigue, mobilizes his bacilli, whence comes a veritable autointoxication which evidences itself by febrile phenomena.

"4. Forced feeding and life in the open air are of profit to a tuberculosis patient only when he is placed under conditions of absolute repose.

"5. Furthermore, repose plays another important rôle; it prevents the general localization of the bacillus of Koch.

"6. One should, therefore, prescribe the rest cure for every phthisical patient who has fever, and in whom one observes clinical symptoms of tubercular activity.

"7. This rest cure may be practised in all cases, provided it is applied in a disciplinary manner and with intellectual supervision." (*Journal of Tuberculosis*, Vol. II., No. 4).

THE USE OF ALCOHOL IN PNEUMONIA.

The combined *New York Medical Journal* and *Philadelphia Medical Journal* has had a series of questions for the best answer of which, in the form of a short essay, they give a prize. The one published in the issue of November 11th is on the use of Alcohol in Pneumonia, and the answer is an essay by Dr. Graham, of Kansas City.

"One of the most discordant topics in the science of medicine seems still to be with some—the treatment of pneumonia," a dictum made by Aitken some forty years ago. It is as applicable to the present condition as it was to the time when first written.

As regards the use of alcohol in pneumonia, *do not use it until it is indicated* but at the same time stimulate and support the heart. There are other means of supporting the heart besides the use of alcohol, and my practice is—while the other drugs are acting well, and as long as there is no indication of a tendency to heart failure—to hold back the alcohol, so that when it is needed to support the patient he will respond to its use. This he would not do if alcohol had been given early in the case.

Contrary to the teachings of most writers on this subject, I am a firm believer in the free use of antipyretics in pneumonia. Thus, when a patient has a temperature of 105° F., a pulse of 130 to 140, and respiration 40 to the minute, a ten grain dose of acetanilide or fifteen grains of phenacetine should be prescribed, which will reduce the temperature to 99° , the pulse to 90, and the respirations to 25 or 30. It is much better to put the patient into an easy and comfortable condition, which will last several hours, by giving him a dose of the antipyretic large enough to reduce a high fever than to allow such a fever to continue. It is, therefore, my practice to give the acetanilide or phenacetine in enough diluted alcohol to dissolve it, and in years, since acetanilide was first introduced, I have never seen a case of collapse or even depression from these drugs when so used. When the fever returns after five, six, or eight hours, or longer, the dose must be repeated. Do not allow the patient to have fever, and give acetanilide when the temperature rises above 101° F. Meantime, every three hours when the patient is awake, he gets five grains of carbonate of ammonium, one to two minims of fluid extract of digitalis, and fifteen minims of spirit of chloroform, with syrup of Tolu and water. I prefer the carbonate to the acetate of ammonium, but give the latter in the form of the popular liquor ammonii acetatis if the stomach rejects the carbonate.

The alcohol given with each dose of the antipyretic is all the alcohol the patient receives until the time for the crisis of the disease approaches, when I begin to stimulate him freely, giving half to one ounce of brandy every three hours, and more if there are any symptoms of heart failure, in which case I also give nitroglycerin and strychnine.

Under no circumstances do I give morphine, heroine, or any opiate or narcotic, as they invariably do harm. The pain as well as the fever is immediately relieved by a dose of the antipyretic. If there is insomnia or delirium, I use sulphonal, trional, or the bromides.

By this method of treatment—controlling the fever, and supporting the heart—the crisis of the disease is brought on on the third, fourth, fifth, and very frequently the sixth day from the initial chill. In infants and young children, when this treatment is begun soon enough, it will often abort the disease. With them alcohol is not needed except when the child is weak and debilitated from the beginning of the attack, or when it becomes so from absorption of the toxins, or in pneumonia following measles.

In pneumonia of the apex, the patient is delirious almost from the onset of the attack, and alcohol, in the form of brandy, must be used freely, especially as the majority of these cases occur in drunkards, and the rest in old, feeble, or debilitated people. In these cases of pneumonia of the apex, where the prognosis from the first is grave, the free use of alcohol is the patient's only chance, and large quantities can be given without danger of causing any bad effects.

In the pneumonia of those who have used alcoholic liquors freely and continuously, which cases are from the beginning very grave, alcohol must be given, and every other means available must be used to support the heart, as the patient is liable to a sudden attack of heart failure at any time, and heart failure in these "steady drinkers" is severe and very quickly fatal.

I have never had a case of abscess of the lung following pneumonia, unresolved pneumonia, gangrene of the lung, or any of the unfortunate terminations of pneumonia except death, but if I had had, I should have, most undoubtedly, administered alcohol freely and in large quantities.

SURGERY.

Under the charge of H. A. BEATTY, M.B., M.R.C.S., Eng., Chief Surgeon Canadian Pacific Railway, Ontario Division; Surgeon Toronto Western Hospital.

THE CHOICE OF METHOD IN OPERATING UPON THE HYPERTROPHIED PROSTATE.

In *The Medical Record*, October 7th, 1905, Willy Meyer describes the various operations, and summarizes his news as follows:

1. We have to-day three useful methods for the operative relief of prostatic obstruction, *i. e.*, suprapubic and perineal prostatectomy and galvanocaustic prostatotomy (Bottini's operation). 2. Unassailable proof has been furnished to show that all three methods deserve to be recognized as standard procedures, each being capable of bringing permanent relief. 3. Wherever the patient's condition, irrespective of age, seems to warrant it, prostatectomy should be done, since the total removal of the mechanical obstruction naturally represents the

most surgical procedure. 4. While it is true that either method, perineal or suprapubic, can be successfully employed to the exclusion of the other in removing the hypertrophied prostate gland, it certainly means facilitating our work, and is in the interest of the patient if we use both procedures, choosing in each instance the one that seems best suited to the particular case. The selection of the route, on strict indication, is not an easy matter at present. Further reports by surgeons, practising both procedures, are needed to decide the question. Both methods are excellent and useful ones. The choice up to the present time is largely a matter of individual inclination. Perhaps we are warranted in saying, on the basis of our present experience: *a.* Glands palpable per rectum and rising not far from the sphincter ani muscles can be advantageously attacked from below. *b.* If situated higher up, and if the growth projects well back into the bladder, they should be enucleated from above, all the more if the cystoscope has shown the presence of a median lobe. *c.* An hypertrophy of soft character in the early stages, so frequently found to be made up of a number of smaller nodules, each of which can be enucleated by itself, is best attacked from below. *d.* In the 33 per cent. of cases in which no tumor is palpable per rectum, but in which vesical enlargement is recognized by the residual urine or total retention, and seen distinctly by means of the cystoscope to be the obstructing cause, the suprapubic route deserves the preference. *e.* If the enlargement is complicated by a vesical calculus or calculi, too large to be easily extracted through the dilate internal sphincter muscle, the suprapubic route is indicated. *f.* In patients with very foul urine, where immediate drainage of the bladder is imperative, the suprapubic incision should be chosen. The gland may then be removed at a second sitting. *g.* The comparatively frequent appearance of carcinoma of the prostate may prove to become an important factor in deciding in favor of complete removal of the gland from above. 5. The question of the preservation of sexual power is an important one. Further experience and investigation are needed to enable us to definitely determine whether there is any difference in results as to this point between the two methods of operation. As it seems to-day, the suprapubic operation is superior in this respect to the perineal method, even though in the latter the portion of the gland immediately surrounding the prostatic urethra and the ejaculatory ducts have been preserved. If future statistics should prove that with suprapubic prostatectomy the sexual function is more frequently preserved than with the perineal procedure, this must necessarily decide the choice of route in patients in which this point has still to be considered. 6. If operation with the knife is declined, or there are contraindications to such intervention, Bottini's operation is in order. 7.

Only if this operation, too, is declined or impossible, are we justified in relegating a patient to the regular use of the catheter. 8. Cystoscopy is absolutely necessary before doing Bottini's operation; it should also precede perineal prostatectomy in order to enable us to determine the presence or absence of a median lobe and calculi; it may be dispensed with if the suprapubic operation has been decided upon, although a previous distinct knowledge of intravesical conditions must be welcome to the operator. In that 33 per cent. of prostatics who present no enlargement on rectal palpation, the cystoscope alone can establish a distinct and refined diagnosis. 9. The time for operation, at least, in the rank and file of prostatics, has come when regular catheterism has become imperative. The catheter should never be entrusted to them for regular use. Well-to-do patients, being in a position to take the time and care necessary for the carrying out of self catheterism on aseptic principles, may be allowed to do so if opposed to operative intervention. Another strict indication for operation is persistent, severe pains in the perinæum, neck of the bladder, and glans penis, resisting ordinary treatment. 10. Surgeons should familiarize themselves with perineal and suprapubic prostatectomy as well as with galvanocaustic prostatotomy (Bottini's operation), in order to be able to do justice to the prostatics entrusting themselves to their care, for no one method of operation can be employed in all cases of prostatic enlargement to the best advantage of the patient. In other words, we must select the operation that suits the case.

FRACTURE OF THE PATELLA.

In *The Lancet*, September 23rd, 1905, C. M. Moullin reports forty cases of fracture of the patella which he has treated by wiring during the last eleven years.

In the first twenty-eight cases he tried the various methods of subcutaneous wiring, but without satisfactory results. Then he used Barker's method with fair results, but the last twelve cases have been treated as follows: Operation is performed on the third or fourth day after the accident, when the swelling of the joint has ceased to increase. A semicircular flap is raised over the fragments, and all the blood clot is carefully turned out. Each fragment is drilled in such a way that the wire does not project through the cartilaginous surfaces. A single stout silver wire is passed through and the ends are twisted together until the fragments are in exact apposition, cut short, and buried. No carbolic acid or other antiseptic is allowed to touch the interior of the joint. There is no occasion to wash the joint out, as the blood being

all coagulated, can be removed with ease by means of a scoop and forceps. The torn fascia on the cutaneous surface of the patella is then united with catgut, and one or two catgut sutures are used to join together the aponeurosis on either side if it has been extensively lacerated. No drain is inserted, but the angle of the cutaneous incision is left a little open in case there is any oozing. No splint is used. Deep and superficial dressings are applied, and the knee is firmly bandaged. On the third or fourth day the bandages and superficial dressings are removed and replaced by a lighter bandage, and the patient encouraged to flex and extend the limb more and more each day, until by the end of the fortnight it can be bent to a right angle. Massage is begun as soon as the wound is healed. The patient is allowed to get up before the end of the third week, and by the end of the fourth he is able to walk without a limp, and to kick. The twelve patients can walk perfectly well, and can kneel. Bony union has been obtained in every case but one.

KNEE JOINT INJURIES, AND HOW TO MANAGE THEM.

De Forest Willard (*Amer. Med.*, June 17, 1905), after discussing the various traumata to which the knee joint is subject, outlines treatment as follows:

1. Apparently slight injuries of the knee often prove more lasting and annoying than those of a more positive nature, as fracture or dislocation.
2. Every injury of the knee should receive careful examination, since laceration of ligaments or of particular tissues, or displacement of semilunar cartilages, or of loose bodies, may have occurred. Obscure fractures, also, are not uncommon.
3. Every injured knee requires rest during its acute inflammatory stage; rest in bed, fixed dressings, and crutches are needful. Heat and cold are two powerful agents in aborting a threatened inflammation.
4. Adhesive plaster strapping is of great value in securing partial restraint of a knee and in producing absorption of effusion. Restricting apparatus should be used with discrimination.
5. Blood clots in the joints should be removed by incision and flushings.
6. Effusions, if large, should be removed by aspiration, or incision followed by weak iodine injection.
7. Displaced semilunar cartilages should be stitched in position, or removed. Loose cartilaginous bodies should be removed.
8. Motion is the normal condition of joints, consequently massage and voluntary motions should be instituted as soon as the inflammatory stage has passed. Neglect of this precaution may result in a neuromimetic patient and a chronic cripple.
9. Sensitive neurotic knees should not be mistaken for diseased ones.
10. Complete primary rest during the

inflammatory stage, followed by massage, voluntary and involuntary movements, gymnastic exercises, hot-air treatment, hot and cold douchings, etc., are the best means at our command for preventing ankylosis. 11. Should ankylosis follow, forcible straightenings, tenotomies, osteotomies, etc., may be required.

THE TREATMENT OF STRYCHNINE POISONING AND TETANUS BY SPINAL ANAESTHESIA.

In *The Lancet*, September 23rd, 1905, A. E. Russell presents the following conclusions:

(1) Strychnine convulsions only occur when the spinal cord receives afferent impressions. If these be cut off by section of the posterior roots the spasms do not appear. Spinal cocainization or eucaïnization causes a temporary physiological "section" of the posterior roots and experimentally in animals controls the strychnine convulsions. Its trial in cases of strychnine poisoning in man is, therefore, strongly indicated. (2) The spasms of tetanus are very similar to those produced by strychnine, and are also markedly increased by afferent impressions. One case has already been treated by spinal eucaïnization with most beneficial results, and it is important that the method should be given a wide trial.

THE QUICK CURATIVE TREATMENT OF GONORRHOEA.

In the *Medical Record*, November 4th, Lyons, of New York, describes his abortive treatment of this disease, and states that in a little over 400 cases treated on this plan he has succeeded in over 95 per cent.

When a patient presents himself complaining of symptoms pointing to infection of the urethra, an examination is made of the discharge, if any, or in its absence, the platinum loop is rubbed over the surface of the anterior urethra. If gonococci are found and the history shows it to be a case of acute infection, the treatment is used. After urination with the patient in the recumbent position, an injection is made of one drachm and a half of a 4 per cent. solution of silver nitrate, and, by seizing the meatus, it is retained for two or three minutes. Little pain follows. The ordinary directions are given, and the patient presents himself twenty-four hours later. Usually by this time the character of the discharge has changed to a thin, serous fluid, and, on examination, it will be found that the cocci have disappeared, or are greatly reduced in number. If they are absent nothing more is done, and the slight inflammation disappears in a few days. If they are found the injection is repeated with a drachm and a half of a 2 per

cent. solution, and in twenty-four hours another examination is made, this is somewhat more painful than the first, but, if necessary, a third is made the following day with a 1 per cent. solution. If the gonococci have not entirely disappeared by this time it is useless to go on in this way, and the ordinary symptomatic method is followed. The rationale of the method is that in the early stage the germs are placed on the epithelium, where they are readily affected by the strong solution, later they reach the deeper layers where they cannot be so destroyed. In the first stage the discharge will contain numbers of epithelial cells with the colonies of cocci on them, later the discharge will be found to consist of pus cells with the cocci in them.

GYNÆCOLOGY.

Under the charge of S. M. HAY, M.D., C.M., Gynecologist to the Toronto Western Hospital, Consulting Surgeon to the Toronto Orthopedic Hospital.

THE TREATMENT OF GONORRHOEA IN WOMEN BY LACTIC ACID.

In the *Journal of the American Medical Association*, October 7th, 1905, Swithin Chandler describes his method of treating gonorrhoea in women as follows :

First, cleanse the vagina and cervix thoroughly with warm water and cotton soaked in a solution (4 ounces to 6 ounces) of pyroligneous acid. Expose the cervix by drawing it downward and into view by an ordinary long tenaculum. Then take an ordinary hypodermic syringe loaded with pure lactic acid, and inject just beneath the membrane a few drops of the acid. Continue this until the whole of the cervix is exposed as the superior and inferior lips are injected. It may be done in one sitting, or with a nervous patient, if desired, in two or three sittings. The conclusions so far reached are as follows : Lactic acid injection does cure cervical gonorrhœal infection. It has no ill after effects. It stops the spreading to the endometrium of the body of the uterus in acute cases if treatment is started soon enough. Ordinary douches and painting of the cervix can give only temporary relief. It is better to destroy the cervical glands, and this should be done as soon as the diagnosis is positive. An examination should be made, not only of the discharge, but, if necessary (where that examination is negative) of the cervical membrane, with its glands. Most of the chronic discharges are due to retained gonococci.

PUS IN THE FEMALE URETHRA.

In the *British Medical Journal*, September 23rd, 1905, J. Campbell strongly urges that every gynaecological patient and pregnant woman should be examined as to the presence of pus in the urethra. Its existence should be looked upon as an indication that gynæcologi-

cal affections complicated with it will be obstinate, and that labours accompanied with it will be dangerous. In gynæcological cases attention should be paid to the general health, and to vaginal cleanliness, there being as little handling of the pelvic organs as possible. In endometritis the curette should be avoided, unless there is hæmorrhage, swabbing with carbolic acid instead. In labor cases not only should the external genitals be cleansed in the usual way, but the urethra must be squeezed free from every trace of pus, either in the urethra or in Skene's glands, and the meatus bathed with bichloride solution. Delivery should be followed by a douche of one or two thousand bichloride of mercury solution, which should be given as soon as the placenta comes away.

OBSTETRICS AND DISEASES OF CHILDREN.

Under the charge of D. J. EVANS, M.D., C.M., Lecturer on Obstetrics, Medical Faculty, McGill University, Montreal.

THERAPEUTIC VALUE OF ERGOT IN LABOR.

J. C. Applegate has, in *American Medicine*, June, 1905, published a valuable paper on this subject.

The conflicting opinions published from time to time as to the value of ergot in labor, lead one to doubt what is the proper course to pursue. Text-books on therapeutics classify it as one of the most valuable drugs in the treatment of uterine inertia, while text-books on obstetrics condemn its employment under all circumstances until the complete evacuation of the uterus.

It is a fact which admits of no dispute that ergot exerts a specific physiological action on the uterus, producing uniform uterine contractions, less intermitting and more continuous than those present in labor. In normal labor the rhythmic contractions of the uterus are accompanied by gradual thinning and relaxation of the cervix, while under the influence of ergot the predisposition is to constriction and rigidity, particularly of this portion of the uterus, and the fact that it is valuable, or even safe, in uterine inertia cannot be substantiated.

The action of ergot on the uterus tends to produce certain grave accidents, which are: 1. Rupture of the uterus; 2. asphyxiation of the child by compression of the placental site; 3. retention of the placenta and membranes.

With regard to the theory that ergot, if prescribed at the end of the second stage of labor, for the purpose of obtaining its physiological effects when most needed, at or about the time of the expulsion of the placenta, it is well founded, but practically unsafe, as it is impossible to form any opinion as to the rate of its absorption. Its action on the lower zone of the uterus being so well marked, and the time necessary for the

loosening of the placenta being unknown, the two processes may fail to take place in the order desired, with disastrous results for the patient.

The author concludes his valuable paper by stating that ergot has its official place, with no equivalent as a substitute, but its place is not during the first stage of labor, because of the danger to both mother and child; not during or at the end of the second stage, as the object for which it is prescribed at this period will often more than be defeated by seriously interfering with the third stage.

Its use should be limited to, or near the end of, the third stage, when it should be administered by mouth when indicated for the prevention of hæmorrhage, and hypodermically when indicated for the control of hæmorrhage.

SPINAL ANALGESIA IN CHILDREN WITH BETA-EUCAINE.

The Inerapist, Aug. 15th, has an article translated from the *Wiener Klinische Wochenschrift*, reporting the use of this analgesic in children. Forty cases are reported in children of all ages, with two absolute failures and five unsatisfactory results. In the two cases mentioned hyperæsthesia resulted and chloroform was resorted to, it being noted that less of the anæsthetic was required. In the other five cases analgesia set in inside ten minutes but was not lasting enough in its effects and it had to be supplemented by chloroform.

A 3 per cent. solution (aqua distill.) was used sterilized in small tubes, 0.045 of the eucaine being used. The injections were made with the patient leaning well forward—Tuffier's position—the point selected being between the fourth and fifth lumbar, indicated by the line joining the two highest points of the illia. The puncture is made slightly below this and the sensation of resistance indicates the passage of the ligamentum flavum. An amount of cerebro-spinal fluid is allowed to escape equal to the amount of the injection to be made; in this way pressure is not interfered with. In about half of the cases nausea and vomiting supervened, during the first ten minutes, which was followed by sound sleep.

The method was not chosen for operations above the inguinal region, but operations for hernia were successfully performed with it; one bone-stopping lasted one hour and twenty minutes. Five cases were followed by incontinence of urine, which disappeared in a few days; the spinal analgesia in no way affected the healing of the wound and there was no difficulty in maintaining asepsis. Summing up, the advantages are:—

- (1) In contrast to inhalation narcosis, it may be employed without danger in cardiac defects and bronchitis.
- (2) As the patient is conscious, deglutition pneumonia (a dangerous result of inhalation narcosis) is impossible.

(3) The narcotiser is unnecessary.

I cannot attach serious importance to the temporary incontinence of urine, as it disappeared within a short time.

Whatever the attitude adopted as regards the generalization of spinal analgesia and its extension to children—all the different methods of narcosis having advocates—it is at any rate shown that spinal analgesia in children, in cases where inhalation narcosis appears contra-indicated, may be resorted to without danger, of course subject to stringent asepsis.

THE TOXÆMIA OF PREGNANCY.

In the *Medical Record*, Aug. 2nd, Stone quotes cases in support of his view that the vomiting of pregnancy is a manifestation of a toxæmia, the lesions of which are primarily an acute degeneration of the liver, amounting to necrosis and destruction of liver cells in severe cases, and presenting lesions in many of the fatal cases essentially those of acute yellow atrophy.

He sums up his findings as follows:—

The writer's present conclusions are:—

1. Inasmuch as I have so far not seen a case of pernicious vomiting of pregnancy which I considered had a hysterical or reflex origin, I have never dared to treat a case on such theories.

2. The mental symptoms of Case II. were those ordinarily stamped as hysterical, but which are essentially symptomatic of the disturbed hepatic function, shown to be present by the urinary changes.

3. While the majority of cases of pernicious vomiting of pregnancy which I considered had a hysterical or reflex origin, I have clinical and pathological evidence that they are closely related.

4. Symptoms of either group present themselves practically without urinary changes, as determined by the ordinary clinical tests.

5. The persistent presence at any period of pregnancy of even a trace of albumin, especially if accompanied by casts, and a persistent increase of indican demand a more complete examination of the urine, which seems to be best accomplished by a determination of the total nitrogen and its partition.

6. I would recommend that the test for indican be included in the ordinary clinical tests, because it seems that whatever the basic cause of the toxæmia may be, errors of diet and intestinal intoxication are one of the important contributing factors.

7. Our recent study may not have added much to the treatment of the severe cases, but the early recognition of clinical symptoms and better appreciation of the disturbances in metabolism have already, I believe, been of the greatest practical value in the prevention, in some instances, of serious consequences.

OPHTHALMOLOGY AND OTOTOLOGY.

Under the charge of G. STERLING RYERSON, M.D., O.M., Professor of Ophthalmology and Otology in the Medical Faculty of the University of Toronto.

PHLYCTENULAR OPHTHALMIA.

Albert R. Baker, *Cleveland Medical Journal*, April, 1905, says that 20 per cent. of the children, applying for relief at ophthalmic hospitals, suffer from phlyctenular ophthalmia. The disease is characterised by the appearance of minute nodules on the conjunctivæ or on the corneal epithelium. These may be single or multiple. A leash of congested vessels extends to each nodule. Often the blepharospasm and photophobia are so great that it is impossible to face the light. Chloroform is often necessary to obtain a view of the eye. Eczematous patches are often found on the lids, together with rhinitis and swelling of the upper lip. Most of these children are anæmic, though often soft and flabby. The characteristic nodule will run its course in from ten days to two weeks, but recurs in crops. Baker thinks that most of these cases are due to indigestion, the result of improper food. The excessive use of starchy food, particularly potatoes, which young children are unable to digest, is particularly injurious. The excessive use of sweets, cakes, candies, bears a causative relation.

The treatment consists of administration of calomel and soda, following it with bichloride, iron, arsenic and strychnia, confining the child to a strict milk diet and gradually adding other simple foods. Cake, pastry, candy, potatoes, fresh bread, and coarse or uncooked vegetables, are forbidden. These children suffer from constipation, alternating with attacks of diarrhœa. Bichloride of mercury is especially indicated in these cases. Local treatment alone is not curative, especially in view of relapses. The doctor does not believe in yellow oxide of mercury or atropine. If there is an ulcer, he uses the cautery, bandage and hot water. For eczema, tar or oxide of zinc ointments.

LARYNGOLOGY AND RHINOLOGY.

Under the charge of PERRY G. GOLDSMITH, M.D., Belleville, Member of the British Rhinological, Otological and Laryngological Society.

NOSE AND EAR COMPLICATION IN DIPHTHERIA,
SCARLATINA AND MEASLES.

In a paper read at the recent meeting of the American Laryngological, Rhinological and Otological Society (*Laryngoscope*, Sept., 1905), Dr. John H. McCollum reviewed this subject very thoroughly. Primary nasal diphtheria may be mild, or severe, the latter especially so,

if the disease is situated in the posterior nares. Nasal diphtheria is frequently overlooked, and the first indication may be noticed in the rapid action of the heart (*Bruit de galop*) or an unusually slow pulse. Anterior nasal diphtheria is not so severe, because of the lessened liability of absorption of toxins; it is, however, particularly contagious. Profuse discharge from the nose may be the only symptom, and an outbreak in institutions is not infrequently noticed following such cases. He thinks nasal cultures should always be taken prior to operating for adenoids or cleft palate. Chronic rhinitis predisposes to diphtheria, while adenoids intensify the severity of the attack.

Irrigation of the nose in nasal diphtheria increases the prevalence of otitis media. McCollum has abandoned nasal spraying in these cases with gratifying results. Irrigation of the throat gives a certain amount of relief, but is not considered of much value. Irritants applied to the throat do harm. The chief reliance must be placed on antitoxin. Feeding through the nose in intubated children frequently causes middle ear disease. Mastoiditis is infrequent, but operative measures should take place in cases of profuse discharge even if there is no mastoid tenderness.

Scarlet fever causes a large percentage of middle ear disease. The severe forms (probably he means those of mixed infection) accompanied by profuse nasal discharge nearly always infect the tympanum. Mastoiditis occurs but seldom. In 5,000 cases he gives .08 per cent. This the reviewer thinks quite too low an estimate. Operation may safely be undertaken during the attack of fever.

Measles cause more attacks of otitis than scarlet fever, the percentage being 24. Early operation is advised.

Attention is drawn to the importance of frequent examination of the ears in these diseases. Early incision of the drum should be the routine practice which would greatly lessen the amount of deafness in our population.

HEMORRHAGE AFTER TONSILLOTOMY.

H. Jarecky, *Med. Record*, says secondary haemorrhage is usually caused by ulceration, hence the importance that nothing be taken that will scratch the wounded surface. Fibrous tonsils ought to be removed with the cold snare. Bleeding may occur with any method. The author reports two cases of secondary haemorrhage, due probably to an injury to the plexus of veins at the base of the tonsil. If the bleeding does not cease spontaneously in a few minutes after the operation, measures to stop it should be used at once. A hypodermic of morphia is of great service. If one or two bleeding points can be

seen and picked up with forceps, twisting may be sufficient, but oozing from the entire surface demands the cautery. In persistent uncontrollable haemorrhage, two ligatures can be passed from the posterior pillars through the anterior ones, and then so tied that the tonsil is folded on itself, or a recess formed in which gauze may be packed. In case of bleeding use a good light, and clean the parts to ascertain the cause; anaesthetize or use morphine to quiet the patient; and never operate without being prepared for haemorrhage.

NASAL SEPTUM IN CHILDREN.

Arthur Ames Bliss believes that traumatism is the most frequent cause of deflections in the nasal septum in children, and that, when this is the case, the resulting deformity should be corrected as soon as possible after its production. Congenital deformity of the nose is the cause in a minority of cases. In cases of deflection of long standing it is not necessary to defer the operation of resection and replacement until the development of the nose is complete, at about the twelfth or fourteenth year. Dr. Bliss prefers the operation devised by Dr. Harrison Allen, or that of the Gleason-Watson method, but believes that no special form of procedure will apply in every case, the method of operation depending upon the character and extent of the deformity. As a splint, the author prefers to use a section of rubber drainage tubing, cut to fit the nares, in each case, rather than the usual hard rubber or metal tubes. Those cases of deflection, in which distinct symptoms are produced by the bend of the septum, are the only ones referred to as needing operation. Mouth-breathing results from deflections, causing occlusion, quite as serious as that from adenoids and hypertrophied tonsils; while the facial deformity caused by efforts to open the occluded nares by the local muscle supply, becomes very pronounced. Reference is made to the nerve reflexes, caused by intranasal pressure, in the sympathetic nerve system and in the branches of the fifth nerve.

EXCISION OF THE CERVICAL PORTION OF THE ESOPHAGUS.

W. I. Terry reports a case of extirpation at one operation of both submaxillary glands, the remnant of the epiglottis, the hyoid bone, the anterior three-fourths of the esophagus to below the thyroid and the thyroid gland itself in one block of tissue. The posterior one-fourth of the esophagus, being uninvolved in the malignant growth, was left

to furnish a mucous covering to the cervical vertebræ, a result which was obtained. The patient had undergone four previous operations, including two laryngofissions and a laryngectomy. Convalescence was uninterrupted and the patient was up and about by the fourth day after the operation. At latest report, about three and a half months after the operation, the patient was able to do all sorts of farm work and had gained in weight, being only three pounds under his normal figure of 150 pounds. The trachea was kept open by a constantly worn silver tube. He masticates his food and swallows it through a funnel-shaped rubber tube suspended above to the opening of the pharynx, the narrowed portion below entering an inch or two into the esophagus.—*Amer. Record. and Jour. A. M. A.*

TREATMENT OF ANTRAL DISEASE THROUGH THE NOSE.

In cases of antral empyema, G. L. Richards, Fall River, Mass. (*Journal A. M. A., September 16*) would first determine whether the case is of dental or nasal origin. If the former, he would treat it accordingly, but would not continue, by tube or otherwise, any lengthy course of treatment through the mouth. If of nasal origin, determined by exploratory puncture if necessary, he would see whether simple washing out of the antrum through the natural opening in the nose might not be sufficient to produce a cure. If not, he would endeavor to secure better drainage by making an opening below or above the lower turbinate, or both below and above. It is desirable to make the opening low for better drainage. He prefers not to remove any of the lower turbinate bone unless it is enormously large and swollen, and usually a sufficiently large-sized opening can be made above or below it. The opening can be enlarged sufficiently to permit packing with gauze, and a good portion of the mucous membrane can be curetted. If there is polypoid degeneration, or if the condition does not improve after a reasonable trial of this method, any purely nasal treatment will fail, and the radical operation by way of the canine fossa and removal of the entire mucous membrane of the antrum will be required. Most patients, however, can be treated successfully through the nose. If necessary, make a larger opening, and if a tooth is in the way it can be removed without abandoning the nasal method of treatment. Note also should be taken as to whether there is an empyema of the frontal sinus draining into the antrum. The nasal method does not in any way prejudice further operations if found necessary, but, rather, prepares the way for them. Several cases are briefly reported.—*Abs. Jour. Eye, Ear and Throat Diseases.*

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EDITORIAL.

TOBACCO IN HEALTH AND DISEASE.

Like the effects of alcohol in health and disease, much has been written and said on the subject of tobacco. It is well that as definite views as possible should pertain on so important a question, having regard to the extent to which tobacco is used in modern life.

The medical profession is under a deep obligation to *The Practitioner* (British) for having published a symposium upon this topic from the pens of those well able to speak with authority. We shall give the salient points of these articles.

Sir Lauder Brenton takes up the effects of tobacco upon the heart and circulation. Nicotine in frogs and mammals causes convulsions, and then paralysis. In animals nicotine causes marked rise of blood-pressure, and slowing of the heart, so much so that it is only equalled by adrenalin. This rise in pressure is mainly due to contraction of the arterioles. The pulse rate in mammals is first slowed, and then quickened. The slowing of the heart is due to stimulation of the vagus centre in the medulla and the inhibitory ganglia in the heart. The subsequent increase in the pulse rate is due to paralysis of these centres. With regard to the use of tobacco it may be stated that when chewed or snuffed small quantities of pure nicotine enter the system. In smoking the products of dry distillation reach the mouth, such as pyridine, picoline and collidine. On this account a stronger tobacco can be used by smoking than chewing or snuffing. In general it may be said that the use of tobacco is injurious to the growing person, but in moderation has very little ill effects upon the adult. The habit of inhaling the smoke into the lungs is to be strongly condemned. It appears that the irritant action of the smoke on the mouth and pharynx causes a reflex dilatation of the cerebral vessels, and stimulates it to increased activity. Smoking has a soothing effect on the person, which is probably mechanical arising from the regular breathing and watching the movements of the smoke. Excessive smoking gives rise to pharyngitis, cough, sore throat, palpitation, impaired vision, nervous tremor, giddiness, pain in the cardiac region, irregular heart action. Once these conditions have been caused by tobacco, a very small daily quantity may keep them alive.

Dr. Norman Dalton discusses the effects of tobacco on the gastrointestinal tract. Smoking increases the flow of saliva, and smokers who do not expectorate much will swallow considerable quantities of saliva, containing an acid essential oil. It does not appear, however, that this materially irritates the stomach. Some have thought that smoking lessens the secretion of gastric juice. It has been shown that the use of tobacco to such an extent as to influence the vagus weakens the muscular action of the stomach and intestines, interfering with their movements and causing dilatation of these viscera. The writer agrees with Dr. Clifford Allbutt that smoking causes, in some persons, an intense heartburn due to hyperchlorhydria. This is most likely to occur to those who smoke when the stomach is empty. Smoking has been known to cause gastralgia; and in some it causes vomiting, which ceases when the habit is discontinued. It is agreed that the subjects of diarrhoea should not smoke.

On the nervous system, Dr. James Taylor shows that the use of tobacco may have very injurious effects, and that some are much more sensitive than others. Some active brain workers declare that they cannot work as well without tobacco, but a certain amount of prejudice attaches to such evidence. To the young, the use of tobacco is highly poisonous and objectionable. Among the bad effects of tobacco on the nervous system the following are mentioned: 1, Tremor is one of the commonest; 2, giddiness is also a common effect of the excessive use of tobacco; 3, vaso-motor disturbances are frequent, such as coldness of the extremities, pallor of the face, and sweating of the forehead; 4, sleeplessness is one of the most troublesome effects of excessive use of tobacco. It is of the type called intra-nocturnal. He goes to bed and falls asleep, but wakes up about 3 a.m., lying awake for some time, falling asleep again to awaken in the morning unrefreshed. No one can lay down any rules as to what would be excess, as this must be settled in the experience of each person. Cigarette smoking is the most harmful, because it is so convenient that a smoker can prepare a cigarette anywhere, and in this way becomes a very heavy user of tobacco.

Mr. Watter G. Spencer gives some excellent notes on the effects of smoking upon the tongue. He refers to the fact that in smoking the nicotine produces a good deal of pyridine, which is irritating. He summarises the effects thus: 1, Excoriations are formed by the loss of the epithelial layer; 2, A superficial glossitis causes the papilla to disappear and a glazed condition of the epidermis; 3, Chronic glossitis and thickening of the epidermis, causing a whitish, raised patch; 4, A warty or horny patch of heaped-up epidermis. These patches may be the commencement of epithelioma.

On the upper air passages Mr. H. Lambert Lack makes some excellent remarks. Chronic laryngitis and pharyngitis are the principal conditions caused by smoking, and he thinks that all forms of smoking are about equally injurious. These conditions may be due directly by the local action of the smoking, or through the resulting indigestion. A number of authorities are quoted, and the writer expresses his opinion to the effect that the evil effects of smoking on the throat has been greatly exaggerated. Smoking should be forbidden if there be any catarrhal condition present.

Mr. H. Willoughby Lyle takes up the effects of tobacco on the eyes. Dense tobacco smoke may cause conjunctivitis, and, if nicotine be absorbed into the system, may give rise to amblyopia. Of this latter condition there are two forms, the acute and the chronic. The chronic form is the more usual, and may be caused by chewing or snuffing, or from working in a tobacco factory. Smoking late at night, on an empty stomach, inhaling the smoke and swallowing the saliva favor the recurrence of amblyopia. There is a marked tendency to loss of the color sense. The papillo-macular region is most severely affected. Tobacco amblyopia may be regarded, primarily, as a degeneration of the ganglia cells near the macula lutea; and, secondarily, as a degeneration of the nerve fibres arising from these cells. In the treatment of this condition, tobacco must be interdicted and alcoholics reduced to a minimum. The kidneys should be acted upon by diuretics, the skin of diaphoretics, such as pilocarpine, and the bowels kept freely opened. The patient should be carefully dieted, and ordered to take plenty of exercise in the open air. Strychnia and dilute phosphoric acid are useful tonics.

THE NATURE OF TABES.

"Much in medicine that we do not think of doubting is still not strictly proved. Hypothesis may rest on ground that is firm, and, yet, it may be only the scaffolding for future proof. It is so, I believe, with regard to tabes." In these words Sir William Gowers opens his lecture on the nature of tabes.

There appear to be two essential symptoms in every true case of locomotor ataxy, namely, loss of the knee jerks and incoordination of the legs. These are invariably found as symptoms in every case deserving the name. If incoordination is absent it may be going to be tabes, but is not as yet. The malady is commonly regarded as one of the spinal cord; but it may be called in question whether the disease is primarily one of the cord.

There is an ascending degeneration in the posterior median columns of the spinal cord, those nearest the posterior median fissure, and known as the columns of Goll. The fibres of these columns arise from the ganglia on the posterior nerve roots. If these ganglia be destroyed, or the nerve roots divided between them and the cord, there is an ascending degeneration in the columns of Goll similar to that observed in tabes. But, in addition to the degeneration in these columns, there is a degeneration in the posterior roots, which contain many other fibres than those entering the posterior median columns. These end in the cord near the level of their entry, and establish the various important reflexes of the cord. The fibres of the peripheral sensory nerves are often found in a degenerated state, and these fibres owe their vitality to these same ganglia on the posterior columns. In the peripheral sensory nerves and the postero-median columns the degeneration is a primary one in the nerve elements, for their connective tissue undergo only slight and secondary changes. It is thus apparent that the essential characteristic of tabes is a primary degeneration in the sensory or afferent neurons. As these disappear the connective tissue secondarily undergoes changes that impress upon the diseased parts the appearance of a sclerosis. The motor nerve elements are never affected in a pure tabes.

The two essential features of tabes—loss of the knee jerk and incoordination—are due to disease in the sensory neurons of the muscles, and of the postero-median columns. The sensory nerves from the muscles are affected, and, as a consequence, muscular tone and muscular reflex are gradually weakened, and finally lost. When those neurons in the median posterior columns are diseased, conduction of sensory stimuli up the cord to the medulla and cerebellum is impaired, and the mechanism of coordination—much of which is cerebral—is lost because of impaired influence of the cerebellum over the brain. All this may happen with very little or no loss to the sensation of pain. Later, however, this is also impaired, on the conduction of the sense of touch is greatly retarded. Special sense functions may also become involved, such as degeneration of the optic nerves. In time certain motor functions may be involved, and the eye muscles suffer.

The relationship of tabes to syphilis has been much discussed. Since the time that Fournier claimed a close relationship many opinions have been advanced. It is now, however, admitted by the best authorities that causative relationship of syphilis to tabes is a very close one, indeed. A very clear history of a primary sore can be traced in at least 80 per cent. Of the remaining 20 per cent. of the cases, there are histories of gonorrhoea, or the usual form of exposure, in almost all the cases. In undoubted cases of skin syphilitic lesions, a clear history

of a primary sore can not be obtained in more than 80 per cent. The same percentage holds good in paresis. It may be safe to conclude, therefore, that syphilis is almost the sole cause of locomotor ataxy.

The germs of the disease produce some toxine, or modify the albumens of the body so as to give rise to some poisonous albumoses, which act upon the sensory neurons, especially those of the muscular system and the posterior columns.

EXOPHTHALMIC GOITRE.

A few weeks ago the Medical Society, of Toronto, was favored by a visit from Dr. Roswell Park, of Buffalo. He took for his subject the internal secretions of such glands as the pituitary, the thymus, the pancreas, and the thyroid, especially the latter.

He advanced the view that the parathyroids played an important part in the condition called Graves' or Basedow's disease, or Exophthalmic Goitre. These glands seemed to secrete some active principle that controlled that formed by the thyroid. It was clear to his mind that in the study of this disease the parathyroids must not be neglected.

During his paper he laid stress upon the etiology of the condition as being dependent, in many instances, to auto-intoxication of gastrointestinal origin; and that any medicinal treatment must bear this in mind. Among the drugs which he had found benefit from was iodide of arsenic.

But it must, also, be borne in mind that about 17 cases are met with among females for every one among males, at least, this is Dr. Murray's recent statistics. This would lead one to think that the nervous system must have some important relationship to the etiology of the disease; and we know it has been caused quite acutely by violent emotions such as fright, joy, grief, etc.

So far but little benefit has been secured from the administration of thyroid gland, or thymus gland extract; nor from the use of the milk or serum of goats from whom the thyroid gland had been removed.

Dr. Park rather advocated early operation. He defined his position in this respect to be one where he would operate if the patient was not showing signs of improvement under the usual treatment in three to six weeks.

We take issue with this teaching. It is well within the knowledge of almost every practitioner to have had cases under treatment for many months who, in the end, made good recoveries; indeed, better recoveries than if they had been operated upon. But it must not be forgotten

that the operative treatment may end in that other and very serious condition, myxoedema, of which it could truthfully be said, "and the second state was worse than the first."

There are advanced cases where there is no recourse but to an operation; but with cases taken at the commencement of the attack and treated faithfully by rest, the best of hygienic conditions, proper regulation of the diet, due attention to all the functions of the body, and judicious selections of medicines, the prognosis should be good, and very few of them should find their way to the operating table. The success in medicinal treatment is largely one of when it is begun and with what diligence and intelligence it is carried out.

We do not wish to under-estimate the importance of the surgeon, but we do wish to emphasize the much more important place of the physician in the treatment of exophthalmic goitre.

THE PREVENTION OF THE FEEBLE-MINDED.

Much has been said, and well said, on the care of the feeble-minded. But we think this is not the way to get at the root of the evil. It is admitted that there is a steady increase in the numbers of those who fill the asylums. The most alarming feature of the subject of mental alienation, however, is to be found in the steady increase in the number of young who are the victims of weak mindedness.

Something should be done, must be done, but what is that something? The answers come from many that greater provision should be made for the care and treatment of the feeble-minded at an early period in their infirmity, with the hope that many might be again restored to the condition of *mens sana in corpore sano*. This is good and necessary teaching, and we give it all the endorsement at our command. But we think that something more must be done.

Prevention is of more value than cure. We have stated on more than one occasion that there ought to be a medical inspector of schools, whose duty it would be to visit the public schools and weed out those who, for various reasons, should not be in attendance. Such cases as defective eyesight, commencing deformities, incipient tuberculosis would come in for due attention. Children who were improperly clothed and fed would receive proper care, and their cases looked into, and in many cases some measure of relief brought them.

But the most important function of such an inspector would be to note carefully all instances of mental or nervous disorder, and take such steps as might avert a complete breakdown at a later date. The state, in its widest sense, expends large sums on stock breeding and

crop cultivation, and wisely so; but why not spend some on the far more important subject, the preservation and highest development of the child-life of the country. We hope something may yet come to fruition along this line.

THE GAME OF RUGBY FOOTBALL.

Most medical practitioners who live in populous centres have had personal acquaintanceship with football players who have been more or less severely injured, sometimes permanently, by the game; and a few instances of fatal accidents have come under the observation of medical men who were in the vicinity of the contest.

The *New York Sun* a short time ago said: "Football is a hospital-feeders, a tough, maiming, and cannibalistic game. Don't add the terror of meaningless statistics to it."

The associated press despatches sent the following news far and wide a little over a month ago:—

"Almost at the hour when the body of young Harold Moore, the Union College student who was fatally injured in a football game at the University of New York last Saturday, was being laid to rest in Ogdensburg to-day, the faculty of the University of New York took definite action looking to the abolishment of the game of football as it is now played. Every college whose football team has played against New York University since 1885, when the latter's team was organized, has been invited to take part in a conference to fully consider and finally dispose of the future of the game. With the call for the conference went the announcement that the New York University delegates will support a resolution that the game of football ought to be abolished. The colleges invited to the conference, 19 in number, are:—

Union (Syracuse), Hamilton, Wesleyan, Lehigh, Rutgers, Trinity, Haverford, Rensselaer, Stevens, West Point, Princeton, Columbia, Fordham, Ursinus, Lafayette, Rochester, Amherst and Swarthmore.

The invitation, which was sent to each of the colleges, suggests three questions for consideration:—

Ought the present game of football to be abolished? If not, what steps should be taken to secure its thorough reform? If abolished, what game or games may be possible in its place?

Each institute is invited to send a representative of its faculty and a representative of its athletic organization, making a possible membership of 40."

American Medicine, of recent date, discusses the subject in an able and fair manner, in referring to such opinions as the above. "Commenting on the roll of dishonor—22 killed, 137 seriously injured, and perhaps a 1,000 others hurt."

"Thus the shrewdest newspaper wisdom confirms what we have been repeating in season and out of season for many years, and which the president of Harvard College has lately put in this way: 'Deaths and injuries are not the strongest argument against football. That cheating and brutality are profitable is the main evil.'

"The newspapers uses more popular language: 'We hate that peculiar American college way of taking exercise which consists in taking it by proxy, in supporting the eleven or the nine by watching it and yelling for it. A few hulking athletes, some of them of mature age, varied experience and crooked record, a crowd of pimple-faced, undeveloped, unathletic boys rooting for them—that is college athletics.'

"It now turns out that the doctors have been injecting strychnin, etc., into the players. It puts life and ginger into the men when exhausted, says Coach Smith. This is a fine role for physicians to play, but it is the logical result of the support of the game by a few professors, the parade of Provosts before the team, the burning of shutters in celebration bonfires by college presidents, etc. That Yale, Pennsylvania, and other large universities have encouraged the degradation of the game, the shame of American young men, and the disgrace of American education, is a sad commentary on the judgment and character of the pedagogs. At last the infamy has reached such a suicidal degree of senseless hysteria that one or two colleges have determined to abolish the thing. Columbia has led the reform, and to her everlasting honor. It is a pity that owing to a complicated triple divided responsibility and the influence of the President of the United States, Harvard University could not have taken her logical position as the first in withstanding this insane mania. New York University will soon follow Columbia, and others, surely, willy nilly, must also do so. We suppose that the fine type of character, that flower of courtesy and chivalry, said to be inseparable from football ethics and practices by certain of our educators, must, alas, go. But perhaps we shall have in its place scholarship, quietness, honorable conduct, living and unmaimed bodies. The last thing, certainly, America needs is the football hero, or his rooter, or his professor, or his gambler hanger-on."

In Canada the game may be played somewhat less roughly than across the border to the south, but, nevertheless, there have been much maiming, and some fatalities. Many a joint has been violently sprained, and sometimes permanently impaired; many a bone has been broken, and not a few hearts strained beyond recovery. We know of two who died shortly after a game of football, one in two days, the other in a few weeks. It would seem that football, as now played, has seen its days nearly numbered.

PATENT MEDICINES.

It would appear that the attention of the officials of the Government are being aroused to take action in the matter of patent medicines. The following statement appeared in the daily press a short time ago:—

"Mr. W. J. Gerald, Deputy Minister of Inland Revenue, said that he was obtaining reports of what had been done in the United States with respect to patent medicines containing alcohol. In the United States the Federal Government could interfere with the licenses, but in this country that was a matter of which the Provincial Government had control. If the Dominion Government, as a matter of policy, decided to deal with the growing sale of patent medicines, all they could do was to insist upon the formula being placed upon the label. In the United Kingdom, for example, Mrs. Winslow's soothing syrup, which contained morphine, had to be labelled 'poison.' In the United States and in Canada this preparation was allowed to be sold, regardless of the nature of its contents."

There can be only one opinion as to what should be done, and that is to do what is right. Dangerous and deadly drugs should not be allowed open sale to everybody, simply because they are sold as patent medicines.

MEDICAL RECIPROCITY WITH BRITAIN.

Col. Lauric introduced an amendment to the British Medical Act permitting the provinces of Canada to arrange for a reciprocity in medical registration. On this matter the following is of much interest:—

"At a meeting of the General Medical Council, the president said that the effect of the Medical Act amendment of 1905 was that the provinces of Canada, previously debarred, might apply on their own behalf for admission to the privileges of medical reciprocity with the United Kingdom, there was reason to hope that before long efforts would be made to obtain from great provinces like Ontario and Quebec a position in relation to the British register similar to that enjoyed by the States of the Australian Commonwealth."

Let there be tariff restrictions on goods if you will, but there should be no restrictions on the educated professions. The one thing to make sure upon is that any holding a medical qualification has obtained it after passing such tests and taking such an academic course as would justify the proper authorities in granting a license to practice medicine, surgery and obstetrics. We agree with what Dr. Osler said in

his address on "Chauvinism in Medicine," that parochialism, and provincialism should be abolished so far as the medical profession is concerned. We would like to see a common standard for all Canada, indeed, for the whole empire.

THE INTERNATIONAL MEDICAL CONGRESS.

This congress meets in Lisbon from April 19th to 26th, 1906. The official language of the congress will be French, but English and German will be used. Professor Miguel Bombarda, of Lisbon, is the general secretary, to whom all communications should be addressed.

Dr. John H. Musser, Philadelphia, is president, and Dr. Raymon Guiteras, New York, secretary, for the United States; while for Canada Drs. A. McPhedran and W. H. B. Aikins hold these offices, respectively. Those who wish to attend the congress should put themselves in communication with these parties.

Messrs. Cook and Son are arranging two trips: 1, direct from New York, April 7th, by North German Lloyds to Gibraltar, allowing a short stay there and at Seville; 2, from New York, March 31st, to Gibraltar, by S. S. Barbarossa, with calls at Tangier, Granada, Cordora, and Seville, and after the congress to Madrid, Barcelona, Paris, and New York again.

Arrangements have already been completed whereby a number of leading members of the profession from the United States are to be in attendance. It would add to the enjoyment of any going from Canada to accompany these in the same steamer.

HOSPITAL AND CHARITY PATIENTS.

From time to time the question comes up in some form or other, to whom should hospitals furnish free medical and surgical attendance? As there are several points to be considered in this question, we shall take the liberty of expressing our opinion freely.

In the first place no hospital management should do anything that would deprive a practitioner of his fee. A hospital is not in the competitive business of treating patients for the gratification of doing such. It may be laid down as a sound principle that a hospital should not furnish free attendance for any patient except such as can be certified to be paupers. The mere fact that a patient chooses the cheapest ward in a hospital should be no reason why he should receive free attendance. If he pays for himself, or has his way paid for him by any other person, or by a company or society, he should be told that he

must make his own arrangements for his medical and surgical attendance. This view is making headway. Some years ago no practitioner not on the staff of the Toronto General Hospital could attend even a private ward patient, but now any practitioner in good standing may attend private and semi-private ward patients. It formerly was the custom that these patients received free attendance. This has been changed. In all the hospitals in Toronto, indeed, in the whole Province of Ontario, any member of the profession may attend semi-private and private ward patients. But we go further, and would include all who pay for themselves, or are paid for by others, regardless of the ward. The duty of the hospitals would then be to furnish attendance only for the certified paupers.

The other aspect of the subject is an ethical one. Hospitals are for the care of the sick, and especially the pauper sick, not for the purpose of making paupers. A hospital is stepping out of its proper place in the due order of things when it offers its cheap beds to a rich, but worldly, person, and because such person takes the cheapest bed the hospital forthwith sends him a doctor. This is wrong, and, like everything else that is wrong, must be resisted and fought and overcome. With those who pay for their beds the hospitals should take no concern, except in the matters of food and nursing. They should be left free to engage their own attendant, and arrange the fee to be paid, just as if they were not in the wards of a hospital at all. This principle is steadily growing, although in some quarters it has been denied. Careful enquiry proves that the foregoing stand is not only the correct one, but is becoming the popular one as well.

DISCOVERY AND COMMERCIALISM.

Under this caption our esteemed contemporary, the *Montreal Medical Journal*, for November last, discusses some of the aspects of medical discovery. With the second portion of the said remarks we are in full accord.

There is no reason why a medical scientist or inventor should receive nothing for his valuable discoveries. It is truly remarked in the editorial just referred to that Von Behring received nothing for the discovery of diphtheria antitoxine, and yet manufacturers have made millions out of it, and the public charged a very long price for the serum. This could all be avoided.

Governments could do something both for the discoverer and the people. They could reward the one and protect the other. Many a discovery in chemistry has meant millions to the manufacturing

world, and yet the chemist received only his weekly wages. This is not as things should be. Such a discovery as this should be placed under the highest authority in the government of the country. Why should manufacturers be allowed to grow rich from Behring's serum, and pay nothing for it?

SMALLPOX AND VACCINATION.

The present prevalency of smallpox in several parts of the province raises the question of vaccination. In spite of all that can be said to the contrary, there are some who are opposed to vaccination.

The man would be ignorant, indeed, who would refuse to give his child the benefit of diphtheria antitoxine, if his child was ill with diphtheria. This is only another form of aiding in the securing of immunity. The child cannot produce antitoxine rapidly enough, and so it is administered to the child already made.

In the case of smallpox the only difference is that the immunity is secured in advance of the disease. It is quite true that vaccination may not wholly prevent the contracting smallpox; but there is a vast difference between the average cases of variola and varioloid. But vaccination, if thoroughly performed, and perhaps repeated, will, undoubtedly, prevent the disease. For proof of this visit smallpox hospitals all over the world, and note that the only protection the attendants require is careful vaccination.

Smallpox epidemics cost too much in life, time of sickness, and the expenses to allow those who are opposed to vaccination the right to impose this burden upon the community. The antivaccinationist says that we have no right to force him to submit to vaccination; but, on the other hand, it may be replied that he has no right to cause a needless danger to others, or to deprive his children of a protection which he does not believe in, but which science and experience show to be real and safe.

Vaccination, since its introduction, has saved more lives than war during the century has destroyed. Go then and weigh against a few marks on the arm, and a few days' inconvenience, the risk of death or disfigurement, and say whether the law regarding vaccination should not be rigidly enforced. There is no need to waste time over such men as Alfred Russell Wallace. He is hopelessly wrong.

UNIVERSITY OF TORONTO FINANCES.

Mr. Cross, in his report to the University Trustees, makes the following statements:—

The deficit was \$38,741, and the income from fees, \$67,056. The total expenditures were \$166,087.

The general endowment fund, including sites, lands and buildings, unproductive lands, leased property, trust funds, etc., is placed at \$3,315,924.

In 1892 a portion of the unleased lands in Queen's Park was looked upon as a means of obtaining revenue. Now that it is certain that the whole area will be required for university purposes, these lands, to which a valuation of \$505,527.73 has been attached in the returns, fail to be transferred to site lands account.

It was part of the present plan of account that adjustments of valuation of fixed assets should be made periodically. With regard to structures and their equipment, they would now be subject to decrease to the extent of their depreciation during the past thirteen years, qualified, however, by the increases to equipment which have been charged to revenue from year to year. On the other hand, the land valuations would, doubtless, be increased as the result of an appraisal. At present figures, \$2,131,256.13, or about two-thirds of the general endowments of the university, have been absorbed in providing the existing accommodation, and you may now regard the exact valuation of each portion as of less importance than did your predecessors in office in 1892, owing to changed conditions.

An appropriate adjustment is made of the valuation of the Upper Canada College block of land on King street, Toronto. In 1892 this block was taken into your accounts at \$392,679.58, and by an order-in-council you were authorized to treat interest upon the actual cash then advanced by you as revenue. It now appears that this land has failed to realize the above amount, with interest on the cash advances, to the extent of \$172,875.40, which sum has been written off.

PERSONAL AND NEWS ITEMS.

Dr. Brown, lately of Cornwall, has located at Niagara-on-the-Lake.

Dr. Burton Kenwood, of Waterford, was married a few weeks ago to Miss Gertrude Allen, of San Francisco.

Dr. W. Deaney, of Quebec, has been taking a post-graduate course in New York.

Dr. Wray has again assumed charge of the camps along the Canadian Northern Railway.

Dr. A. B. Cunningham, of Sioux City, Iowa, is taking the practice for the winter of Dr. J. D. O'Hagan, of Fort William.

Dr. McGibbon, of Bracebridge, has been appointed an associate coroner for Muskoka.

Dr. G. W. Barber, of St. George, has removed to Brantford from St. George.

Dr. Page, of Kingsville, has recovered from his illness and again resumed his practice.

Dr. Kirkpatrick, of Chippawa, who has been suffering from paralysis for some time, has been taken to St. Catharines hospital.

Dr. Wm. J. Bannister, late of Cork, Ireland, has arrived in Winnipeg, and will take up the practice of his profession there.

Dr. J. T. Fotheringham announces the change of his address to 20 Wellesley street, Toronto.

Dr. Harper Wilson, who has been surgeon to the large collieries of the Crow's Nest Pass Coal Co., of Fernie, B.C., for the last seven years, has decided to locate in Winnipeg.

The partnership between Drs. J. L. Turnbull and W. S. Turnbull, of Goderich, has been dissolved, Dr. J. L. Turnbull selling out his interest to Dr. A. T. Emmerson, of Claude, Ont.

With the January issue *The Alkaloidal Clinic* changes its name to *The American Journal of Clinical Medicine*. Arrangements have been made for a good review of current literature.

Dr. E. J. Williams, B.A., of Brockville, and Miss Lillian P. Spooner, daughter of Col. Spooner, were married a short time ago. They took a trip to New York, Boston, Washington, etc., before settling in Brockville.

A pretty wedding took place on 29th November, at the home of Mr. and Mrs. Thomas Townsend, 171 Western avenue, Toronto Junction, when their eldest daughter, Miss Annie Louisa, was united in marriage to Dr. O. Frank Malloy, B.A., of Exeter.

After a residence of four years in Petrolia, during which time he has won the highest respect of the medical profession and the confidence of the public, Dr. H. J. Allin has decided to leave and pursue a post graduate course in Chicago.

A very pretty wedding took place Wednesday evening, November 29th, at "Mapleleigh," Carleton Place, the residence of Mr. James Gillies, when his youngest daughter, Florence, was united in bonds of matrimony to Dr. Kenneth C. Campbell, of Winnipeg, Man.

Mrs. Heggie, wife of Dr. David Heggie, of Brampton, died suddenly on 20th November, 1905, in her sixtieth year. She was the mother of Dr. W. C. Heggie, of Toronto, Dr. N. Heggie, Florida, and Dr. D. L. Heggie, Brampton.

A recent issue of *The Ontario Gazette* contained the announcement that one more associate coroner, Dr. Thomas Wylie, had been appointed to fulfill the duties of his office in Toronto. Dr. Walter B. Crowe, Trenton, will occupy the same position in the County of Hastings.

Dr. W. J. Macdonald, who served with "C" Battery in South Africa, has a practice in St. Catharines. For the past two years he has been associated with Dr. Jamieson, in Durham. Dr. Macdonald is a son of Rev. D. B. Macdonald, of Scarborough. He graduated from Toronto University.

Dr. W. V. Dixon, of Southampton, has decided to remove to larger fields, and has purchased the practice of Dr. Swain, of Toronto. Previous to his departure he was given a send-off by a number of young ladies and gentlemen at a dance and supper given in his honor at the town hall.

Dr. J. D. Berry, who has practiced medicine in Hastings and surrounding country for the past fifteen years, and was, previous to that, for a few years, principal of the Hastings public school, has sold his practice to Dr. T. B. Edmison, of Castleton, and, accompanied by his wife and family, left Hastings on November 30th for Cuba.

MEDICAL EXAMINATIONS.

The results of the primary, intermediate and final examinations of the College of Physicians and Surgeons of Ontario, held during November last, have been issued as follows:

The following candidates passed the final examination:—J. F. Bigham, Culloden; B. Blackwell, Clandeboye; F. B. Bowman, Toronto; C. E. Cole, Toronto; C. G. Chapin, Waterford; J. M. Dale, Oakwood; A. F. Demary, Toronto; B. S. Elliott, Ingersoll; H. J. Ferguson, London; J. F. Finnigan, Oshawa; A. Henderson, Palmerston; A. W. Keane, Essex; W. Lapatnikoff, Toronto; J. W. G. Leary, Gormley; A. P. Miller, Chatham; J. MacLachlan, Toronto; H. P. Martin, Toronto; G. A. McPherson, St. Thomas; F. F. McEwen, Toronto; W. M. McCormack, Vivian; W. G. Pruyne, Napanee; H. L. Reazin, Toronto; J. A. Sullivan, Arnprior; J. H. Soady, Toronto; E. Scarlett, Powassan; H. Thompson, Watford; T. L. Towers, Sarnia; G. J. A. Thompson, London; R. E. Valin, Ottawa; H. G. Wilson, Toronto; W. M. Wilkinson, Woodstock; C. A. Wigle, Warton.

The following candidates passed the intermediate examination:—Jessie Allyn, Smith's Falls; H. J. W. Adams, Embro; W. J. Brawley, Hamilton; G. H. Boyce, Dartford; H. W. Burgess, Toronto; G. I. Black, Warkworth; W. F. Clemesha, Port Hope; E. C. Condit, Perth; W. J. Cook, Coboconk; J. A. Campbell, Killin; J. M. Dale, Oakwood; A. F. Demary, Toronto; D. L. Ewin, St. Thomas; H. J. Ferguson, London; J. F. Finnigan, Oshawa; J. G. Gunn, Ailsa Craig; W. H. Godfrey, Port Union; H. Glendinning, Valentyne; M. Galbraith, Mount Forest; W. T. Greenwood, St. Catharines; E. A. Hammond, Peterboro'; E. W. Hixon, Glenvale; Herbert Jones, Hamilton; A. W.

Keane, Essex; W. L. Lord, Davidson,* Sask.; J. L. A. Labrosse, Warren; A. P. Miller, Chatham; H. P. Martin, Toronto; J. Morris, Hamilton; J. Mathieson, Bloomington; F. F. McEwen, Toronto; A. A. McIntyre, Mapleton; P. A. McIntosh, Dundela; J. G. McLeod, Southampton; W. . O'Hara, Cayuga; W. G. Pruyn, Napanee; J. A. Rae, Rosseau; M. Reynolds, Kemptville; J. D. Rutherford, Delma; J. R. Serson, Morpeth; J. A. Sullivan, Arnprior; J. H. Soady, Toronto; E. Scarlett, Powassan; R. W. Tisdale, Lyndoch; L. A. Trueman, Kerwood; J. H. Todd, Toronto; R. E. Valin, Ottawa; W. M. Wilkinson, Woodstock; C. A. Wigle, Wiarton; F. E. Watts, Toronto.

The following candidates passed the final examination:--J. F. Adamson, Warren; Jessie Allyn, Smith's Falls; H. J. W. Adams, Embro; E. T. Atkinson, Barrie; N. D. Buchanan, Zurich; G. I. Black, Warkworth; M. W. Berwick, Shelburne; J. A. Brown, Colborne; A. V. Brown, Neustadt; W. H. Carveth, Toronto; W. J. Cook, Cobocok; J. A. Campbell, Killin; W. J. Chapman, Holland Landing; W. B. Clarke, Toronto; A. H. Cook, Toronto; A. F. Demary, Toronto; D. Evans, Toronto; J. C. Gormley, Finch; W. J. Geddes, Deseronto; J. G. Gunn, Ailsa Craig; M. Galbraith, Mount Forest; W. T. Greenwood, St. Catharines; E. A. Hammond, Peterboro'; F. N. Hughes, Fennells; A. A. Jackson, Mono Mills; A. H. Judson, Callorytown; M. H. Limbert, Camborne; J. B. Larocque, Alfred; J. J. Mathieson, Bloomington; H. P. Martin, Toronto; A. Mardoch, Brucefield; F. F. McEwen, Toronto; P. A. McIntosh, Dundela; J. G. McLeod, Southampton; A. H. McFadden, Millbank; C. R. Newmann, Dunnville; W. G. Pruyn, Napanee; J. A. Rae, Rosseau; M. Reynolds, Kemptville; F. J. Rundle, Port Perry; J. H. Soady, Toronto; E. Scarlett, Powassan; J. R. Serson, Morpeth; A. E. Stewart, Ruthven; J. H. Todd, Toronto; W. W. Wright, Toronto; J. R. Walls, Uxbridge; F. E. Watts, Toronto; F. J. Weidenhammer, Waterloo.

OBITUARY.

WILLIAM J. ARNOTT, M.D.

The death of Dr. Wm. J. Arnott, one of Berlin's leading physicians and best known citizens, took place 12th December, 1905, after a brief illness. He suffered from an attack of cerebral meningitis, and became unconscious, remaining in that condition. The deceased was born in Somcoe county in 1862, and, at an early age, commenced to teach school, until 1889, when he entered Trinity College, Toronto, and graduated in 1893. He then went to Berlin and built up a large

practice. Three years ago he opened the Arnott Institute for Stammerers in Berlin. At the time of his death he was a public school trustee, President of the Berlin Musical Society, and President of the Berlin Conservative Association. Deceased is survived by his widow and two small children.

B. H. LEMON, M.D.

Dr. B. H. Lemon, an old and highly respected medical practitioner of the town of Thorold, was found dead in his bed at his home 28th November, 1905. It is supposed that death was the result of a paralytic stroke. He was coroner for the counties of Lincoln and Wexford at the time of his death. He had also filled the Mayor's chair of the town some years ago.

W. G. STARK, M.D.

Dr. W. G. Stark, for many years a well-known physician of Hamilton, died 12th December, in Philadelphia, where he had resided for ten years. A widow survives him, also a brother and sister, who live in Toronto. He was a son of the late Rev. Mark Young Stark, of Dundas. A few years ago he went, with his wife, to Secome, Pa. He will be greatly regretted by a large circle of relatives and friends. He was twice married, but left no family.

JAMES H. AUSTIN, M.D., M.R.C.S., Eng.

Dr. Austin died at his mother's home, Toronto, November 5th, 1905. He graduated in 1893 from the University of Toronto and the University of Toronto College. He took a year of post-graduate study in Britain, and secured the diplomas of M.R.C.S., Eng., and L.R.C.P., Lond. He suffered from an attack of pneumonia, which induced tuberculosis. He practised for a number of years in Dryden, Texas. For the last two years he was invalided, and unable to practise. He was very highly esteemed by all who knew him.

THOMAS CLARKE, M.D.

Dr. Clarke was one of the best-known physicians of St. Catharines. He died on November 5th, 1905, in his 76th year, of an attack of apoplexy. He took an active interest in public affairs, and once offered himself as a candidate for parliamentary honors in the county of Lincoln.

• WILLIAM E. SMITH, M.D.

Dr. Smith died at St. Thomas on 5th November, 1905, in his 68th year of age. He graduated from Victoria University in 1863, and was Surgeon to the Michigan Central Railway for 28 years.

HERMAN L. COOK, M.D.

In Toronto, at the age of 74, Dr. Cook died of pneumonia, on 16th November, 1905. He graduated at McGill in 1854. He practised for some years in Brighton village and Napanee. For the past 23 years he devoted his time to life insurance work.

A. P. LANDRY, M.D.

On the 6th November, 1905, at Eel Brook, Yarmouth, the death of Dr. Landry occurred after an illness of six weeks. At one time he sought political honors. He leaves a daughter, a nurse, and a son, a student at Halifax Medical College.

JOHN A. MCKENZIE, M.D.

Dr. J. A. McKenzie, of Halifax, died on 12th October, 1905. He had filled the position of Assistant Medical Superintendent of the Nova Scotia Hospital. He died in the hospital after a few days' illness due to an acute attack of appendicitis. He received his degree from the College of Physicians and Surgeons of Boston. After graduating he took a post-graduate course in London. He contributed a number of excellent papers to the medical journals.

J. H. McFAUL, M.D.

Dr. J. H. McFaul died suddenly at his residence, 197 Carlton street, Toronto, on Saturday evening, 23rd December, 1905, of angina pectoris. The doctor had been ailing with heart trouble for the past two years, but had been able to attend to his practice. He was at his office on Saturday as usual, and when he arrived at his home in the evening, complained of feeling tired and worn out. He retired to his room about 8 o'clock, and shortly afterwards was found in a dying condition by a member of the household. The members of the family were summoned and were at his bedside when he breathed his last.

Dr. McFaul, who was 66 years of age, was born in Prince Edward County. He was a graduate of Trinity, and began the practice of medicine in Toronto in 1888. He was associated with the Toronto High

School Board as secretary for about 11 years, retiring from that position when the Public and High School Boards were amalgamated.

Dr. McFaul was a member of St. Andrew's Lodge, A. F. and A. M., the Sons of England, the Orange Order, the I. O. O. F., and the A. O. U. W. He was also a prominent member of the Prince Edward Old Boys' Association. He was a gentleman of kindly nature, a painstaking and efficient medical practitioner, and was highly esteemed and respected by a large circle of friends and acquaintances. He was a member of Sherbourne Street Methodist Church. A widow and two daughters, Mrs. (Dr.) Atkinson, Detroit, and Mrs. A. E. Brownlee, survive.

BOOK REVIEWS.

FOOD IN HEALTH AND DISEASE.

Messrs. Lea Brothers & Co. have pleasure in announcing for publication early in January, 1906, a completely new work on Dietics adapted to the use of Practitioners and Students of Medicine, Nurses and the Laity, namely, *Food in Health and Disease*, by Robert F. Williams, M.A., M.D., Professor of Principles and Practice of Medicine in the Medical College of Virginia, Richmond.

The volume will be a convenient 12mo of about 350 pages. Its price has not yet been fixed, but it will probably be about \$2.00, net, delivered to any address.

It is divided for convenience, into two parts: Part I. dealing with Food in Health, and Part II. with Food in Disease.

In Part I. the needs of the body for different kinds of foods and the manner in which they are utilized are explained. The principles of cooking foods and detailed descriptions of the different articles of food in common use are given, with chapters on the proper nutriment of infants, children, adults, and the aged.

Part II. deals with the variations from the normal diet in health, necessitated by the more common diseases, and includes a chapter on general methods to be observed in feeding the sick, as well as the special directions for nourishment in diseases of different kinds.

There exists to-day a need for a small practical book on foods and how they should be used, which will give the facts, as known to-day, in a brief and clear manner, with the fewest possible technical terms.

The importance of a work of this kind, which is simple enough for a child to read and yet absolutely trustworthy and based upon the scientific achievements of accepted leading authorities, is obvious. Such books are in line with the best principles of Hygiene, and make for the betterment of the present as well as future generations.

A TEXT-BOOK OF PHYSIOLOGY.

For Medical Students and Physicians. By William H. Howell, Ph.D., M.D., LL.D., Professor of Physiology, Johns Hopkins University, Baltimore. Octavo volume of 905 pages, fully illustrated. Philadelphia and London: W. B. Saunders & Company, 1905. Cloth, \$4.00 net; half morocco, \$5.00 net. Canadian Agents: J. A. Carveth & Co., Limited, 434 Yonge St., Toronto.

Dr. Howell's many years of experience as a teacher of physiology in several of the leading medical schools is evident throughout the entire work in the simple and clear style and in the practical handling of his subject. The author has laid main emphasis upon those facts and views which will be directly helpful in the study of general pathology and in the practical branches of medicine. At the same time, however, we are gratified to see that Dr. Howell has not ignored the experimental side of the subject. This we consider very important, for it has been through individual research that all the great advances in physiologic knowledge have been made. The entire literature of physiology has been thoroughly digested and the important views and conclusions incorporated. Indeed, the author has prepared a text-book which, while preserving the scientific spirit, is at the same time simple and modern in presentation. Every notable advance in physics or chemistry as influencing physiology has been carefully noted. Illustrations have been most freely used, greatly helping in understanding and supplementing the descriptions in the text. Especially valuable are those illustrations employed to make clear the more intricate anatomic and physiologic mechanisms. Altogether, we consider it a very valuable book, because it is accurate, up-to-date, and highly practical.

A MANUAL OF DISEASES OF INFANTS AND CHILDREN.

By John Ruhräh, M.D., Clinical Professor of Diseases of Children, College of Physicians and Surgeons, Baltimore. 12mo volume of 204 pages, fully illustrated. Philadelphia and London: W. B. Saunders & Company, 1905. Flexible leather, \$2.00 net. Canadian Agents: J. A. Carveth & Co., Limited, 434 Yonge St., Toronto.

Dr. Ruhräh is to be congratulated upon the production of a manual that presents the subject of pediatrics in such a clear yet concise manner. He has outlined the therapeutics of infancy and childhood in a way that cannot fail to make for this work a place of first importance in its field. He has given explicit instructions for dosage and prescribing, and a number of useful prescriptions are appended. Infant feeding is given in detail. All the illustrations are practical, and include three inserts. A very valuable feature consists in the many references to pediatric literature so selected as to be easily accessible by the student, enabling him to ascertain the sum of knowledge on any given disease. We give Dr. Ruhräh's work our unqualified recommendation.

ANATOMY AND PHYSIOLOGY FOR NURSES.

By LeRoy Lewis, M.D., Surgeon to and Lecturer on Anatomy and Physiology for Nurses at the Lewis Hospital, Bay City, Michigan. 12mo of 312 pages, with 100 illustrations. Philadelphia and London: W. B. Saunders & Company, 1905. Cloth, \$1.75 net. Canadian Agents: J. A. Carveth & Co., Limited, 434 Yonge St., Toronto.

Dr. Lewis has based the plan and scope of his excellent little work for nurses on the methods he employs in teaching these subjects. His object was so to deal with anatomy and physiology that the student, while grasping the primary principles, would at the same time lay a broad foundation for a wider study. The text, therefore, is simple and comprehensive. It would not be just if in giving our unstinted praise to this work we neglected to mention the illustrations. Evidently, Dr. Lewis is thoroughly familiar with the needs of the trained nurse along these lines. Every illustration selected, and a number of them are in colors, has been chosen for a definite purpose, which it admirably fulfills. For a work of its size it contains an immense amount of information, and just the kind desired, presented in the right way.

 A TREATISE ON DISEASES OF THE SKIN.

For the use of advanced Students and Practitioners. By Henry W. Stelwagon, M.D., Ph.D., Professor of Dermatology, Jefferson Medical College, Philadelphia; and Clinical Professor of Dermatology, Woman's Medical College, Philadelphia. Fourth edition, revised. Handsome octavo of 1135 pages, with 258 text-illustrations, and 32 full-page lithographic and half-tone plates. Philadelphia and London: W. B. Saunders & Company, 1905. Cloth, \$6.00 net; Sheep or half morocco, \$7.00 net. J. A. Carveth & Co., Limited, 434 Yonge St., Toronto.

Four large editions of Dr. Stelwagon's work have been required in three years. Surely such a sale bespeaks a book of unusual merit. Notwithstanding the frequency of editions, Dr. Stelwagon has not lost this opportunity to bring his book up to the latest knowledge. The therapeutic use of the Rontgen rays, high-frequency current, and Finsen light have been accorded the increased attention their growing importance deserves. We notice the addition of new text-cuts, some thirty-eight in number, and six additional insert plates, all up to the high standard set up by the text. The author, by the judicious elimination of redundant material, has kept the size of his book much as before, the increase being only some twenty pages. Indeed, it is remarkable the epigrammatic way that Dr. Stelwagon has of saying things—a style most desirable both in a text-book and a reference work for the busy practitioner.

MINOR AND OPERATIVE SURGERY, INCLUDING BANDAGING.

By Henry R. Wharton, M.D., Professor of Clinical Surgery in the Woman's College; Surgeon to the Presbyterian Hospital, Philadelphia, etc. New (6th) edition, enlarged and thoroughly revised. In one 12mo volume of 642 pages, with 532 illustrations. Cloth, \$3.00 net. Lea Brothers & Co., Publishers, Philadelphia and New York, 1905.

Dr. Wharton's work has for many years been the accepted authority in its field, and justly so.

In its many revisions its scope has been gradually broadened in response to the suggestions of its many readers, so that in the present edition it really covers all except what might be termed capital surgery. Thus, there have been included many operations, such as Tracheotomy, Intubation of the Larynx, operations on the Stomach, Gall-bladder, Kidney and Intestines, and those for Appendicitis and Hernia, together with many others which are somewhat beyond the vague line which separates major from minor surgery. The increased attention which is given in the medical colleges to operative procedures on the cadaver and the importance of this method of instruction have led the author to include those operations which can be advantageously taught in this way, such as Ligation of Arteries, Amputations, Excision of Joints, Operations upon the Nerves and Tendons, Intestinal Anastomosis, etc., etc. The various bandages and surgical dressings are clearly described, and illustrated by numerous engravings, many of which are photographic, and all of which are most helpful. Particularly will the helpfulness of the illustrations be shown in the section on bandaging where almost every variety of bandage or dressing is explained in detail, and shown with such clearness that a novice could scarcely fail in the application of one.

The importance of sepsis and antisepsis has received full consideration, and Surgical Bacteriology is covered in a special chapter.

BERG'S SURGICAL DIAGNOSIS.

A Manual of Surgical Diagnosis. For Students and Practitioners. By Albert A. Berg, M.D., Adjunct Attending Surgeon to Mt. Sinai Hospital, New York. In one 12mo volume of 543 pages with 215 engravings and 21 full page plates. Cloth, \$3.25 net. Lea Brothers & Co., Publishers, Philadelphia and New York.

Dr. Berg is exceptionally well qualified to furnish a most practical and useful book, by reason of the fact that the surgical service of one of the largest and most perfectly appointed hospitals is, and has been for years, directly under his observation. The wide range of his experience and the broadness and accuracy of his knowledge are clearly

reflected in the completeness and precision of this manual. It is a work admirably adapted to the needs of the student and equally valuable to the general practitioner or surgeon as a concise and trustworthy guide in the diagnosis of all surgical affections.

The author has also presented the methods of diagnosis of kidney function, the diagnosis of diseased conditions of the kidney from the appearance of the ureteral orifice, the early diagnosis of tuberculous diseases of the articular ends of bones, etc., which it is hoped will be of especial interest to every practitioner of surgery. Consideration of the best method of developing the subject for his readers has led him first to give a concise clinical picture of each disease, including its cause, onset and course, and in certain cases the accompanying pathological changes. In each instance he has indicated the points of difference between the disease under discussion and other diseases which might be mistaken for it.

Aseptic methods and improvements in operative technique have, during recent years, brought the internal organs within the range of successful treatment, and this enlargement of the surgical field has necessitated the introduction of new methods of diagnosis and improvements upon the old. In the present volume the author has endeavored to cover the whole subject concisely and in its most modern development.

THE PRACTITIONERS' VISITING LIST.

(Heretofore known as the Medical News Visiting List) for 1906. An invaluable pocket-sized book, containing memoranda and data important for every physician, and ruled blanks for recording every detail of practice. The Weekly, Monthly and 30-Patient Perpetual contain 32 pages of data and 160 pages of classified blanks. The 60-Patient Perpetual consists of 256 pages of blanks alone. Each in one wallet-shaped book, bound in flexible leather, with flap and pocket, pencil and rubber, and calendar for two years, \$1.25. Thumb-letter index, 25 cents extra. By mail, postpaid, to any address. Descriptive circular showing the several styles sent on request. Lea Brothers & Co., Publishers, Philadelphia and New York, 1905.

Being in its twentieth year of issue, The Practitioners' Visiting List embodies the results of long experience and study devoted to its development and perfection.

It is issued in four styles to meet the requirements of every practitioner; "Weekly," dated for 30 patients; "Monthly," undated, for 120 patients per month; "Perpetual," undated, for 30 patients weekly per year; "60 Patients," undated, for 60 patients weekly per year.

The text portion of The Practitioners' Visiting List for 1906 has been thoroughly revised and brought up to date. It contains among other valuable information a scheme of dentition; tables of weights and measures and comparative scales; instructions for examining the urine;

table of eruptive fevers; incompatibles, poisons and antidotes; directions for effecting artificial respiration; extensive table of doses; an alphabetical table of diseases and their remedies and directions for ligation of arteries. The record portion contains ruled blanks of various kinds, adapted for noting all details of practice and professional business.

Printed on fine, tough paper, suitable for either pen or pencil, and bound with the utmost strength in handsome grained leather, The Practitioners' Visiting List is sold at the lowest price compatible with perfection in every detail.

OPERATIVE SURGERY.

For Students and Practitioners. By John J. McGrath, M.D., Professor of Surgical Anatomy and Operative Surgery at the New York Post-Graduate Medical School, Surgeon to the Harlem, Post-Graduate, and Columbus Hospitals, New York. Second edition, thoroughly revised. With 265 illustrations, including many full-page plates in colors and half-tone. 628 royal octavo pages, extra cloth, \$4.50 net; half morocco, \$5.50 net. Sold only by subscription. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia, Pa.

This work of Dr. McGrath covers the field of operative surgery in a very comprehensive manner. In the present (second edition) a number of new illustrations and much new reading matter have been added. The illustrations now number 265, including full-page plates in colors and half-tone. All the regions of the body are taken up in regular order. The descriptions are brief and clear. The paper, printing and binding are well calculated to make the book attractive and useful. The author merits praise for the excellent result of his labors. No doubt this edition will meet with a ready welcome at the hands of the medical profession.

EXPERIMENTAL PHARMACOLOGY.

Laboratory Guide in Experimental Pharmacology, being Directions for the Course given in the University of Michigan by Charles W. Edmunds, A.B., M.D., Instructor in Pharmacology in the University of Michigan; and Arthur R. Cushing, A.M., M.D., Professor of Pharmacology in University College, London, and formerly Professor of Materia Medica and Therapeutics in the University of Michigan. Ann Arbor, Mich., George Wahr: Price, \$1.50.

This book is the outcome of the course of instructions given in the laboratory of the University of Michigan. The method of conducting practical class-work and the performing of experiments upon the lower animals are given in a clear and succinct manner. The methods of testing for the alkaloids are of much value to the student, and are stated in any class language. We can recommend this book with much confidence to all who wish a reliable guide to the pharmacological laboratory. The book is bound with blank pages for notes.

While mainly calculated for the student, it would prove of the utmost value to the busy general practitioner, who should have at his hand a reliable guide for the detection of the alkaloidal poisons. The book should, therefore, have a large sale.

DR. TURBAN ON PULMONARY TUBERCULOSIS.

The Diagnosis of Pulmonary Tuberculosis of the Lungs with special reference to the early stages. by Dr. K. Turban, Privy Councillor of the Grand-Duchy of Baden; Director of the Sanatorium at Davos, with an introduction by Sir Dyce Duckworth, M.D., LL.D., F.R.C.P., translated by Egbert C. Morland, M.B., B.Sc., Lond. London: John Bale, Sons, and Danielsen, Oxford House, 83-91 Great Fitchfield Street, Oxford Street, London, W. Price 5 shillings.

This excellent little book deals with the diagnosis of pulmonary tuberculosis in a very satisfactory manner under the three headings of: 1, Early Tuberculosis of the Lungs; 2, Classification of Tuberculosis of the Lungs; and 3, Physical Examination in Tuberculosis of the Lungs. No one can read this book without gaining many new thoughts respecting the detection of pulmonary tuberculosis. At a time when the disease is claiming so much attention, we can very cordially recommend this book.

INTERNATIONAL CLINICS.

A Quarterly of Illustrated Clinical Lectures and especially prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otolaryngology, Rhinology, Laryngology, Hygiene, and other topics of interest to students and practitioners. Edited by A. O. J. Kelly, A.M., M.D., Philadelphia. Volume III. Fifteenth series, 1905. Philadelphia and London: J. B. Lippincott Company. Price, \$2.25.

In the present volume there are six lectures on Treatment, five on Medicine, four on Surgery, two on Neurology, one on Syphilis, two on Rhinology, two on Ophthalmology, and one on Pathology. The articles are all of a high order of merit, and will well repay a careful perusal. There are a number of excellent plates scattered throughout the pages. Upon the whole the present volume keeps up the reputation of this well-known series. We are quite sure that subscribers to this series of Quarterly Clinics will not be disappointed.

BOUCHARD ON AUTO-INTOXICATION.

Lectures on Auto-intoxication in Disease, or Self-Poisoning of the Individual. By Ch. Bouchard, Professor of Pathology and Therapeutics; Member of the Academy of Medicine and Physician to the Hospitals, Paris. Translated, with a preface of new chapters added, by Thomas Oliver, M.A., M.D., F.R.C.P., Professor of Physiology, University of Durham; Physician to the Royal Infirmary, New Castle-Upon-Tyne; formerly Examiner

in Medicine, Royal College of Physicians, London. Second revised edition. Crown octavo, 342 pages, extra cloth. Price, \$2.00 net. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia.

The human body is a busy and complicated chemical laboratory, and the work of Bouchard on Auto-intoxication proves this beyond a doubt. When Dr. Bouchard's book appeared some years ago it attracted no small amount of attention. The present edition brings the study of Auto-intoxication well up to date. Dr. Oliver has given us an excellent translation of the original. The whole work tends to give the reader a new view of disease, and is well worthy of close study. It is just such a book as should be in the hands of every physician.

MISCELLANEOUS.

ECTHOL (BATTLE & CO.)

J. A. Herring, M.D., Myrtle Springs, Texas, says in *The Alkaloidal Clinic*: "I have just received *The Clinic*, and find an article by Dr. Thudichum on "Echinacea." I have used it with perfect success for the last five years, first employing Lloyd's scientific tincture, and later Ecthol, from Battle & Co., containing echinacea and thuja. I give the former the credit. And I want to say that it is a specific for all that Dr. Thudichum says. It has been so in my hands. I have just counted the empty Ecthol bottles in my office, and find twenty-six used in the last year. In fact, people come twenty-five and fifty miles to have me treat old sore shins and the like. It stops boils and carbuncles; and I give it in all glandular inflammation. Pus and Ecthol cannot stay in the same place. Try it, Doctor, and you will be convinced.

A NEW LIQUID ANTISEPTIC.

Parke, Davis & Co. have recently introduced a new liquid antiseptic of considerable power, called Cresylone. It contains 50 per cent. of Cresylic Acid, and forms clear solutions with water in all proportions.

A two per cent. solution of Cresylone is not only an excellent disinfectant for instruments and hands, but a valuable detergent and lubricant, too. It is said not to injure metallic or rubber instruments, though celluloid articles are apt to become friable under its action.

In the treatment of wounds a one per cent. solution is usually employed, and a two per cent. solution may be used in profoundly septic cases when more vigorous measures are indicated.

Cresylone completely arrests the development of pus organisms, and is, therefore, indicated in the various suppurations with which the general practitioner has to contend. In the treatment of otorrhea, irrigation with a $\frac{1}{2}$ per cent. solution is said to be of benefit. A solution of the same strength is of value in the treatment of ozena.

As it removes odor, it may prove of service in gangrene. In cancer of the cervix uteri the application of gauze saturated with a solution of Cresylone will remove the odor that accompanies this disease. For disinfecting sputa and stools, Cresylone commends itself in the sick room, hospital ward, schools, prisons, etc.

Therapeutically, the use of Cresylone has been suggested in various pathologic conditions, notably in the treatment of gonorrhoea, lupus, tonsillitis, eczema, and cystitis of the female.

MESSRS. W. B. SAUNDERS' NEW CATALOGUE.

We have just received from W. B. Saunders & Company, of Philadelphia, the widely known medical publishers, an unusually attractive catalogue of their complete list of publications. It seems to us, in glancing through this catalogue, that a list of the Saunders' authors is a census of the leading American and foreign authorities in every branch and specialty of medical science. And new books are being added, and new editions issued with a rapidity that speaks well for the success and progressiveness of the house. While comparisons are always odious, still we feel it but justice to say that in the presentation of facts about the books listed that a probable buyer wishes to know, and also for beauty and durability of mechanical get-up, this catalogue surpasses anything we have heretofore seen. It is truly representative of the house. We understand a copy will be sent free upon request.

DO YOU WISH TO SELL YOUR PRACTICE?

When a physician desires to sell his practice or property it is of utmost importance that it should be done with a minimum of publicity, hence the sale of medical practices forms an important department of medical affairs, and one that nearly all physicians find necessary to use at some time or other. Dr. W. E. Hamill has for the past 11 years made a specialty of this line, and has a system which we consider perfect as to efficiency, secrecy and promptness, and we cordially recommend him as an expert in his line, and advise our readers to take advantage of his ripe experience when they think of selling their practices. A partial list of the practices for sale will be found among our advertising column every month, the complexion of which changes from time to time.

THE INTESTINAL PARASITES.

Messrs. Battle & Co. have just issued the eighth of their series of twelve illustrations, of the Intestinal Parasites, and will send them free, to the physicians, on application.

PNEUMONIA.

"The pneumonia season is rapidly approaching. Soon the various journals will be full of the statistics of past years in regard to the prevalence and fatality of this disease. The pathology and etiology will be thoroughly gone over, but, judging by the past, most writers will have very little that is encouraging to say as regards treatment.

"Several points, nevertheless, must be kept in mind. Whatever drugs are used internally (and this depends very much upon the individual case), the patient must have plenty of fresh air. Do not be afraid of his taking cold on account of the cold air blowing across his face. It is now considered that this is impossible. Also, whatever drugs may be used, keep the body warm with suitable clothing, and use externally some preparation which will cause a comparative lessening of blood-pressure in the lungs. Cold applications, beside lowering the vitality of the patient, cause a depletion of the superficial vessels, and, consequently, increase the hyperemia in the lungs themselves. Our attention, then, would be drawn, per contra, to hot applications. To the most of these there are very great practical objections, such as their inconvenience, their tendency to grow cold very rapidly, and the fact that they must frequently be renewed, thereby disturbing the patient's rest to his manifest detriment.

"We have found but one form of hot application which seems to us to entirely fill the bill, and that is Antiphlogistine. By its means the vitality of the body is conserved, the blood is attracted to the surface, and away from the lungs (its hygroscopic action remarkably enhancing this effect), and the tone of the heart's action is maintained. Besides this, its frequent renewal is not necessary, and the patient's rest is not thereby disturbed. Practically we know that by its use the patient is much more comfortable, the fatality is much decreased, and, if abortion of the disease is possible, we believe it can be accomplished better by this means than by any other."—*Kansas City Medical Record*, October, 1905.