

## Technical and Bibliographic Notes / Notes techniques et bibliographiques

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

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

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

Continuous pagination.

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

T H E

# MONTREAL MEDICAL JOURNAL.

---

---

Vol. XXXVII.

DECEMBER, 1908.

No. 12.

---

---

## HEART DISEASE AND PREGNANCY.

BY

J. C. CAMERON, M.D.,

Professor of Obstetrics, McGill University; Physician Accoucheur to the  
Montreal Maternity Hospital.

The study of heart disease in its relation to pregnancy should interest every medical man, whether he is engaged chiefly in obstetric practice, or whether he is devoting himself mainly to general medicine. The physician should be able to forecast the probable effects of pregnancy and labour upon those of his patients who are suffering from heart troubles, while the obstetrician should know how endocarditis and chronic valvular disease may modify or derange the course of pregnancy, labour and the puerperium in patients whom he is expected to confine. Unfortunately professional opinion regarding these matters is, as a rule, rather vague and uncertain, partly because of the persistence of certain venerable traditions, and partly because teachers and text-books have devoted too little attention to the subject. They have not taught us clearly enough that the various forms of heart disease affect pregnant women in different ways, and that it is fundamentally important to make an exact diagnosis before we attempt treatment. We cannot even approximately estimate the risks and damages run by such patients, or lay out a rational line of treatment for them, until we have made out the condition of the heart and estimated the degree of compensation present as well as the probability of its continuance. It used to be a common belief among the laity that heart troubles are rare in pregnancy, that such patients have a certain immunity from pregnancy, and that even if they do become pregnant, their cardiac troubles may improve or at any rate will not become worse. Routine examination of hospital cases proves that heart troubles exist in from one to two per cent. of pregnant women, and clinical experience shows that cardiopaths are not usually sterile, that they are not specially liable to abort, that the majority of them may

bear a living child safely, especially in their first pregnancy; but it is also certain that each recurring pregnancy aggravates their heart lesion and increases its danger, and that disastrous results are most apt to occur in those women who have been weakened by several pregnancies occurring in rapid succession. Indeed, it is not uncommon for women to go safely through one pregnancy or even several without the existence of a heart lesion having been even suspected; this is particularly apt to occur in cases of mitral incompetence with good compensation. A routine examination of the heart in all pregnant women would prevent such an oversight and would show also how frequently cardiac complications do exist and how a little care will generally enable us to deliver such patients safely. Although it is undoubtedly true that endocarditis and valvular disease are serious complications of pregnancy, needing constant watchfulness and care, yet nevertheless it is equally true that the danger has been very much overrated, and that the presence of heart disease is not a necessary, nor even a frequent indication for the induction of abortion or premature labour.

#### CAUSES AND COURSE.

A cardiac lesion may have existed before pregnancy began; in such a case it may be said that pregnancy complicates the heart disease. The cardiac trouble may have been latent, and by pregnancy it is developed and made known. Finally, it may begin during pregnancy or the puerperium, and then it must be considered a complication of pregnancy. In the latter case it is the result usually of rheumatism or some other intercurrent disease, or has been produced by toxæmia or septic infection. But whatever may have been the cause, the heart lesion is always aggravated by pregnancy, especially after the fourth or fifth month, while on the other hand the course of pregnancy may be more or less seriously affected by it. There may be a miscarriage; or if the patient reaches term, she may die during or after labour or in the puerperium; or even if she escapes with her life, she may be left with a crippled heart, more or less of an invalid for the rest of her days.

It is not hard to understand why pregnancy affects heart troubles injuriously. In the non-pregnant state, when an attack of endocarditis leaves a valve contracted or incompetent, the circulatory balance is restored and maintained by a compensatory hypertrophy. But when pregnancy occurs in such a case, it complicates matters by calling upon the heart for still more compensation while the conditions are becoming less and less favourable for such repair as pregnancy advances. Tension is increasing, the nutritive quality of the blood is impaired, since it must not only provide material for the growth of the fœtus, but must also

carry off the increasing amount of waste matter eliminated by it. The enlarging uterus and the increasing intraabdominal pressure crowd up the diaphragm, displacing the heart, preventing the full expansion of the lungs and consequently limiting their oxygenating power. It is easy to understand therefore, how it becomes increasingly difficult to establish and maintain compensation as pregnancy advances. It may be urged that some observers deny the existence of cardiac hypertrophy in normal pregnancy, claiming that the increase in the area of cardiac dullness is due to upward displacement of the heart and not to hypertrophy. Other observers, too, assert as the result of experiment and actual measurement, that the lung capacity remains constant in normal pregnancy. But it is hard to admit the validity of such claims, when every day we see for ourselves how easily breathlessness on exertion is produced, and how quick and shallow the respiration usually is in pregnant women. As the result of clinical observation, it seems only reasonable to infer that the capacity of the lungs is decreased and expansion becomes limited directly in proportion to the growth of the uterine tumour. It is also well established clinically that in cases of pregnancy complicated with heart disease, it is rare to find urgent dyspnoea in primigravidae, and that when it does occur in multigravidae it begins usually about the fourth or fifth month, and becomes more distressing as the abdomen enlarges, and that very slight causes may then produce heart failure.

#### PROGNOSIS.

As regards their degree of dangerousness, cardiac lesions in pregnancy are usually arranged in the following order:—Mitral stenosis, aortic insufficiency, mitral insufficiency alone or complicated with stenosis or some aortic lesion.

Practically, however, such a classification must be accepted with caution, for it is difficult or impossible to base a prognosis merely upon the variety of valvular disease present in any given case. The primiparity or multiparity of the patient, her general health and nutrition, the condition of the kidneys, the amount of compensation present and the ease with which it is upset or restored, the patient's ability to remain quiet in bed free from exertion or excitement, and the way in which she responds to treatment,—all these things are of more importance in estimating the probable result than the kind of anatomical lesion present.

#### MITRAL STENOSIS.

Since less blood than usual passes through the narrowed mitral orifice, such patients as a rule are poorly nourished, weak and anæmic. In labour, the first stage does not cause any particular distress; not until

the bearing down pains of the second stage begin, do symptoms of constitutional disturbance appear. Then with glottis closed, the lungs tense with air, the diaphragm depressed, and the uterus and abdominal muscles in strong and frequently recurring contractions, an increased amount of blood is driven into the veins and forced along towards the already engorged right heart. Relief can not come from the front, because the narrowed mitral allows but an insufficient quantity of blood to pass through into the left ventricle, and the blood is dammed back upon the left auricle which consequently distends, thus offering still greater resistance to the unloading of the lungs and engorged right heart. The symptoms, therefore, are decreased blood pressure, an irregular, small, rapid, flickering pulse, and cyanosis which tends to increase. The character of the pulse is explained by the fact that enough blood does not enter the left ventricle for it to pump a full stream, and the cyanosis is explained by the increasing engorgement of the right heart. As the bearing down efforts continue, the strain increases, and narcosis or death may occur if the tension is not relieved. At the close of the second stage, if free hæmorrhage takes place from the uterus, the right heart may be somewhat relieved; but whether it is or not, a new danger must be faced presently—on account of the cessation of the placental circulation and the contraction of the uterus, a large quantity of blood is liberated and is forced into the veins. Under this new strain the right heart may become so embarrassed that it may cease to contract and sudden death occurs. What then is the danger of labour in a case of mitral stenosis? Evidently it lies in overdistension of the right heart brought on by the frequent bearing down pains of the second stage, and later by the blood from the utero-placental vessels being suddenly poured into the engorged veins during the third stage. What is the remedy? Shortening the second stage, preventing or moderating the bearing down pains by means of morphia, chloroform or ether, and delivering artificially as quickly as possible. After the birth of the child, encouraging free bleeding from the uterus, and if that does not relieve the cyanosis and strengthen the failing shabby pulse, venesection (eight to sixteen ounces) will relieve the strain and tide the patient over the critical point of pressing danger. As bleeding from the uterus is to be encouraged, not checked, ergot should not be given and frictions to the fundus should not be used. After the urgent danger is over, perfect rest should be secured, by a small hypodermic of morphia if necessary, and the heart should be stimulated by hypodermic injections of strychnine and digitaline.

#### MITRAL INSUFFICIENCY.

This is the commonest of the heart complications of pregnancy. In most of the cases there is good compensation and labour terminates

safely, consequently this form of cardiac lesion is generally considered to be less dangerous than mitral stenosis or aortic disease. This hopeful view should not lead us to underestimate the danger or to be less watchful and careful in the matter of treatment. When the insufficiency is great, especially if there is also tricuspid regurgitation, no form of heart disease is more desperate or has a gloomier outlook. When a woman with a damaged mitral is subjected to the strain of rapidly recurring pregnancies, sudden and unexpected breakdown is apt to occur. She may have gone through two or three pregnancies safely and without any alarming symptoms, but each time it is becoming harder to get good compensation, until finally the limit is reached and the crash comes. In mitral insufficiency, the hypertrophied left ventricle throws the blood with great force back against the leaky valve, the left auricle dilates, the lungs become engorged and cough and hæmoptysis are common symptoms. Unlike mitral stenosis, the symptoms of mitral insufficiency are not much relieved by the emptying of the uterus, for the left ventricle goes on pumping back the blood as before, keeping up the distension of the left auricle along with the consequent engorgement of the lungs and the right heart. The bearing down pains of the second stage increase the action of the left ventricle and intensify the symptoms. Cyanosis, passive pulmonary congestion, œdema, and irregular pulse of low tension are the prominent features. These patients convalesce slowly and need careful watching and judicious treatment for weeks or months. Relief comes only from resting the heart and building up compensation. The patient may die in a few days, weeks or months after labour, generally as the result of some imprudence. The signs of danger during labour are an irregular *failing* pulse, restlessness and dyspnoea, along with increasing cyanosis.

#### WHAT SHOULD BE DONE IN SUCH CASES?

The first stage should be allowed to go on naturally, meanwhile securing free watery movements and steadying the heart with digitaline. When the second stage begins, morphia, chloroform or ether will relax the muscles, check or moderate the bearing down pains, allow the vessels to dilate and blood pressure to fall and the strain on the right heart to moderate. Delivery should be effected as soon as possible by artificial means, free bleeding from the uterus should be promoted, and hypodermic injections of strychnia and digitaline should be given as circumstances require. During convalescence, careful feeding, tonics and prolonged rest in bed are necessary. The patient should be warned against the danger of a future pregnancy.

Mitral stenosis and mitral insufficiency sometimes coexist, and in such cases the symptoms of stenosis usually predominate. The prognosis is graver than when either lesion exists alone.

#### AORTIC INSUFFICIENCY

is a comparatively rare complication of pregnancy. As the chief cause of this lesion is degenerative change in the aorta and its valves, and as such changes usually occur later in life when pregnancy rarely occurs, the infrequency of this lesion may be understood. The danger is most marked after the fourth or fifth month when increase in the blood mass and in blood pressure aggravates the regurgitation and disturbs left ventricle compensation, even although hitherto it has been fairly well adjusted. The symptoms are œdema, dyspnoea, restlessness and insomnia. The second stage is disastrous; the bearing down pains increase the blood pressure, regurgitation becomes greater, the left ventricle must work harder to empty itself, and finally the end comes by syncope. This is the form of heart disease which calls for prompt emptying of the uterus, no matter whether the child is viable or not, whenever the symptoms of distress manifest themselves. Positive indications for immediate interference exist, when such symptoms appear early or persist in spite of rest and treatment.

#### AORTIC STENOSIS

is also rare and is seldom found without the mitral valve being more or less involved also. It is remarkable how often aortic stenosis and mitral stenosis are found to coexist.

#### TREATMENT OF PREGNANCY COMPLICATED WITH HEART DISEASE.

As soon as the lesion is discovered treatment should begin. The patient should be kept under observation and efforts made to guard and maintain compensation. It is not wise to wait till a breakdown occurs, for it is much easier to prevent the loss of compensation, than to restore it after it has been lost. Such patients should be kept from excitement, over-exertion and fatigue. Long walks, hill climbing, running up and down stairs, hot baths, alcoholic drinks, going to theatres and concerts, or to meetings in overcrowded, ill-ventilated halls, may do serious damage—gentle exercise and plenty of fresh air are helpful when the patients' condition will permit. The bowels should be kept free, not only for the purpose of relieving the circulation, but also to lessen the chances of toxæmia developing. Upon the appearance of such symptoms as dyspnoea, palpitation, a feeling of oppression, cough, hæmoptysis or œdema, the patient should be put to bed at once and kept absolutely at rest. An icebag or cold compress over the heart may give relief when

the pain is severe. Frequent dry cuppings, sinapisms or turpentine stupes are useful when there is much lung engorgement with dyspnoea and local pain. A small hypodermic of morphia acts like a charm when dyspnoea is urgent. Oedema with quick irregular pulse calls for digitalis. The prolonged and free use of strychnia often enables us to tide the patient safely along to term or at least to the period of the child's viability.

It has been shown experimentally that digitalis is an irritant to unstriated muscle, and may excite uterine action. Consequently it has been urged that digitalis should not be given to pregnant women with heart trouble, for fear of bringing on abortion. According to our experience no such complication need be feared with moderate doses of the drug, and we are in the habit of giving it as freely as we give strychnine when it is indicated.

If the patient is seen early and compensation is good, if it is the first pregnancy or if there is no exhaustion from rapid child bearing, she may be allowed to go on to term, the compensation meanwhile being closely watched. If the patient is not seen until the heart symptoms are marked, the first endeavour should be to build up compensation by absolute rest in bed, dieting, etc. If that cannot be done, it will be best to induce labour as soon as the child is viable, in the thirty-fourth or thirty-fifth week, if possible, not earlier than the thirty-second, nor later than the thirty-sixth week. If only moderate compensation exists and the patient is allowed to go on to term, the chances of failure are increased. Clinical experience goes to show that better results can be obtained in moderately severe cases by inducing labour when the child is small and can be easily delivered than to allow the patient to go on to term with the chances of a large child and a difficult forceps or version operation. When the lesion is grave, the patient exhausted, and there is reason to believe that compensation will not be maintained, it is better to end pregnancy, whether the child is viable or not. When labour comes on, the first stage should be allowed to terminate naturally, unless urgent symptoms arise. A free bowel movement may be obtained, and digitaline may be given freely to strengthen and steady the heart. If this stage is prolonged, nutrition must be maintained and rest and sleep secured. When the os is fully dilated, the uterus should be emptied artificially under light anaesthesia of some kind. A hypodermic of morphia at the beginning of the second stage will soothe the pains, and then only a few whiffs of chloroform or ether will be required for the easy and rapid termination of labour. If the os is undilated, and rapid delivery is necessary, artificial dilatation of the os or multiple incisions of the cervix should be employed. After the



birth of the child, free bleeding from the uterus should be encouraged. Ergot and frictions of the uterus do harm by checking the loss of blood which might relieve the over-burdened right heart. If cyanosis persists and the venous pressure is not relieved, venesection will give the promptest results. Some recommend nitrite of amyl or nitroglycerine immediately after delivery when there is great dyspnoea and extreme high tension. It is better to allow the placenta to separate naturally and to come away without artificial assistance. If the strain of delivery has not been recovered from, the extra strain consequent upon the artificial separation and extraction of the placenta may prove the last straw, and the patient may collapse suddenly, as occurred in Case No. 1273. To obviate the ill effects of the rapid fall of intraabdominal pressure after the conclusion of the second stage, it has been recommended to apply a firm binder or to put a sandbag on the abdomen immediately after delivery.

The puerperium needs careful management. Strychnia, digitaline, morphia, laxatives, tonics and careful feeding should be used as circumstances require. The child should not be nursed even in mild cases; the mother needs all her strength and all the nourishment and rest she can get to enable her to recover from the effects of pregnancy and labour.

Prolonged rest in bed during the puerperium is imperative until involution is complete and compensation has become well established.

Whether or not, it is prudent for a young woman with a pronounced valvular lesion to marry, is a question sometimes submitted to the physician. In such a case the risks of marrying are always great, for the occurrence of pregnancy is certain to aggravate the disease and shorten life. It is best always to discountenance marriage under such circumstances. Whether our advice is followed or not, it is our duty to give the warning, and that with no uncertain voice.

#### ANALYSIS OF THE SERIES OF THIRTEEN HOSPITAL CASES.

These thirteen cases occurred out of a total of 1,022. Several have not been included in the list, because the heart lesion was moderate, the compensation good, the delivery spontaneous and normal, no special symptoms arose and no special treatment was required. If we include these milder cases, the proportion of pregnant women with cardiac lesions who were delivered in the Montreal Maternity would be about two per cent. Of these thirteen, there were:—

I Gravida	3	There were under 30 years of	
II	4	age	8
III	2	30 years and over	5
VII	2	The youngest	21
IX	1	The oldest	40
XIV	1		

## Heart Disease in Pregnancy, Labour and the Puerperium. Cases Treated in the Montreal Maternity.

Case No.	Heart Lesion.	Lesion began this preg.	Began before.	Age.	Gravida	Labour at or before term.	Pregnancy.	Labour.	Puerperium.	Anæsthesia.	Compensation.	Highest Temp.	Results.		Subsequent History.	Remarks.
													Mother.	Child.		
859	Mitral Stenosis with Insufficiency	?	?	25	II	Term	Admitted in Labour	Spontaneous and Rapid	Uneventful	None	Good	—	+	+		Admitted in labour. History hard to get and unsatisfactory.
1405	Mitral Stenosis with Insufficiency	+	—	30	II	Term	Slight Oedema	Rapid—Low Forceps	Uneventful	M. gr. 3	Good	98.8°	+	+	Good Health	
2037	Mitral Insufficiency	+	—	21	I	Term	Alb. Casts, Bronchitis	Spont. Rapid Collapse	Uneventful	(obstet. degree)	Mod.	101.4°	+	+	Good Health Good Health	Towards end of 2nd stage, during chloroform, patient became suddenly cyanosed, breathing became bad and stopped. Artificial respiration restored breathing. Afterwards good and steady recovery.
1272	Mitral Insufficiency	—	+	30	II	Term	Under observation throughout preg. for mitral lesion, alb. casts, Bronch.	Mid Forceps	Uneventful	Chlorof. (light)	Good	—	+	+	Good Health	Membs. were ruptured and forceps applied to head in cavity, to save the strain of 2nd stage. Made a good recovery; discharged on 18th day. No special treatment required for heart trouble.
1273	Mitral Stenosis with Insufficiency	—	+	24	III	Prem.	Oedema—dyspnoea, cough.	Version and Extraction—Twins	—	M. gr. 1	Poor	—	—	—	—	After 4 days treatment in hospital, felt so much better that she insisted upon going home; 3 days later she returned in labour, in desperate plight, having walked 3 mile mostly up hill. Both children presented by Breech; Chloroform was necessary to permit the hand being passed through O. I. Death occurred suddenly after manual extraction of the placenta.
1290	Mitral Stenosis with Insufficiency	—	+	26	II	Term	Headache—Palpitation, dizziness, dyspnoea	Low Forceps	Dyspnoea, Cardiac Pain—Irregular Pulse	Chlorof. (light) Chlorof. (light)	Mod.	99°	+	+	Feeling so much better, she insisted upon going home on 11th day. A few months later, she died at home.	
1444	Mitral Stenosis with Insufficiency	—	+	35	VII	Term	Cyanosis, dyspnoea, cough, hæmoptysis, œdema general	Twins—Breech presentations, extraction	Uneventful, rapid recovery	M. gr. 4	Poor	99.6°	+	+	In good condition a year afterwards	Heart trouble began after her first confinement.
1750	Aortic Stenosis	+	—	25	II	Term	Slight Oedema	Forceps failed—Version and Extraction	Irregular, Intermittent Pulse for a few days	M. gr. 1 Chlorof.	Fair	99.8°	+	+	A few months later was in good condition.	Albuminuria, with plentiful granular casts.
3010	Aortic Stenosis	+	—	40	VII	Near Term	Slight dyspnoea, œdema, cyanosis, poor compensation	Low Forceps	Uneventful	Ether None	Poor	100°	+	+	No Report	The history of previous pregnancies not satisfactory.
1458	Aortic Stenosis and Mitral Insufficiency	—	+	35	IX	Prem.	Oedema, cyanosis, dyspnoea, rapid breathing, palpitation, Cough, hæmoptysis	Induction of Labor in 35th Week (Krause) High Forceps	Uneventful	Ether	Poor	98.6°	+	+	Insisted upon going home on 14th day. Was then in fair condition. Thirteen days afterwards was admitted to M. G. H. and died in 3 days of acute dilatation of heart.	The heart trouble began 7 years ago, and for 6 years she has been unable to do any hard work. Has been laid up several times with severe attacks, lasting 5 weeks. Her legs were swollen till a few months ago. Was confined to bed for 3 months before entering the Maternity.
1807	Acute Dilatation of Heart with Endocarditis involving Aortic and Mitral Valves, the latter probably secondary	—	+	25	III	Before Term	Oedema, dyspnoea, pulm. œdema	Spontaneous, very Rapid	Dyspnoea for a week—then good recovery	None	Poor	101°	+	+	Discharged much improved. Three months later entered W. G. H. Treated 2 weeks for chronic interstitial nephritis.	
1719	Myocarditis acute	+	—	24	I	—	General weakness and abdominal pain after a fall. Dyspnoea, frequent micturition—Headache	Undelivered	—	—	Much improved	—	+	?	—	Was discharged much improved in health. In a few weeks was so well that she was able to go home to the West Indies, where she would be confined.
2095	Myocarditis chronic	—	Probably	40	XIV	Term	Alcoholism—occasional fainting fits	Retained Placenta, collapsed 15 minutes after birth of child	—	None	Poor	—	—	+	—	Was an alcoholic, lived a hard rough life—drinking freely. The child steadily lost weight, seemed incapable of digesting anything. It died on the 8th day, having lost 640 grammes.

Abbreviations:—M, Morphia.

+ in 3rd and 4th columns, the appearance of heart lesion; in columns of results, favourable for mother, and born alive for child.

— in columns of results, death for the mother, and born dead for child.

A definite history of cardiac lesions previous to this pregnancy..... 6  
 Cardiac lesions arose probably in this pregnancy..... 6  
 Doubtful..... 1

Labour at term.....	8	Labour induced and high for-	
Labour shortly before term....	2	ceps.....	1
Labour premature.....	2	Forceps, mid.....	1
Undelivered.....	1	Forceps, low.....	3
Labour spontaneous.....	4	Version and extraction.....	2
Twins.....	2	Extraction of breech.....	1

Anæsthesia and narcosis during labour were employed as follows:—

Chloroform alone in.....	3 cases	Morphia, chloroform, and	
Ether alone in.....	1 case	ether in.....	1 case
Morphia alone in.....	2 cases	No anæsthesia or narcosis	4 cases
Morphia and chloroform in	1 case		

RESULTS.

Mothers discharged in fair or good condition, 11 (1 undelivered); died, 2.

Children born alive in 11 confinements out of 12, 12 (one case of twins); born dead in 1 confinement out of 12, 2 (twins).

If we exclude the two cases of myocarditis without valvular lesion, the maternal mortality was 1 out of 11, or 9.09 per cent. In 10 cases of valvular disease out of 11, the mothers recovered and the children were born alive; in 1 case both mother and children (twins) died.

A full report of thirteen cases observed in the Montreal Maternity, was submitted. These have been published in the *American Journal of Obstetrics*. The chief points of clinical interest are summarized in the following table.

THE CULTIVATION OF THE MENINGOCOCCUS FROM  
 EYE CONDITIONS COMPLICATING EPIDEMIC  
 CEREBRO-SPINAL MENINGITIS.

BY

HANFORD McKEE, B.A., M.D.

(From the Pathological laboratory of the Montreal General Hospital.)  
 Read before the section of Laboratory Workers at the  
 Canadian Medical Association, Ottawa, 1908.

Metastatic ophthalmia occurring in epidemic cerebro-spinal meningitis is not a rare condition. Many of these cases are mild and undoubtedly have in the past been often overlooked. Many of them have been discovered only at autopsy. The percentage of cases of meningitis complicated by metastatic ophthalmia is given by Knapp as 4 to 5 per cent., by Heine as 5 per cent., and by Uthhoff as 4 per cent. The affection occurs as a rule in one eye, but has been reported in both by Knapp in one of ten cases, by Kreitmaier in one of twelve cases, by Seggel in one of four, by Uthhoff in two of eleven, by Heine in two of

five, by Markuse in one case, and by von Graefe in three cases. The clinical picture is a characteristic one and has been well recognized for years. Early in the course of the disease, generally between the first and third weeks, there suddenly appears a hypopyon iritis with exudation in the pupillary area. This condition very quickly assumes the well-known picture of pseudo-glioma. Often the characteristic yellowish appearance in the pupillary area is the first symptom pointing to any ocular complication.

While the condition has been well recognized clinically a bacteriological examination has been made in only a very few cases. Uthoff upon three occasions tried to obtain the micro-organism by aspirating the vitreous, but with negative results. Axenfeld aspirated the anterior chamber and found microscopically Gram negative diplococci. Cultivation was, however, unsuccessful. From an eye examined at post mortem Axenfeld later cultivated the meningococcus. Hanke and Tertsch have lately reported an interesting case. A seven months old child was referred to the eye clinic from the children's hospital with the diagnosis of inflammation of the lungs. The mother stated that eight days after the beginning of the illness she had noticed "an opacity of the right eye and the pupil had disappeared." At the first visit to the clinic a metastatic ophthalmia was diagnosed. (Irido-choroiditis chronica with pupillary and vitreous exudation). In the lower quadrant near the equator was noticed a bulging. When the child was brought back again eight days later a thick yellowish discharge was seen coming from the former prominent part. Markuse has also reported spontaneous perforation of the globe by a suppurative process caused by the meningococcus.

We had last year at the Montreal General Hospital a case of metastatic ophthalmia occurring in a case of epidemic cerebro-spinal meningitis. The case was as follows:—Child W. J. A., aged seven years, was seized June 9, 1907, with vomiting of blood-stained fluid. A few hours later he complained of pain at the back of his neck and frontal headache. He was admitted to the hospital at noon of the same day and became unconscious a short time after admission. When admitted he had in each eye bright subconjunctival hemorrhages and during the next day there developed a hypopyon in the right eye. The patient died June 11th. The diagnosis was epidemic cerebro-spinal meningitis. At the post mortem the right cornea was seared with a hot surface. With a sterile hypodermic syringe the pus was withdrawn from the anterior chamber and was planted on hemoglobin agar by carefully spreading the material over the surface of the medium. After 24 hours at 37 C. the growth was so thick that isolated colonies could not develop. The

micro-organism was a Gram negative diplococcus which coincided in every particular with the Gram negative diplococcus isolated from the cerebro-spinal fluid, i.e., meningococcus.

Axenfeld in writing on metastatic ophthalmia cites a case of Wintersteiner's and one of his own. There are also doubtful cases reported by Saltini, Silcock, Treacher Collins, Mayou and others. Wintersteiner saw in cut sections of a bulbus from a meningitis case Gram negative diplococci, both intra and extracellular. Uthoff also found in sections Gram negative diplococci. Weichselbaum mentions the above case of Wintersteiner's and a case reported by Stevenson. The latter was a case of pan-ophthalmitis in the pus of which, associated with other bacteria, were found meningococci. Tooke reported a case of "hypopyon iritis associated with epidemic cerebro-spinal meningitis." There was, however, no bacteriological examination made of the pus in the anterior chamber.

It will be seen that a bacteriological examination with a differentiation of the Gram negative diplococci has been made in only three cases, that of Axenfeld, that of Hanke and Tertsch and the one here reported. The mere stating meningococci were found is not sufficient. In discussing Gram negative diplococci found in the eye it is necessary to differentiate between the gonococcus, the micrococcus catarrhalis and the meningococcus. That the gonococcus is a frequent factor in inflammation of the eye is well known. The micrococcus catarrhalis has been isolated from some catarrhal conjunctival conditions and from some cases of purulent ophthalmia, while the meningococcus has been cultivated both from the pus of the anterior chamber and from the conjunctiva, so that for diagnostic purposes the examination of a smear alone is of practically no value unless followed by cultivation and study of the micro-organisms. One would think the finding in a smear of Gram negative diplococci in eye conditions complicating meningitis ought to be proof of their being meningococci, but such is not the case. From Axenfeld's clinic last year was reported the isolation of the micrococcus catarrhalis from the conjunctiva of a patient ill with epidemic cerebro-spinal meningitis. Had the diagnosis been left to the morphology of the organism, it would naturally have been diagnosed meningococcus conjunctivitis. So much careless eye bacteriology has gone on record it is high time we demanded from ophthalmologists the same proof of their results that we receive from others. When one finds in recent publications "Weichselbaum's biscuit-shaped coccus" being described as surrounded by a clear space very much the same as that found between the organism proper and its containing capsule, or

when one sees a photograph of beautiful lanceolate diplococci described as meningococci the necessity for greater care in diagnosis will be readily seen. The finding of diplococci or "bodies in the tissues resembling the meningococcus" is not sufficient to warrant the statement that these were meningococci. The staining of Gram positive organisms in tissue is a simple procedure; on the other hand the staining of Gram negative bacteria, and especially the meningococcus, is a matter requiring special technique and very great care. If in staining tissue by one of the ordinary methods, diplococci are found, we may be sure they are not Gram negative organisms. For obvious reasons Gram negative bacteria will not be stained by such methods. Duval has recently described a method of staining Gram negative organisms in tissues. I have seen some very pretty slides showing gonococci stained in the tissues and would advise its use for the meningococcus, but the latter organism will be found even harder to stain than the gonococcus. The demonstration of Gram negative diplococci in smears, especially in eye bacteriology, is not sufficient to name the organism. Only lately I obtained upon three occasions the micrococcus catarrhalis from inflamed conditions of the conjunctiva. In the smears they were intra and extracellular, and without cultivation would have been diagnosed gonococci, so that to differentiate the Gram negative diplococci of the conjunctiva, even in cases of epidemic meningitis, a study of the cultural features of the organism is necessary.

Conjunctivitis as a complication of epidemic cerebro-spinal meningitis has long been recognized. Among 111 cases of meningitis Councilman saw ten complicated with conjunctivitis, among 30 Davis saw eight with the same complication. Robinson stated purulent conjunctivitis was a not infrequent complication of meningitis, but unfortunately the bacteriological examination was not often reported. Ballantyne in a paper on "Ocular symptoms in cerebro-spinal meningitis" stated hyperæmia of the bulbar and palpable conjunctiva occurred in many cases. A certain degree of bulbar injection is quite common even in the first few days and may persist for some time. Among the 73 cases examined, 13 had acute catarrhal conjunctivitis with more or less purulent discharge. In the majority it was a symptom of the early acute stage, but in several appeared in late stages and might well have been due to outward infection from the incomplete closure of the lids. No attempt was made to work out the bacteriology of the discharge. In two cases conjunctival hæmorrhages were present. McGregor, who mentioned this symptom to Ballantyne, saw conjunctival hæmorrhages quite frequently in the earlier cases of the Glasgow epidemic. They were usually during

the acute stage and even in the absence of such spots on the skin. They go so far as to suggest, (1) as conjunctival hæmorrhages are rare in acute illnesses except whooping cough, their presence in a patient suspected should carry some weight; and (2) conjunctivitis which occurs as an early symptom would most likely help to distinguish this from other forms of meningitis.

The fact that the meningococcus has been isolated from the conjunctival discharge in a few cases has added interest to conjunctivitis as a symptom. According to Axenfeld, Frankel reported a severe pseudo-membranous conjunctivitis in three children of one family due to a diplococcus which he thought was the meningococcus. Hagland also described a case of meningococcus conjunctivitis. Both these cases are now discredited. Wintersteiner reported a case of ophthalmia occurring in the course of a meningitis. In cover-slip preparations from the conjunctiva an organism identical in morphology with the meningococcus was obtained. Weichselbaum studied Wintersteiner's preparations, and although no cultures were made he considered the finding positive. Wintersteiner believed the infection a metastatic one. According to Axenfeld, Koplick, in Washington in 1904, reported finding the meningococcus in the conjunctival sac in a case of epidemic meningitis. D. Smith, in the Archives of Ophthalmology, reported among 100 cases of conjunctivitis one due to the meningococcus. No differential diagnosis, however, was given. Gabrielides in a child of twenty-five months with meningitis found in the conjunctiva, xerosis bacilli, pneumococci and Gram negative diplococci, intra and extra-cellular, which coincided in every way with the Gram negative diplococci from the cerebro-spinal fluid. E. S. Thompson, at the American Medical Association, 1906, reported finding the meningococcus three or four times among 400 cases of blenorrhœa. Differentiation here is, however, unsatisfactory. Robinson from one case of meningitis isolated the meningococcus from the purulent discharge. In three other cases of conjunctivitis the finding was negative. In spite of these reports at a meeting of the Ophthalmological Society of Paris, Dec. 31, 1907, when Moissonnier reported a case of meningococcus conjunctivitis, Morax said "as yet there has been no authentic case of meningococcus conjunctivitis reported. The case reported by Moissonnier is neither clinically nor bacteriologically satisfactory."

During the last year I have had an opportunity of seeing six cases of epidemic meningitis with conjunctival symptoms: (1) an adult male aged 23 years. Marked catarrhal conjunctivitis smear negative. Culture staphylococcus aureus (in pure culture). (2) An adult male aged

18 years. Purulent conjunctivitis both eyes. Smear negative. Culture meningococcus.

(3) Child aged 3 years. Catarrhal conjunctivitis both eyes. Smear Gram negative diplococci. Culture bacillus influenzae.

(4) Child 7 years. Catarrhal conjunctivitis both eyes. Smear Gram negative diplococci. Culture meningococci.

(5) Child aged 7. Catarrhal conjunctivitis both eyes. Smear Gram negative diplococci and Gram negative diplobacilli. Culture diplobacilli and *B. xerosis*.

(6) Child aged 9. Sister to case 5. Catarrhal conjunctivitis both eyes. Smear Gram positive cocci and Gram negative bacilli. Culture staphylococcus albus and bacillus influenzae. In each case the diagnosis was made by cultural tests. In cases 3 and 5, although characteristic Gram negative diplococci were found in the smear preparation, the conjunctivitis has been placed as due to the organisms cultivated. In all the cases the conjunctivitis was in the early stage of the disease. In only one case was there much purulent discharge, this was strangely enough one of the meningococcus cases. In all the meningococcus was cultivated from the cerebro-spinal fluid.

The diagnosis of conjunctivitis due to the staphylococcus, diplobacillus and the bacillus influenzae is a simple matter, but not so with the meningococcus. The latter can only be diagnosed by careful cultural examination. All Gram negative diplococci in conjunctivitis in meningitis cases are not meningococci, as from Axenfeld's clinic last year was reported the finding of the micrococcus catarrhalis from a conjunctivitis in a patient with meningitis. Leaving out of consideration the Gram negative diplococci described by Bumm and those of Lingelsheim, the three Gram negative diplococci to be discussed in differentiating conjunctival micro-organisms are the gonococcus, the meningococcus and the micrococcus catarrhalis. The differentiation between these three has been carried out in our cases by a comparison of the following points: Growth by room temperature, growth on plain agar, haemoglobin agar, gelatine, Loeffler's blood-serum, potato, bouillon, Litmus milk, a comparison of their action on the sugars and a comparison of their length of viability.

Where Gram negative diplococci grow by room temperature and are viable on plain agar for weeks or months, the gonococcus and the meningococcus are excluded. The micrococcus catarrhalis is so easily differentiated the question comes to be really a decision between the gonococcus and the meningococcus. In the initial tube a growth of the meningococcus upon plain agar is not rare, whereas a growth of the gonococcus upon this medium is. Upon haemoglobin agar they each



have a characteristic appearance which is constant. The meningococcus grows profusely with a large raised growth which has somewhat of a bluish tinge. The gonococcus, on the other hand, has a fine, slightly raised, moist-looking colourless growth vastly different in appearance. After considerable experience with the cultivation of different cultures of these two micro-organisms, I feel convinced the most satisfactory medium for their cultivation is human hæmoglobin agar. They each grow profusely upon this, and I believe the appearance of each upon this medium will help to a considerable extent in their differentiation. Upon gelatine they do not as a rule grow. Upon blood-serum the meningococcus grows fairly well, while the gonococcus does not. Upon potato the meningococcus grows at times, the gonococcus never. In bouillon the meningococcus grows with turbidity of the medium, the gonococcus does not grow. In Litmus milk the meningococcus sometimes gives a slight growth, the gonococcus never. On the sugars the meningococcus ferments maltose and dextrose, while the gonococcus only the dextrose. The period of viability is much less in the gonococcus than in the meningococcus. To insure cultivation the gonococcus must be transplanted every 48 hours. With this precaution very frequently the culture will be lost. The gonococcus, however, can be carried along very nicely by transferring every 48 hours, and after cultivation for sometime transplanting may be deferred for a day or two longer. These are some points noted during the last year while having the gonococcus and the meningococcus in different strains under constant cultivation. The strains differ in detail, but the gonococcus and the meningococcus when their cultural features are compared, give ample ground for differentiation.

The first report of meningococcus from the conjunctival sac of a patient not ill with meningitis was from Axenfeld's clinic by Brons. The case was one of Keratomalacia from pneumococcus infection. From the conjunctiva for a period of two weeks were isolated meningococci. The third case of meningococcus from the conjunctival sac which I have to report is the isolation from an apparently normal eye. A young Jewish boy, number 279, 1908, came to the out-door last February to have his eyes tested for glasses. As I was examining a series of normal conjunctivæ at that time, I chose his conjunctiva to take cultures from. Tubes of hæmoglobin agar, bouillon and plain agar were inoculated. The growth on hæmoglobin agar was profuse, so much so I believed it to be micrococcus catarrhalis, but in putting it through the tests given above I proved it to be the meningococcus. This, I believe, is the first instance reported of the cultivation of the meningococcus from a normal eye.

While the cultivation of the meningococcus from the conjunctiva of patients ill with meningitis is interesting, the cultivation from a normal conjunctiva is even more so. The presence of the meningococcus on the nasal mucous membrane of supposed healthy individuals has been shown. Is the presence on the conjunctiva secondary to its presence in the nose, or may the conjunctiva, too, be a point of entrance?

Briefly, then, during the last year we have seen at the Montreal General Hospital seven cases of epidemic cerebro-spinal meningitis with ocular symptoms. These seven cases consisted of one case of metastatic ophthalmia and six cases of conjunctivitis. From the pus in the anterior chamber of the hypopyon iritis case and from the conjunctiva in two cases of conjunctivitis were cultivated Gram negative diplococci which were carefully studied and shown to be meningococci. To this is to be added the cultivation of the meningococcus once from the normal conjunctival sac.

I take great pleasure in expressing my thanks to Dr. Duval for his supervision of this work.

#### REFERENCES.

- Hanke and Tertsch.—Klin. monat. für augen., Dec., 1907.  
 Transactions of the Ophthalmological Society, London, 1900, XX.  
 Weichselbaum.—Kolle & Wassermann. Book III, p. 278.  
 Mayou.—R. L. Ophthalmic Hospital Reports, Vol. XVI, Part IV.  
 Robinson.—American Jour. of Med. Sciences, April, 1906.  
 Ballantyne.—British Medical Journal, July 27, 1907.  
 Axenfeld.—Die Bakteriologie in der augenheilkunde, 1907.  
 Brons.—Klin. monat. für augen., Jan., 1907.  
 Morax.—Klin. monat. für augen., Feb., 1908.  
 Duval.—Jour. of Experimental Medicine.  
 McKee.—American Jour. Medical Sciences, Nov., 1907.  
 Councilman.—Quoted by Robinson, Amer. Jour. Med. Sciences, April, 1906.  
 Davis.—Quoted by Robinson, Amer. Jour. Med. Sciences, April, 1906.  
 Knapp.—Quoted by Hanke and Tertsch.  
 Heine.—Quoted by Hanke and Tertsch.  
 Uthoff.—Quoted by Hanke and Tertsch.  
 Kreitmayer.—Quoted by Hanke and Tertsch.  
 Seggel.—Quoted by Hanke and Tertsch.  
 Markuse.—Quoted by Hanke and Tertsch.  
 Von Graefe.—Quoted by Hanke and Tertsch.  
 Moissonier.—Reported in Klin. Monatsblätter für augenheilkunde, Feb., 1908.

## CONGENITAL HYPERTROPHIC STENOSIS OF THE PYLORUS.

BY

FRANCIS J. SHEPHERD, M.D., LL.D., F.R.C.S.E. (Hon). etc.

This affection has been little noticed until within the past ten years. Cautley in 1898, could only collect 17 cases; in 1902 with Mr. Dent, he reported 50 cases and in 1906 at the British Medical Association Meeting

Read before the Surgical Section of the Canadian Medical Association, at Ottawa, June, 1908.

at Toronto, Dr. Cautley said that there were between 100 and 150 cases scattered through the literature of recent years,—he himself had seen 16 cases.

These cases have been often overlooked and it is only recently that physicians have become alive to the existence of congenital pyloric stenosis. The child is born, as a rule, perfectly healthy and symptoms may come on a few hours after birth, or a few weeks or even months. The perfectly healthy baby may gain weight and do well for a week or two and then begin vomiting,—at least this is the symptom which first attracts attention,—though there may have been a disinclination for food sometime before.

The vomiting is characteristic; it is more a forcible ejection of milk from the stomach than vomiting. As soon as the stomach is distended with milk, it may be with one or two feedings, the contents are forcibly shot out of the mouth and nostrils. There is relief as soon as the stomach is emptied and the child has no nausea and is ready to commence feeding again with the same result. There is no bile in the vomit but there may be mucus from gastric catarrh.

The obstruction may not be complete at first and thin food may pass through, but sooner or later, the obstruction becomes complete, the bowels are constantly constipated and emaciation rapidly sets in. In those cases peristalsis is readily seen and a tumour can be felt in the region of the pylorus, midway between the costal margin of the right side and the umbilicus. There is often also dilatation of the stomach.

The symptoms then of this affection are, according to Cautley, the characteristic vomiting, wasting, constipation, visible peristalsis, dilatation of the stomach, and a tumour. The pyloric tumour is due to an enormous hypertrophy of the circular fibres to the size of "the last joint of the little finger of a female," or about the size and consistency of a thick rubber ring used for holding an umbrella closed. It is usually white and bloodless looking like fibrous tissue. The folding of the mucous membrane is the chief cause of the obstruction.

Cases of pyloric spasm may be mistaken for this affection. Here we have not the same kind of vomiting and the peristalsis is absent, as is also dilatation of the stomach and persistent constipation. In spasm the baby never retains one or two feedings.

All cases of the severe forms of stenosis if not operated on die. Mr. Dent had operated on nine cases by pyloroplasty in 1906 with the result that all the private cases, four in number, got well and of the five public cases three died within two months and one of summer diarrhoea three months after operation. Only one made a permanent recovery.

Mr. Harold Stiles of Edinburgh reports ten cases operated on by gastro-enterostomy and one by pyloroplasty. Of the ten cases five recovered, but two subsequently died of enteritis.

The pyloroplasty case died 17 hours after operation, the infolded edges of the wound blocking the opening. So in these eleven cases only three recovered.

In connection with this affection the following case operated on by me is interesting:—

E.E., born a strong healthy baby, began to vomit about the end of the second week after birth. The vomiting was characteristic, after several feedings the contents of the stomach would be ejected violently through the mouth and as this was not followed by nausea the infant would again be ready to take the breast with avidity. There was constipation and rapid loss of flesh. Soon peristalsis developed and a tumour could be felt in the region of the pylorus. I first saw the baby on November 28th, 1907, when 26 days old. There was emaciation, marked peristalsis and a definite pyloric tumour. Medical treatment had been without avail and as the vomiting continued unabated I advised immediate operation. This was performed on November 29th, chloroform administered and an incision not much over one inch in length was made above the umbilicus and the stomach pulled out with the duodenum. It was then seen that there was an enormously hypertrophied pyloric muscle which felt hard and inelastic and formed a complete ring, larger somewhat than those rubber rings used to hold the ends of the ribs of an umbrella together. Pyloroplasty was immediately decided upon and an incision made in the long axis of the stomach and bowel, cutting through this tough, fibrous-looking ring. The incision was of some length going up well into the stomach and down through the walls of the duodenum. Some mucous membrane on each side of the incision into the stomach was seen to fall inwards and this was cut off with scissors.

The attempt was now made in the usual way to pull the middle parts of the incision (at the ring) upwards and downwards, but it was found that a large gap was left in the upper and lower angles owing to the thickness and inelasticity of the pyloric muscle. So this obstruction was cut freely away, as suggested by Mr. Dent, until the angles could be approximated. The opening was now quickly closed with a single row of Lembert sutures, the stomach replaced and the abdominal wound closed with through and through sutures. The whole operation took but a short time, which is an important point in very young children.

The after treatment was attended to by a special nurse, and this after treatment, let me remark, is quite as important as the operation. The

baby was somewhat collapsed after the operation and cried much on recovery from the anæsthetic. A nutritive enema was immediately given, consisting of peptonized milk 5i, and brandy 10 drops. This was repeated every three hours and was retained. In addition to this weak whiskey and water was given by the mouth which was eagerly taken and retained. The next day about 10 o'clock after the nutritive enema the child vomited some old blood and this went on most of the day. A well digested stool was passed and considerable flatus which much relieved the child.

The enemata were kept up for two days and then the baby was nursed by the mother at short intervals, a minute at a time and increased by the fourth day to four minutes every two hours. From this time the child progressed favourably and left hospital on the 8th day after operation and rapidly increasing in weight. The temperature went up to 102.5° after operation and then become normal; pulse, after operation, 130, went down below 100 at time of leaving hospital. When operated on the baby weighed 7lbs. 5oz., on the third day this had decreased to 7lbs. 2½oz., by the fifth day it had increased to 7lbs. 6oz., and when leaving the hospital weighed 7lbs. 10oz. After this the weight increased very rapidly and now the boy is a strong healthy child, very sturdy, aged 19 months and weighing 30lbs.

There are three operations which have been performed for this affection:

1. Loreta's operation, or divulsion of the pylorus, which is now but seldom practised.
2. Gastro-enterostomy.
3. Pyloroplasty.

Both the latter operations have vigorous advocates.

Gastro-enterostomy has been much more frequently performed and has a strong friend in Mr. Harold Stiles of Edinburgh, who has performed it some dozen times with about 50 per cent of recoveries, though some of those died afterwards from acute enteritis. Mr. Dent had performed the same number of pyloro-plastics with much the same result, though all his private recovered and but 20 per cent of the hospital ones, this no doubt was owing to the fact that the hospital cases were not operated on early enough.

It seems to me that pyloroplasty is the ideal operation, as none of the gut is side-tracked and the operation is not so prolonged or difficult, though many think otherwise. The objection urged against pyloroplasty is that the pyloric passage may become blocked by the infolding of the edges of the wound and the swelling of the cut mucous membrane.

This has happened to Mr. Stiles, Mr. Campbell and Mr. Rutherford Morison,—but in all their operations the wound was closed by a double row of sutures. Now Mr. Dent uses only one row of sutures and this is quite feasible if the pyloric ring be cut away sufficiently before attempting to close the opening. I think also trimming the mucous membrane is a very important part of the operation and still further tends to prevent closure of the pyloric opening after operation.

A small abdominal incision is also advantageous and tends to prevent subsequent hernia which has occurred in some cases soon after operation. Through and through sutures are better for the thin wall of an infant's abdomen and is also a much more speedy process.

NOTE.—I saw this child the last week of November, 1908. I found him in splendid condition and nearly two years old.

## PORTAL INFECTION ORIGINATING IN APPENDICITIS.

BY

JAMES BELL, M.D.,

Professor of Surgery and Clinical Surgery, McGill University, Surgeon to the Royal Victoria Hospital.

Pylephlebitis or septic infection of the portal vein, has its origin in suppurative cholecystitis or cholangitis, ulceration of the stomach or intestines, perivisceral and omental suppuration, and suppuration in or about the spleen, pancreas and kidney or any organ within the ramifications of the portal system.

(No form of systemic (pyæmic) infection of the liver or portal vein is included in this communication.)

Following upon infection of some of the smaller branches of the portal vein are suppurative thrombosis of the veins, septic emboli and multiple abscesses of the liver. No matter how produced, such a condition, when once developed, is, with our present resources, except in some very rare cases, entirely beyond the reach of medical or surgical treatment and is inevitably, but generally not rapidly, fatal. Some recent experiences have directed my attention anew to this subject and have confirmed me in the opinion which I have long held, that by far the commonest cause of pylephlebitis is the diseased appendix vermiformis. The autopsy records of the Royal Victoria Hospital show fourteen cases of pylephlebitis during a period of fourteen years and a few months, since the hospital was opened for the reception of patients, in 1894. To these I have added one case in which the condition was sufficiently demonstrated at operation. Of these fifteen cases, eight were definitely traced to the appendix, one was due to a calculous pyonephrosis, two

were due to cholecystitis and cholangitis; one, recorded as obscure was not traced; one was due to glanders, and one also recorded as obscure, had its origin in the upper zone of the abdomen or possibly in the mediastinum, and one was due to general peritonitis from suppurative salpingitis.

Of these eight appendix cases, seven were operated upon; four definitely for appendicitis, although in one of the four pylophlebitis had also been diagnosed; and three in which operation was undertaken with the idea that the source of the mischief was to be found in the gall bladder or bile ducts. In two of these latter cases the appendix was removed and in the other it was not examined at the time of operation, but the appendicitis was discovered at autopsy.

To make this record more complete, I may add that in the same period of time (fourteen years), 1726 cases of appendicitis were treated in the Royal Victoria Hospital, of which 1480 were operated upon.

The following are brief extracts from the reports of the cases:—

*Case I.*—W. S., male, aged 20, was admitted to the Royal Victoria Hospital, November 30th, 1896, complaining of cramps in the stomach, headache, and pain in the back. His illness had begun eight days previously although he had only been four days in bed; he had never had any similar attacks. He was admitted to the Medical side and typhoid fever was suspected, although no evidence of it was discovered. His temperature was 101, pulse 116, respirations 24. There was a slightly icteroid condition of the conjunctivæ; the abdomen was full and slightly distended, but there was no rigidity nor no tenderness. On the twelfth he had a chill lasting about eight minutes. He developed some general abdominal tenderness but no localized pain could be made out. He was transferred to the Surgical ward on the night of the fourteenth. He was delirious and weak and was not operated upon. He died at 2.15 p.m. on the sixteenth. The autopsy showed "Peri-appendicitis," thrombosis of the mesenteric vessels, abscesses of the mesentery, acute suppurative pylophlebitis and multiple abscesses of the liver.

*Case II.*—S. C., male, aged 26, was admitted to the hospital on the fifth of June, complaining of pain in the abdomen, vomiting, and constipation. He had been seized with severe abdominal pain on the seventh of May. It came on suddenly and was most marked in the upper zones of the abdomen. He partially recovered from this and had a return on the fourteenth of May, marked by constipation, vomiting and hiccough. He had no jaundice but the skin was of a dull sallow colour. The abdomen was opened in the gall bladder region, June 7th. The gall bladder, bile ducts and pancreas were found to be

normal. A fluctuating mass was discovered in the neighbourhood of the appendix which proved to be an abscess and was drained. He died on the ninth of June. Autopsy showed appendectomy (for acute gangrenous appendicitis), acute suppurative peritonitis, suppuration of mesenteric glands, thrombosis of mesenteric veins, septic pylephlebitis and multiple abscesses of the liver.

*Case III.*—A. G., male, aged 22, was admitted October 8th, 1898, complaining of pain in the abdomen with vomiting. The illness had begun with severe general abdominal pain and vomiting on October 5th. It had subsided somewhat but had not disappeared; there was no history of previous abdominal pain; temperature 99°, pulse 100, respirations 22; the abdomen was full, and there was general rigidity most marked in the right lower quadrant. An indefinite tender mass could be felt external to the colon. He was operated upon at 1 p.m. October eighth. A gangrenous appendix was removed and drainage was established from the operation wound and also in the right loin, and the left iliac region. The patient died on October 13th. Autopsy showed appendectomy, general peritonitis, pylephlebitis, cloudy swelling of the heart and kidney, thrombosis of mesenteric and portal veins and an early condition of multiple hepatic abscesses.

*Case IV.*—J. McD., male, aged 19, was admitted in the evening of November 19th, 1898, complaining of pain in the abdomen and lumbar region. Illness had begun on November fourteenth with severe cramp-like pains in the lower zone of the abdomen, vomiting followed, no chills, temperature 100, pulse 100, respirations 24. The abdomen was slightly distended, hard but not rigid, slight fulness in epigastrium, no palpable mass, tenderness throughout the abdomen but most tender just above and to the left of the umbilicus. Operation for appendicitis on November twentieth. Appendix found lying in an abscess cavity in the pelvis, very slightly walled off, the cavity containing very fetid pus. The appendix was horse-shoe shaped and attached to the head of the cæcum by old adhesions. The terminal part was completely sloughed off. The patient's condition was not materially improved and he died at 5 a.m. November 23rd. Autopsy showed appendectomy, acute generalized purulent pleuritis, acute enteritis, thrombosis of portal veins and pylephlebitis, early stage of multiple abscesses of the liver.

*Case V.*—A. B., male, aged 14, was admitted April 1st, 1901, complaining of pain in right lower quadrant of abdomen with tenderness and vomiting. The illness had begun on March 30th with sudden pain in the epigastrium which soon became general all over the abdomen. A diagnosis was made of typical appendicitis. Operation, April 1st.



Appendix was found lying in front of cæcum wrapped around completely by the omentum. Two kinks in the proximal end of the appendix where it was acutely bent upon itself; distal end much enlarged and gangrenous; the surrounding omentum and appendix were removed. In passing a McEwan needle through the thickened meso-appendix, a small abscess in its substance was opened up. Patient was reported as doing well until the tenth, a period of seven days, when he had a chill. Repeated chills followed, icteroid appearance and bile in the urine; death, at 6.30 a.m. on the 24th of April. Autopsy showed appendectomy, septic thrombo-phlebitis of the portal vein, multiple abscesses of the liver, abscesses of the spleen.

*Case VI.*—R. R., male, aged 37, was admitted January 31st, 1902, complaining of jaundice, tenderness over gall bladder region and frequent chills. Illness had begun on the 23rd of January with slight pain in the stomach, with elevation of temperature and drowsiness. He had had no other pain except some griping when the bowels moved. The first chill had occurred on the 26th and jaundice appeared about the same time. Since then he had one or two chills every 24 hours. He had had rheumatism at ten years of age, gonorrhœa in youth, syphilis thirteen years before and typhoid fever ten years before admission, but no other illness. Temperature 98°, pulse 92, respirations 28. Soon after admission, he had a severe chill and the temperature rose to 105.1 and was followed by free perspiration. The patient was a stout man, the abdomen was somewhat distended and slightly tender over the gall bladder and the liver region. The liver was palpable below the costal border. A diagnosis of septic condition of the liver and gall passages was made and operation was performed on February 3rd. No lesion of the gall bladder or bile ducts was found. The liver was somewhat swollen and œdematous, the head of the pancreas was enlarged and hard. The appendix was not examined and no other lesion was found. The abdominal wound was closed. The condition remained unchanged. The patient grew gradually weaker and died on February 15th. Autopsy discovered peri-appendicitis with abscess, pylephlebitis, thrombosis of all the superior mesenteric veins and radicals of the portal vein in liver and pancreas with multiple abscesses in both. There was also an acute definitely enclosed small peri-appendical abscess.

*Case VII.*—M. C. K., male, aged 40, was admitted August 2nd, 1907, complaining of pain in the abdomen and back, vomiting and chills. Patient was in good health until July 27th, when he was seized with severe diarrhœa. On the 30th he began to have cramps in the abdomen and vomiting. He had constant dull pain in the back and head. On

the 30th, he had two distinct chills and he had tenderness over the abdomen. He had suffered from malaria eight years previously and also from rheumatism and sciatica. There had been no previous attack of abdominal pain and no previous jaundice. He was a stout man, the abdomen was somewhat distended and he had an icteroid appearance, but there was no jaundice, the urine contained albumen. The diagnosis was made of appendicitis with secondary pylephlebitis. The appendix was removed on the eighth day of August. It was gangrenous and enclosed in a firm walled cavity. The patient's condition seemed better for a short time afterwards but the chills continued, jaundice developed and increased, and he died September fifth. Autopsy discovered septic thrombosis of splenic, pancreatic, mesenteric and other veins of the portal system and multiple abscesses of the omentum and liver.

*Case VIII.*—Mrs. S. S., aged 55, was admitted May 26th, 1908, complaining of abdominal pain, distension and jaundice. Her illness had begun on the night of the eighth of May with severe crampy pain in the upper zone of the abdomen without fever, which lasted for three or four days necessitating the use of morphia and which had been diagnosed as biliary colic. A palpable tender mass was also discovered in the region of the gall bladder at this time. Jaundice developed, and on the fifteenth of May, she began to have chills, one or two every day, followed by high fever and perspirations. She was immediately operated upon (May 26th), the diagnosis being some septic condition about the liver and bile passages probably due to suppurative cholecystitis. On opening the abdomen, there was no free fluid nor lymph; the gall bladder and bile passages were normal; on passing the fingers into the Foramen of Winslow, a very marked thrill could be felt in the portal vein on the slightest pressure. The head of the pancreas was enlarged and hard, but no fat necrosis was visible. The posterior border of the liver was hard and swollen, but no other evidence of disease could be discovered until the cæcum was exposed. The appendix was found bound down over the cæcum, forming part of the wall of an abscess which lay between the layers of the mesocolon. This abscess was small and its walls were ulcerated and bleeding, the bleeding being arrested with difficulty. The wound was closed and a drainage tube inserted down to the abscess cavity at the lower angle of the wound. The patient remained for about 40 hours in excellent condition without fever and feeling well. Since then the chills have returned and there is no improvement in her condition. The subsequent history of the patient is given in the following letter from Dr. W. A. Brown, dated November 6th, 1908:

“Mrs. S. died on Oct. 26th. During the time she was at home (since June 26th, I think) she was fairly comfortable most of the time.

Had a couple of slight chills during the first three weeks but none afterward. About every ten days or so she would get restless spells with some fever  $100^{\circ}$  to  $101^{\circ}$  and a good deal of mental disturbance, crying spells and delirium, with always slight jaundice. These attacks would last two or three days, when she would become brighter, appetite would return and she would be fairly well again with normal temperature and pulse about 100.

There was always great distention of the abdomen, with a hard swelling in the epigastric region and in left flank—apparently the spleen. No pain except when bowels moved.

There was very little change in her condition during the whole four months. Four days before death, however, an abscess suddenly appeared at the lower angle of the operative scar. This was opened and about half a pint of fetid pus escaped, and it drained freely until her death. It evidently came from a distance. During the last four days the enlargement of the abdomen markedly decreased. With its subsidence, quite an enlargement of the womb could be felt. (You remember you remarked at the time of the operation that there was present some growth in connection with the uterus).

With the advent of the abscess, she showed marked mental hebitude, gradually developing into stupor, with paralysis of right arm and leg and pupil. Had to be catheterized. Stupor rapidly deepened. Could not swallow. Twenty-four hours before death had a severe convulsion, another in a couple of hours and then more frequently until death, towards the last occurring every few minutes. The convulsive movements always occurred first in the eye muscles, causing the eyes to jerk rapidly from left to right, and then become general.

I was very sorry that I could not obtain a post mortem examination. I felt sure there would have been no objection, but it could not be managed.

Yours sincerely,

(Signed). W. A. BROWN.

P.S. There was not as much wasting during the four months as one would expect, as between her bad spells she took a considerable amount of nourishment.

W. A. B.

In all these cases, the clinical picture was at the outset obscure and atypical. In only three cases was a definite diagnosis of appendicitis made at a comparatively early period of the illness (from two to five days); in the fourth case, the patient came to hospital on the sixth day of his illness, when a diagnosis of appendicitis and also pylephlebitis was made, and in the other three cases, the appendicitis developed very irregularly and was marked by the symptoms of pylephlebitis when

the patient first came under observation in the Hospital. These three patients came into hospital in from eight days to four weeks after the onset of the illness. In all of the cases, pylephlebitis developed early. There were definite signs within from two days to a week. Severe chills with high fever was a marked and early symptom in six of the eight cases. In the other two cases there were no chills, although there was moderate fever. The unusual symptoms were pain in the back, headache, and indefiniteness in the localizing signs. The initial attack of crampy pain in the abdomen was mistaken for biliary colic in several of the cases. In five of the eight cases the appendical abscess was small and firmly enclosed between the adherent appendix and the cæcum. In one it was firmly wrapped up in omentum, and in the other two the limiting boundaries had given way. In all the cases, the walls of the abscess cavity were ulcerated. An icteroid appearance was an early symptom, although definite jaundice with bile in the urine was not an early development. In four of the eight cases, there had been previous attacks of abdominal pain. In the last case reported, most interesting observations were made at the operation. The gall bladder and ducts were normal. The posterior part of the liver and the head of the pancreas were hard and swollen, and on passing the fingers into the Foramen of Winslow, a very remarkable thrill was felt on the slightest pressure. This was, I believe, due to the presence of thrombi in the vein. There was no free fluid nor lymph in the general peritoneal cavity and no sign of fat necrosis. In cases seven and eight, a remarkable improvement in the general condition followed operation, although the pylephlebitis was far advanced in both. The improvement, however, only lasted for a couple of days. The lesson conveyed by these cases is, of course, to make an early diagnosis and operate early before portal infection has been established, but it is just in these obscure onsets that one is tempted to wait for further information before opening the abdomen.

The rule here should be, as in most conditions "when in doubt, operate." It occurs to me also that perhaps in a very early condition of an already established progressive thrombosis, removal of the primary cause and consequent improvement in the general condition might arrest the progress and overcome the mischief.

No attempt has been made to study exhaustively the literature of this subject, but the following quotations may be given, as they bear directly upon the frequency with which pylephlebitis occurs as a complication of appendicitis.

Fitz, in a paper published in the "Transactions of the Association of American Physicians," in 1886, on "Perforating Inflammation of the

Vermiform Appendix," says:—"Among 257 cases of perforating appendicitis, are eleven of pylephlebitis." These cases were presumably from autopsy records and the date was before the of the surgical treatment of appendicitis. This was, in fact, an historic paper which had much to do with the adoption of operative treatment for appendicitis.

J. H. Bryant, in a paper entitled "Suppurative Pylephlebitis," and published in Guy's Hospital Reports, Vol. 14, for the year 1900, analyses twenty cases, of which eight were due to appendicitis.

Gerster, in the New York Medical Record, Vol. 63, in a paper entitled "Septic Thrombosis of the Portal Vein in Appendicitis and on Pylephlebitis, together with some Remarks on Peritoneal Sepsis," says that of 1189 cases of appendicitis operated upon in the Mount Sinai Hospital in ten years (1892 to 1902), pylephlebitis was seen only nine times.

## THE TREATMENT OF POTTS' DISEASE OF THE LUMBAR VERTEBRÆ.

BY

A. MACKENZIE FORBES,

Surgeon to the Children's Memorial Hospital, Demonstrator of Orthopædic Surgery, McGill University, Montreal.

If we realize that the position of a tuberculosis lesion of the spine is usually situated at the anterior part of the body of a vertebra adjacent to and perhaps including an intervertebral disc, we will agree that treatment should provide, amongst other things, in this as in all tuberculous lesions of the joints, rest by immobilization of the bones forming the joint.

Rest is best secured by the use of some form of plaster jacket, spica, or bed, or by a special or other brace. Some of these forms of support necessitate the recumbent position. All of them may be used with advantage in that position.

Our choice of which particular way or means should be adopted to secure the essential rest should, at present, be guided by the condition of our patient, especially as to whether he suffers from or is threatened with abscess, or flexion of one or both thighs due to psoas contraction.

The theories of the action of a plaster jacket as ordinarily applied for disease in the lumbar region are:—

(1) It is said by some to act from the pelvis as a brace which supports the weight of the trunk, head and upper extremities.

(2) It is said by the majority of surgeons to act as a splint.

Practically a jacket can hardly be expected to support the weight of the parts above the pelvis. It would have to fit too snugly to do so, and

in the majority of persons, the pelvis would give too insecure a foundation.

In the mid-regions of the spine, a jacket will act as a secure splint, but in the cervical and dorsal regions, its action, as an efficient splint, is open to question. This has been demonstrated practically with the result that on this continent, a spica is a common form of treatment of Potts' disease of the lumbar region in all stages of this affection, and in England a double Thomas hip splint is frequently used for the same conditions.

If the giving of rest is the fundamental principle of the mechanical treatment of Pott's disease and we are convinced that the advantages of the application of a jacket as ordinarily used and even a spinal brace are open to question, perhaps it may be of benefit to consider the anatomical peculiarities of the lumbar spine in order to ascertain how rest may be best secured in those patients where it is deemed inadvisable to insist upon recumbency, and also as an adjunct to treatment by recumbency. The normal position of the lumbar spine is one of lordosis.

The intervertebral discs between the lumbar vertebræ are larger than in any other region thus,—the movement possible between the bony segments of the lumbar region is greater than in any other region, with perhaps, the exception of the cervical region. The experiments of Lovett have demonstrated that hyper-extension limits rotation in the lumbar region and that rotation and lateralization go hand in hand.

With these anatomical facts before us, the position of hyper-extension seems to be worthy of our consideration as an attitude to be desired in the treatment of this affection, as in this position the anterior parts of the articular surfaces of the bodies of the vertebræ (the parts perhaps first affected with tuberculous disease) are widely separated, thus preventing attrition, and the body weight is forced on the lateral masses and rotation and lateralization are restricted.

In children the hyper-extended position is easily attained and maintained by the application of a plaster jacket, applied in much the following way:—

The patient, facing the back of a low chair, is instructed to firmly grasp it. A nurse then grasps the child's hands and secures them in this position. An attendant then raises the patient's feet from behind until the lower extremities assume a position almost at right angles to the trunk. In this position of hyper-extension of the lumbar spine, a plaster jacket is applied into which are incorporated strips of iron to assure the retention of the position now secured.

This method of treatment is not advocated for all patients suffering from Potts' Disease of the lumbar region. In some, because of psos-

contraction, we may control the lower extremities by a splint or spica. I would, however, draw your attention to the fact that hyper-extension of the spine must naturally control spasm of these muscles, although in a different manner from that ordinarily recommended.

In closing I may say that this attitude of hyper-extension may be attained in much the same way, although neither in such extreme nor so securely maintained by the use of a flexed Bradford frame or a plaster-bed. It may be secured also, but in even a less marked manner, by the use of a double Thomas hip splint.

Where psoas contraction is marked, one of these methods may be used for early treatment.

Local treatment should, of course, be used conjointly with general measures, including fresh air and general rest.

---

The second meeting of the International Association of Medical Museums was held in the building of the National Museum at Washington, D.C., on October 1st and 2nd, in connection with the International Tuberculosis Congress. The chair was taken by Professor W. G. MacCallum (Baltimore), who was appointed President; Professor G. Sims Woodhead was elected First Vice-President; Professor J. Ritchie of Edinburgh, Scotland, Second Vice-President; and Professor Aschoff of Freiburg, Germany, Third Vice-President. Dr. M. E. Abbott, of McGill University, Montreal, was appointed Secretary-Treasurer. The meeting was attended by a large number of American pathologists, and several foreign members were also present—Professor Woodhead (Cambridge), Professor Fibiger (Copenhagen), Professor Rist (Paris), Professor Harbitz (Christiania), Dr. Miller (Birmingham), Professor Courmont (Lyons), etc. The death of the first president, Dr. James Carroll of the Army Medical Museum (Washington), delayed the organization, which had been initiated at the first meeting. That organization having been completed, it was determined, upon the motion of Professor Warthin (Ann Arbor), seconded by Professor Fibiger, that a bulletin should be published periodically for the purpose of exchanging specimens and material between the associated museums. Papers were read by Mr. E. L. Judah, of Montreal, on the mounting of moist specimens; by Mr. Izzard, of Cambridge, England, on a rapid method of macerating bone, and by Professor Warthin on the closure of museum jars without the use of cement. Dr. Abbott demonstrated a series of specimens of anomalies of the heart from the Army Medical Museum, from McGill University, and from Johns Hopkins University and the Army Medical Museum, Washington.—From the *British Medical Journal*, October 24th, 1908.

THE

# Montreal Medical Journal.

*A Monthly Record of the Progress of Medical and Surgical Science.*

EDITED BY

J. GEORGE ADAMI,  
GEO. E. ARMSTRONG,  
A. D. BLACKADER,  
G. GORDON CAMPBELL,  
F. G. FINLEY,

WILLIAM GARDNER,  
H. A. LAFLEUR,  
JOHN McCRAE,  
F. J. SHEPHERD,  
J. W. STIRLING

ANDREW MACPHAIL, MANAGING EDITOR.

Remittances, advertisements or business communications are to be addressed to the Montreal Medical Journal Co., Box 273; all others to the Managing Editor, 216 Peel Street Montreal. All communications intended for insertion in this Journal are received with the understanding that they are contributed exclusively to this Journal. A limited number of reprints of articles will be furnished to authors at cost price, if a request to that effect accompany the manuscript.

VOL. XXXVII.

DECEMBER, 1908.

NO. 12.

## THE MISUSE OF SCIENCE

The November number of the *Ladies' Home Journal* contains eight columns of reading matter written by one John Corbin, detailing a medical case. The following paragraphs, headed "A Word in Explanation," appear over the signature, "The Editor of the Journal."

"Astonishing as is this case, and almost beyond human belief, the story is absolutely true, with every fact well authenticated. Mr. Corbin's writing of it is based on the published account of it, a book of five hundred and sixty pages called "The Dissociation of a Personality," and, on personal interviews with the author, Doctor Morton Prince, under whose direction the amazing case passed and developed.

Doctor Prince is one of the most eminent physicians in Boston; is Professor of Diseases of the Nervous System at Tufts College Medical School and Physician for Diseases of the Nervous System in the Boston City Hospital. The book just referred to, together with numerous contributions to scientific and medical journals, has given him a world-wide celebrity and placed America on a level with France in the science of abnormal psychology. Moreover, every feature of this astounding case, with a single exception, has been observed, though in a less complete and dramatic form, in other cases recorded by other physicians of the mind, American and European. The single exception is Sally's claim to have led an independent existence in Miss Beauchamp's body since infancy—



and this Doctor Prince records without vouching for its truth, though the probability of its truth is strong. It is only for the last few decades that such cases have been recognized by science; but they are now known to have existed for centuries—perhaps since the birth of man. Miss Beauchamp's idea that the people in the Bible "possessed of devils," were in the same plight as she was is in full accord with the latest verdicts of science. Many people who, for untold centuries, have been shut up to die as hopelessly insane might have been cured as Miss Beauchamp was cured if the true nature of their malady and the methods Doctor Prince used—those of hypnotism—had been understood."

The name "Miss Beauchamp," is, of course, a disguise. For obvious reasons her real name cannot be given, particularly as she is living to-day, happily married, her remarkable case known not even to her closest friends, only to her husband."

We think the publication thus of material such as this to be a grave error. From the fact that Dr. Prince's photograph appears on the first page of the article, and that the article was based on "personal interviews with the author, Dr. Morton Prince," we infer that, to say the least, the article was published with his knowledge and consent. If this be a correct inference, we consider that it is just as wrong to communicate the history of this case in a lay magazine, as it would be to tell any fact about the patient's physical conformation.

As far as the editor's standpoint is concerned, we have little to say, except that it seems to us just as delicate to publish a hospital case report of a case of cancer of the stomach as to make public this particular history.

With regard to the public, we venture to say that this has proved a popular article; it could not fail to appeal to many people, because they are being allowed behind the scenes, where they have no business to be; and their prurient curiosity is at least stimulated, if not satisfied, by occasional statements which are of the kind that would not ordinarily be told by one acquaintance or friend to another, but rather would be told by a patient to a physician with the knowledge that it would go no farther. We deny utterly the right of the public to hear or read such statements, and confess that one's feelings on reading this article thus published, are much the same as if he were perusing a personal letter belonging to some one else. It may not be wrong, but it is in the worst possible taste.

Is any scientific purpose served? Not in the least. The subject of mental disease—and it may not occur to the public that this woman was

insane merely in an extraordinary manner—is so difficult a subject to the best trained alienist that there is frankly no hope of a dabbler ever learning anything about it, and the cause of public education is no more helped by such an article than it would be by a dissertation on the subject of intra-uterine deformities. Having themselves been born might be thought to give the public the right to ask to be enlightened on the latter, but we think the claim would be disallowed by any sane court.

Can any harm be done by such an article? We think it may. The average American (of the United States or Canada) of the classes who read *The Ladies' Home Journal*, has of late been paying as much attention to introspection as is good for him or her. We can imagine many young women seeing in some degree in their own minds parallels to the case here recited, and on the one hand, stimulating thereby tendencies to hysteria if not to insanity, and on the other hand, excusing acts by the supposition that they are in the grasp of a higher power, namely, the "multiple personality."

We can foresee that some will say that the spread of knowledge is the keynote of modern civilization; but need we, on that account, give our young laity a knowledge of, say, the para-syphilitic diseases? We feel strongly on this subject, and beg to say that we think the publication of this article in a journal, other than scientific, sets an example of bad taste: may we hope it will not set a fashion?

---

### THE PASTEURIZATION OF MILK.

During the Tuberculosis Exhibition recently held, Miss Phillips of the Foundling and Baby Hospital, delivered an address upon, and a practical demonstration of the method of pasteurizing milk. In connection with this small beginning of a measure excellently preventive of disease, we note that the reports of this work in New York are interesting. The figures for the current year of the pasteurized milk supplied by the Nathan Straus Infant Milk Depots are before us; in this year, over four million bottles of pasteurized milk have been distributed, an increase of 37 per cent. over last year. This distribution began with 34,000 bottles in 1893, and its growth can mean only one thing, that it appeals to mothers as a safeguard for their children. Two thousand five hundred babies were benefited last year by these measures.

Pasteurization of milk has not its greatest work to do in the prevention of tuberculosis, but in lessening the amount of other infantile infections; it cannot take the place or obviate the necessity of strict in-

spection of dairies and milk supplies, but it is a tremendous factor in the production of safe milk, and, moreover, it is perhaps the measure that is most nearly within our reach in Montreal, because its use depends on personal effort and not upon municipal organization.

## Reviews and Notices of Books.

**GYNÆCOLOGY AND ABDOMINAL SURGERY**, in two large octavos. Edited by HOWARD A. KELLY, M.D., Professor of Gynæcologic Surgery at Johns Hopkins University; and CHARLES P. NOBLE, M.D., Clinical Professor of Gynæcology at the Women's Medical College, Philadelphia. Profusely illustrated by Mr. Hermann Becker and Max Brödel. Philadelphia and London: W. B. Saunders & Co., 1908. Per volume: Cloth, \$8.00 net. Canadian Agents, J. A. Carveth and Co., Limited, Toronto.

The second and last volume of this work has just appeared; the first volume having been published a little more than a year ago.

This work of Kelly and Noble is in several respects unique. In the first place, and as indicated by the title—Gynæcology and Abdominal Surgery—the authors have attempted to create new, and as they contend, more natural delimitations for the department of gynæcology, and have frankly and boldly demanded that all general abdominal surgery be added thereto. Again, the usual and somewhat stereotyped classifications of the ordinary text-book have been widely departed from.

This is not the place to discuss the wisdom of extending the field of gynæcology to include that of the whole abdomen. As in every other question, there are arguments for and against. These present volumes representing the first treatise in our literature, in which they are so united, will doubtless do much to establish the advancing claims of the gynæcologist.

Wide though these new boundaries are, the authors have nevertheless already transgressed them, for they have included in volume II a chapter of some 80 pages on Diseases of the Female Breast. We confess we fail to see the wisdom, in their theory or practice, of this inclusion in a treatise that professes to deal entirely with the pelvis and the abdomen, and we freely admit that such a wide overstepping of anatomical landmarks, not only gives pith and circumstance to the contention of the general surgeon of the grabbing tendencies of the specialist, but also nullifies the argument for the very existence of the specialty itself.

The new classification of the work in these volumes is, to say the least, practical. Occasionally, there is some over-lapping but the ease with

which information concerning any particular subject can be at once discovered thoroughly condones this textual duplication.

The work is in reality a series of monographs. Kelly and Noble, rather modestly as we think, are ascribed as editors of this work. Some idea of the generosity with which they have personally contributed, may be gathered from the fact that fifteen of these articles have been written by themselves.

Their fellow-contributors include some of the best known names in America, and Moynihan, of Leeds, the one non-American writer, has written an excellent article on "Operations upon the Stomach." A clear and succinct chapter on "Cæsarean and Porro-Cæsarean Section" is from the hand of J. F. W. Ross, of Toronto. For the greater part these articles or monographs are excellent. A special mention may be made of the chapter on "Bacteriology," by Ford, and of "Medico-Gynæcology," by Noble and Anspach. The chapter on "Pathology of the Reproductive Organs" is in reality a monograph, and one of the best that we have seen.

The preparation of this work has been in the minds of its editors for the past ten years. In every respect, it has been made practical and up-to-date. A wise selection has been made of operative methods, and these are well illustrated and clearly described. The authors have drawn liberally from their wide experience; to the student, the investigator and the surgeon, they clearly point out the way. The text is everywhere profusely illustrated, and the quality of these illustrations is sufficiently guaranteed by the names of Brödel and Becker.

We can confidently recommend the work.

W. W. C.

SQUINT AND OCULAR PARALYSIS, by E. LUCAS HUGHES, M.R.C.S., Eng., L.R.C.P., London. H. K. Lewis, 1907

Mr. Hughes' admirable little book supplies a long felt want, not only to the ophthalmic surgeon, but more particularly to the general practitioner who requires a terse, yet intelligent explanation of these rather obscure subjects without having to refer to the more exhaustive treatises. The reader is at once impressed by the fact that the author's views have not been obtained from any one school, but that to his own extensive clinical experience, at home he has added the best information that he could gather from visits at the Continental clinics.

After reviewing the history of squint in a very interesting manner, the author defines binocular vision and shows how squint results from a non-development of the fusion sense in early childhood. The vital importance of the early recognition of squint is impressed upon the reader

and the various methods of correction are explained. Worth's amblyoscope and the diploscope, as more recently brought forward by Rémy, of Paris, are recommended as educative factors of unusual value. A matter of the greatest importance in the author's opinion, is obtaining an absolutely correct refraction under mydriasis. After this has been done and suitable glasses have been dispensed, education of the squinting eye by means of the various stereoscopes, or either of the instruments above noted, is recommended. Mr. Hughes is most emphatic in discouraging a great deal of the meddling operative interference at present in vogue by many who will not take the pains to see what results may first be obtained by educative means. The technique of the various tenotomies and the advancement operation as recommended by Worth, are described.

The author's knowledge of the anatomy of the orbit, with a number of original drawings, as well as his ability to refrain from exhaustive and elaborate definitions, make the section of ocular paralysis unusually readable. The physiological action of the muscles, separately and combined, is tersely explained. The estimation and determination of the various forms of diplopia are clearly explained; a separate chapter is devoted to the etiology, prognosis and treatment of ocular paralysis. The various forms of ophthalmoplegia externa, interna, and totalis, are reviewed, the author recognizing Gowers' opinion regarding the degenerative and atrophic changes of the nuclei as the pathological disturbances in the chronic variety, as well as the frequency of syphilis as an etiological element in these degenerative disorders. The chief causes of the internal variety are shown to originate from cerebral lesions, general paralysis of the insane, lesions of the base of the brain, and those involving the nucleus, thrombosis of the cavernous sinus, tabes dorsalis resulting in third nerve paralysis, orbital disease pressing on the ciliary nerves, increased intra-ocular pressure due to intra-ocular growths and glaucoma, blows on the eyeball, diphtheritic and ptomaine poisoning, apoplectic coma, syphilis, and mydriatics used internally and locally.

Paralytic myosis is generally met with as one of the symptoms of tabes dorsalis, and is generally due to disease of the cilio-spinal centre. Occasionally it is caused by injury of the sympathetic nerve and by pressure upon that nerve by an aneurysm or by enlarged lymphatic glands. In tabes dorsalis the Argyll-Robertson pupil often follows the myosis as a later manifestation.

Cycloplegia or paralysis of the ciliary body results from paralysis of one or more branches of the third nerve and is most frequently produced by atropine. Other causes given are diphtheria, rheumatic fever, diabetes, syphilis and reflex disturbances. Mandonnet includes parotitis

and influenza. The careful use of eserine and the use of electricity with the positive pole at the base of the occiput and the negative pole over the closed lid, employing a current of from two to five milliamperes, is recommended. The author recommends careful attention to the general health, and the usual list of constitutional remedies is endorsed. The prognosis of post diphtheritic cases is most encouraging.

Nystagmus is claimed to have nothing to do with paralysis; it generally occurs in the horizontal direction, but it may be rotary, vertical, or follow the direction of a single muscle. It is as a rule permanent, but it may be periodic and is increased at near distance or after excitement. It may be complicated by turning the head in an opposite direction. The two types noted are the congenital and the acquired; in the former one frequently finds degenerative changes in the optic nerve, opacities in the media, patches of choroiditis and albinism. Squint may complicate the condition due to the existence of corneal opacities and congenital cataracts. Congenital syphilis and disseminated sclerosis, as well as Friedrich's ataxy are frequent causes. The acquired form is most frequently due to certain occupations; miners and others working in a strained, unnatural position, are peculiarly susceptible. The cause, according to Baer and Snell, is due to fatigue of the muscles and exhaustion of their innervation. Rest and abstinence from work is the best treatment for acquired nystagmus, while the congenital form, in the author's opinion, cannot be cured.

The disturbances of muscular balance, heterotropia and heterophoria, conclude this admirable little work; their examination, the estimation of complicated cases, and their treatment is a summary of the work of several American writers, notably Stevens. The author includes, in an appendix, instructions on the use of the diploscope; he also adds a complete bibliography. The book is well printed and a number of original drawings and diagrams add to the value of this instructive contribution to ophthalmic literature.

F. T. T.

**PULMONARY TUBERCULOSIS AND ALL ITS COMPLICATIONS.** By SHERMAN G. BONNEY, M.D., Professor of Medicine, Denver, and Gross College of Medicine, Denver. Octavo of 778 pages, with 189 original illustrations, including 20 in colours and 60 X-ray photographs. Philadelphia and London: W. B. Saunders & Company, 1908. Canadian Agents: J. A. Carveth & Company, Limited, Toronto.

In his preface the author states, that "this book is not designed for the benefit of skilled specialists in the treatment of pulmonary affections,

but for the use of general practitioners, whose opportunities for clinical study may have been somewhat limited." He desires that "the book should be devoted entirely to the clinical aspects of pulmonary tuberculosis, and an effort has therefore been made to emphasize practical considerations." A general review of the work convinces one that the purpose of the author has been accomplished. While his discussions of signs and symptoms are often found rather discursive, yet they are very helpful, and calculated to instruct those who give attention to them.

The book is divided into six parts. That part devoted to prophylaxis, general treatment and specific treatment, comprises its largest division. Each division is divided into sections, which are again subdivided into chapters, thus enabling the reader to select without difficulty any subject desired. In part six, the author gives some personal observations upon the use of bacterial vaccines—that form of treatment which is coming more and more into vogue. Like many others in this department of therapy, the author's experience is but brief, having extended over a period of less than two years. His conclusions upon this point are, that the administration of bacillar emulsion is of undoubted efficacy in some cases of long standing afebrile pulmonary tuberculosis and that the remedy also possesses possibilities of injurious influence. Further, he believes that despite the uncertainties of active autogenetic vaccines, a justification for their employment is found in the desperate character of the cases to which they are given, and their superiority over the various sera formerly used and that in some cases bacterial vaccines present possibilities of benefit far beyond the limit of former therapeutic efforts.

Under the auscultatory signs of pulmonary tuberculosis, the author discusses at some length adventitious sounds, and states emphatically that "the specific character of râles, with reference to pitch quality, and intensity, do not constitute practical data for the diagnosis of consolidated lung; and the use of the word 'subcrepitant' as descriptive of the fine moist bronchial râle has led to endless confusion. To obviate confusion, the words 'crepitant' and 'subcrepitant,' should be discontinued and moist bronchial râles be considered as *coarse*, *medium-sized* and *fine*, and râles arising from the air vesicles as *vesicular*, should be described.

Under the treatment of pyopneumothorax as it occurs in the tuberculous patient, we find that the author's experience corresponds pretty well with that observed elsewhere when a permanent opening is made in the pleural cavity.

He says, "from my observations it would almost seem that for these unfortunates, the classic inscription of Dante should be changed to 'Abandon hope all ye who have entered here.'"

The book has numerous illustrations of sanatoria, pathological specimens, and x-ray photographs of lung conditions, contains a good index, and is well printed. "It is highly recommended to all who are interested in the various phases of the "great white plague."

W. F. H.

**SURGERY: ITS PRINCIPLES AND PRACTICE.** In five volumes. By 66 eminent surgeons. Edited by W. W. KEEN, M.D., J.L.D., Hon. F.R.C.S., Eng. and Edin., Emeritus Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia. Volume III, Octavo of 1132 pages, with 562 text-illustrations and 10 coloured plates. Philadelphia and London: W. B. Saunders Company, 1908. Per volume: Cloth, \$7.00 net; Half Morocco, \$8.00 net. Canadian agents, J. A. Carveth & Co., Limited, Toronto.

The third volume of Keen's Surgery contains 1093 reading pages, in which are discussed the diseases and injuries of the head, neck, thorax, œsophagus, abdominal wall, peritoneum, stomach, liver, spleen and pancreas. There is so much material that one cannot but be impressed in some places with the evident effort at condensation. Under such conditions, and in spite of the author's best will, things are apt to take on an enumerative look, and that is unseemly in a work which purports to be a "system." Having said which one has said practically all that is less than clear eulogy.

The first chapter is on the surgery of the head by Harvey Cushing, of Baltimore. In its completeness, its originality, its extensive bibliography and its evidence of wide personal experience in a field which has hitherto been a somewhat restricted one, it is probably the best chapter in the book. Dr. Cushing's name is so well known in this specialty and the article itself is so full of sound work that it is practically impossible to mention details. Still, one should refer in particular to his treatment of hydrocephalus, of internal hæmorrhage in the new born and of cerebral apoplexy. With regard to the last his stand is still definitely conservative from the surgical point of view. He is very far from saying that all cerebral hæmorrhages should be operated on, in fact, when one considers that he refers to only four cases as yet done by himself, it is clear that in this respect he is wisely holding back. There is certainly grave danger in the idea getting abroad that every surgeon has the right to



operate upon such cases or that the indications for operations are frequently present. The chapters on concussion and compression are, as might be expected from his personal work, clear and up to date. They are possibly from one point of view a little short, still in comparison with text-books hitherto published in English, these very important subjects receive their proper attention.

The surgery of the neck is written by Dr. Andrews, of Chicago. It is on the whole satisfactory, occasionally marred by typographical and grammatical errors. The section on injuries of the thoracic duct is especially good, but the complex of diseases to which Hodgkin's disease and lymphosarcoma belong, receives but one page, which is really insufficient.

Diseases of the thyroid gland are very properly written by Albert Kocher, of Berne, and as one might expect from this school, the subject is handled in an extremely able fashion and presents our knowledge of the subject in all its rarest aspects.

Dr. Brewer, of New York, writes upon the surgery of the larynx and trachea, and also of the thorax. Both of these chapters are very creditable. In describing Fowler's decortication of the lung, one notes that he does not refer to Ranschoff's modification consisting in deep scarification by grid-iron incisions, a modification which deserves note. Sauerbruch's work on intrathoracic pressure receives good and sufficient description. Dr. Finney, of Baltimore, describes the surgery of the breast, and the article, as one might expect from the clinic of Halsted, is very good. His water colour illustration of cancer seems rather poor and he describes only one operation for cancer of the breast, that of Halsted, which he uniformly uses.

The surgery of the mouth, teeth and jaws, is by Edmund Owen, of London, the well known authority on the surgical diseases of children. In cleft palate he is in favour of the very early operation by the method of Brophy. The operation for epithelioma of the lip is insufficiently described, and Crile's recent work in the matter of block dissection of cancer in this region is not mentioned. The surgery of the tongue is by J. C. DaCosta, of Philadelphia. Munroc, of Boston, writes on the technique of abdominal surgery, the surgery of the abdominal wall and of the peritoneum and retroperitoneal space. These are sound, conservative and thoughtful articles. The discussion on peritonitis is up to date, and he favours the so-called Murphy treatment.

The oesophagus is undertaken by Gotstein, of Breslau, whose experience in the clinic of the late von Mikulicz was very large in this line and

needless to say it is well done and characterized by Teutonic thoroughness.

The surgery of the stomach is written by Mayo Robson, that of the liver, the gall bladder and the biliary ducts by the two Mayos. The surgery of the pancreas and of the spleen is by Moynihan, of Leeds. These names are sufficient of themselves and one can only say that in so far as a text-book with its limited space can set forth such subjects they are set forth satisfactorily.

E. A.

THE 'AMERICAN PRACTICE OF SURGERY. By BRYANT and BUCK. Vol. IV. William Wood and Company, New York.

The fourth volume of this, the largest system of surgery as yet published in English, maintains the high reputation established by its predecessors. The final chapter of the section on Diseases and Injuries of Joints (begun in Vol. III), deals with dislocations and occupies slightly over 100 pages. It is by Rexford, of San Francisco, who treats the subject in an able and scholarly fashion, with a broad view, both of European and of American literature. Particularly noteworthy are the numerous excellent skiagrams from the material of the Lane Hospital in San Francisco. The author's wide experience is much in evidence, and the article gains thereby. The succeeding 620 pages are devoted to operative surgery in its general aspects. De Nancrede, of Ann Arbor, writes upon "the influences and conditions which should be taken into account before one decides to operate," and under this heading discusses such matters as anæsthesia, environment, medico-legal questions, and the general bodily condition of the patient. G. B. Johnston, of Richmond, takes up "the preparations for an operation, "the operation itself," and "the after care." These are all well handled, and it is gratifying to find such general questions discussed in a surgical text-book with the proper amount of useful detail. The succeeding chapter on General Anæsthesia by Allen and Garland, of Boston, is admirable. It presents the latest views, including a discussion on rectal anæsthesia. To the latter the authors are perhaps unduly unfavourable, in view of the excellent results obtained at the Roosevelt Hospital in New York, with improved apparatus. Possibly the paragraphs devoted to the proprietary anæsthetic, somnoform, might have been omitted in favour of a description of, say, the Vernon-Harcourt apparatus for giving chloroform, which is winning commendation in England, and which is here not mentioned. The chapter on local anæsthesia is by Mitchell, of Washington. It presents chiefly the well known views of Braun, but is amplified by the large personal experience of the author. This method is deserving of much wider application, both by practitioner and surgeon,

than it enjoys, and those who wish to use it will find here the necessary directions set down with satisfying detail. The question of spinal anesthesia on the other hand receives hardly sufficient discussion, especially as regards its indications, contra-indications and dangers.

William and J. S. Rodman, of Philadelphia, write the chapter on amputations and disarticulations. It is well written and most complete. One might also say that too much space, if that were possible, is given to minute details of surgical anatomy and of operative procedure, and too little to principles, to the indications for such operations, and to their results. Such old illustrations too, as those depicting the transfusion method are hardly necessary. Criticism, however, must not be carping, and one must say frankly that the article as a whole is a very creditable one. The excision of bones and joints is discussed by Whitacre, of Cincinnati. The essentials of Murphy's work upon the preservation of joint movement in excised joints, by the interposition of flaps of fascia and fat, are reproduced; but no reference is made to the considerable amount of work done previously along this line by European surgeons. Then follow chapters on the ligation of vessels in their continuity by John M. Keyes, of New York, and on Minor Surgery by R. S. Fowler, of Brooklyn. Both are good, particularly the latter. Plastic surgery is discussed by Stone, of Boston. It is a difficult subject and is handled satisfactorily.

The last 250 pages of this 980 page book are devoted to orthopedic surgery. Painter, of Boston, writes the chapters on Congenital dislocations and Anterior poliomyelitis, and Royal Whitman, of New York, that on Deformities of the lower extremities, including the varus and valgus deformities of the hip, knee and ankle. The names of these authorities are sufficient guarantee of the excellence of the articles. Torticollis is given a very able and thorough discussion by George D. Stewart, of New York. This is one of the best chapters in the volume. The concluding article is that upon tuberculous disease of the spine and is by Clarence L. Starr, of Toronto, the only Canadian representative in this volume of the system. The author's work is decidedly well done and shows the evidence of thorough study of the abundant hospital material in the surgical diseases of children for which Toronto is so well known.

E. A.

A MANUAL OF CLINICAL DIAGNOSIS, by JAMES TODD, Ph.B., M. D. W. B. Saunders Co. Philadelphia, 1908, pp. 319.

The author states that this book aims to present a clear and concise statement of the more important laboratory methods which have clinical

value. In this object the book certainly succeeds. The usual laboratory methods adopted in the examination of sputum, urine, stomach contents, blood, etc., are clearly described, and many of the procedures are illustrated by excellent plates. The book is of convenient size and well printed, and may be recommended as a safe guide in clinical investigation.

**THE READY REFERENCE HAND-BOOK ON DISEASES OF THE SKIN.** By GEORGE THOMAS JACKSON, Professor of Dermatology, College of Physicians and Surgeons, New York, Consulting Dermatologist to the Presbyterian Hospital of New York, and to the New York Infirmary for Women and Children; Member of the American Dermatological Association, and of the New York Dermatological Society. With 99 illustrations and 4 plates. Sixth Edition, thoroughly revised. Publishers Lea and Febiger, New York and Philadelphia. 1908.

In this, the 6th edition of Dr. Jackson's work, the author has given us a volume which, at least to the general practitioner and the student, should prove of the greatest value. Though not pretending to cover the field of dermatology as fully as many of the larger works, he has succeeded in combining within the comparatively small space, all that is most important from the clinical, with all that is most practical from a therapeutic standpoint. Unlike most publications of this kind, no scheme of classification has been followed, the subjects being arranged alphabetically; this fact, together with a good index, has helped to make the book what it claims to be—a Ready Reference Hand-Book. The illustrations, which are for the most part from photographs, are good.

P. B.

**NEUROLOGICAL AND MENTAL DIAGNOSIS: a manual of methods,** by L. PIERCE CLARK, M.D., and A. ROSS DIEFENDORF, M.D., published by the Macmillan Co., of Canada, Ltd., Toronto. Price, \$1.25.

This book is published in a neat form, printed on good paper, and the type large and clear. The illustrations are excellent and very well produced. One might suggest that in a bound book, meant for practical purposes, uncut pages are out of place in this age of utilitarianism.

The first part of the book, devoted to examination of the nervous system, is written by Dr. Clarke. The usual method of examination is followed and, except for the examination of aphasia, is taken up thoroughly. One feels, however, considering the title of the book, and the fact that it is evidently meant for students, that great value would have been added had the author explained the significance of patho-

logical findings in the examination. Take a simple example for instance, we should be told that the presence of the extensor plantar response (Babinski's sign) shows a lesion somewhere in the course of the pyramidal tract and so on.

The second part by Dieffendorf is devoted to the examination of the mental condition of patients for the presence of hallucinations and illusions, clouding of consciousness, disturbances of attention, memory, orientation, etc., etc. Some of the commoner forms of insanity are illustrated by specimen cases so detailed as to give an idea of the important mental symptoms.

C. L. R.

HAY-FEVER, HAY-ASTHMA: CAUSES, DIAGNOSIS AND TREATMENT. By WILLIAM LLOYD. Henry Glaiser, London. W. T. Keener and Co., Chicago, 1908.

This, the second edition of a book of one hundred pages, is an able treatise on hay-fever. One wonders that a booklet of such size can be put on the market without evidence of a great deal of padding. The subject is very well handled and makes good reading. The historical review illustrates how the disease has obtained recognition since 1819, when it was first described by Bostock. The author claims that true hay-fever is dependent upon three factors: 1st, hypersensitive areas in the nasal mucous membrane; 2nd, a diseased, or at least an irritable condition of certain nerve centres, and, 3rd, the presence of pollen. The author points out that true hay-fever is to be differentiated from the nervous coryzas brought on by bright sunlight and other irritants. The pathology of the disease is dealt with as far as our present knowledge admits.

The author has given special attention to the treatment which is very clear and concise, ruling out a host of agents which are of doubtful value. We can recommend the volume to those wishing to know the newer points in the way of treatment.

AN AID TO MATERIA MEDICA. By ROBERT H. M. DAWBARN, M.D., New York. Fourth edition, revised and enlarged by EDEN V. DELPHEY, M.D. The Macmillan Company, Ltd., New York and Toronto.

This little work should be of value to the student as a memory aid and also to the practitioner as a ready reference. It gives in alphabetical order a list of pharmacopœal drugs with a short description of each, its derivation and doses in both systems. In this country the use of the metric system is gaining ground very slowly. It is therefore necessary that medical students should learn the doses in this system of the drugs most in use. The latter half of the work is taken up with a list of the

newer unofficial drugs and remedial agents. The fact that this last occupies quite as much space as the list of official drugs, shows with what rapidity these drugs are being placed on the market. The book, as a whole, is accurate and concise and no doubt has a place in the rapidly increasing list of students "aids."

A TEXT-BOOK OF PHYSIOLOGICAL CHEMISTRY, by CHARLES E. SIMON, B.A., M.D. Lea and Febiger, Philadelphia and New York.

A third edition of this valuable text-book has appeared. The first appeared in 1901, and became so popular that a second edition came out in 1904. Its very general introduction as a text-book in the medical schools of America since that date has induced the author and publishers to bring out this third edition. The application of chemical methods to the study of the problem of biology and physiology has of late years come into great prominence. Hence those practitioners and teachers who desire to read intelligently the recent progress in pathology, pharmacology and physiology, require just such a book as that before us for constant reference. It is, indeed, designed in form and subject matter to be not only a text-book for students, but especially a work of reference for the practitioner. The treatment of the subject is orderly and clear. All transformations, an exact knowledge of which has been worked out, are represented by equations and the constitutional formulæ of the ultimate products of the hydrolysis of proteids, as established by Emil Fischer and his school, are clearly and correctly stated. Hence, the book will be one that will appeal to the chemist as well as to the physiologist, the student and the practitioner. Particularly clear and scientific is the portion of the work dealing with the cleavage products of the nucleo-proteids and nucleinic acid. Their chemical relation to the purin and pyrimidin bodies, and these in turn to nitrogen metabolism is most satisfying. The book has an excellent index, and although not intended to be a laboratory guide, contains in an appendix a series of forty-eight laboratory exercises which are evidently the work of an experienced teacher.

R. F. R.

MANUAL OF PSYCHIATRY, by J. ROGUES DE FURSAC, M.D. Authorized translation from the French, by A. J. ROSANOFF, M.D. Second American from the second French edition. Revised and enlarged. Wiley and Sons, New York, 1908. \$2.50.

In this the second edition of this book, the entire text has been thoroughly revised, and all the author's additions in the second French edition have been introduced. The translator has made some interesting

additions to the original, such as Professor Adolf Meyer's theory of dementia præcox and others, all of which he has judiciously placed within brackets. The author follows the classification of Kraepelin, which he very properly maintains has considerable advantages to the practical alienist over the older classifications, although it is not yet by any means final. By a careful examination of the history and of the physical and mental status, the alienist is now able in the majority of instances to assign his case to one or another of the great groups and thus to determine the prognosis with a greater degree of certainty and accuracy than was possible formerly. This is the result not merely of the changes in nomenclature, but of an essential departure in the methods of taking the mental status and in the interpretation of the manifestations of the diseased mind.

The book consists of some 400 pages and is divided into two parts: the first, on general psychiatry, is useful for the beginner especially, who will find the general symptomatology and definitions of the nomenclature necessary before undertaking the second part on special psychiatry. The plan for history taking and examination strikes one as eminently impractical and involved, but as the author remarks, it can and should be modified more or less extensively as may be required.

The descriptions of the various types of mental diseases are concise and in most cases clear and good. The part on treatment might be enlarged upon with considerable advantage, especially in the chapter devoted to hysteria, and also in those psychoses which are generally considered curable.

C. K. R.

#### **PATHOGENIC MICRO-ORGANISMS, INCLUDING BACTERIA AND PROTOZOA.**

A practical Manual for Students, Physicians and Health Officers. By WILLIAM H. PARK, M.D., Professor of Bacteriology and Hygiene in the University and Bellevue Hospital Medical College, New York. New (third) edition, thoroughly revised and much enlarged. Octavo, 648 pages, with 176 illustrations and 5 full-page plates. Cloth, \$3.75 net. Lea and Febiger, Philadelphia and New York, 1908.

This is a delightful little book that we have read with much pleasure. The author has devoted the first two hundred pages to a general discussion of bacteriology, and in this part is found much information regarding the biological properties of bacteria, which is not met with in the English books. All the facts are so clearly described that one's interest is maintained throughout the study. For the practitioner, this book must serve the most useful purpose in giving the most practical

side of bacteriology,—the method to overcome infections. Sterilization of instruments, milk, water and so on is fully taken up. The value of the various disinfectants and their methods of use is very well illustrated. What strikes one throughout the work is that the practical side of the subject is so well dealt with, and that the unnecessary descriptions are left out. The organisms deserving particular attention are described in the second part, and are given such attention as they, as disease producers, merit. The subject of immunity is given clearly and concisely.

Dr. Park also recognizes the importance of animal parasites as disease producers, and, although this importance varies in different climes, he has given sufficient recognition to those pathogenic to man, to allow us a very good insight into the subject of protozoology.

As Dr. Park's book therefore covers all the disease-bearing organisms so well, we can recommend it most highly to both the student and the practitioner.

O. K.

DISEASES OF THE SKIN AND THE ERUPTIVE FEVERS, By JAY FRANK SCHAMBERG, M.D., Professor of Dermatology and Infectious Eruptive Diseases in the Philadelphia Polyclinic and College for Graduates in Medicine. Octavo of 534 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1908. Cloth, \$3.00 net. Canadian agents, J. A. Carveth and Co., Ltd., Toronto.

This is a well written book and covers the subject in as thorough a manner as can be accomplished in a work of its size. We note a few departures from the methods of classification usually adopted by dermatologists. Thus, the diseases due to animal and vegetable parasites are included under the head of "exudationes," a change for which the author offers no explanation, and one which we think tends rather to complicate than simplify what is always a difficult point to the student of dermatology, namely, the basis on which skin diseases are classified. So much has this been the case that many of the later works have ignored classification altogether and arranged the diseases in alphabetical order.

As the title indicates, the author has thought it wise to include in a book, descriptive of skin diseases, a more complete account of the exanthemata than is usual in such treatises. This is of decided advantage to the dermatologist in a question of differential diagnosis from the non-infective diseases of the skin, but, as the cutaneous manifestations are given an undeserved prominence as compared with the other symptoms in such diseases as scarlet fever, measles, and small-pox, it is hardly a safe text-book on these subjects for the practitioner.

A section on actinotherapy and radiotherapy is of interest and rates



the value of these somewhat overvalued therapeutic measures in a very just manner. The volume is well illustrated with numerous cuts in the text, and will furnish a useful little manual for students who do not wish to burden themselves with a more advanced book on the subject.

REPORT ON THE PREVENTION OF MALARIA IN MAURITIUS, By MAJOR RONALD ROSS. Waterlow and Sons. London, 1908.

This report was compiled at the request of the British Government, after Major Ross had studied the conditions and factors of the disease in Mauritius in 1907. Mauritius appears to have been free from malaria until 1835, fifteen years after the British gained possession of the island. In this year great numbers of coolies were brought from India, and sporadic cases developed through the country. The disease, however, was quiescent until 1865, when it broke out in great proportions. "In two years the island of pastoral romance fell to the condition of West Africa or the Himalayan Terai."

Major Ross gives a concise historical review of malaria, and discusses the factors associated with the spread and transmission of the disease. The appearance of malaria in a locality depends upon the introduction of mosquitos and of infected persons. These were both brought into Mauritius, though the exact mode and time of the transportation of the mosquito is uncertain.

Major Ross gives detailed statistics of the disease in Mauritius,—one of the striking figures being that one third of the children under sixteen, on this island, have malaria. He also presents the measures which must be taken to gain control of the epidemics. The report is very complete and instructive to all malaria-ridden localities, and illustrates the effective work which is carried on by the Liverpool School of Tropical Medicine.

O. K.

---

## Medical News.

---

### ONTARIO MEDICAL ASSOCIATION.

The annual meeting of the Ontario Medical Association will be held in Toronto June 1st, 2nd, and 3rd, 1909. The following are the officers:

President—Dr. H. J. Hamilton, Toronto.

Vice-Presidents—Dr. R. R. Wallace, Hamilton; A. Dalton Smith, Mitchell; Dr. A. M. McFaul, Collingwood; Dr. George Field, Cobourg.

General Secretary—Dr. E. Stanley, Ryerson. 243 College Street, Toronto.

Assistant Secretaries—Dr. Samuel Johnston, 169 Carlton Street, Toronto; Dr. J. E. Davey, 145 King Street, Hamilton.

Treasurer—Dr. J. Heurner Mullin, 201 James Street South, Hamilton.

Chairman Committee on Papers and Business—Dr. Herbert A. Bruce, 64 Bloor Street East, Toronto.

Chairman Committee on Arrangements—Dr. Bruce L. Riordon, 73 Simcoe Street, Toronto.

The following is a list of the sections with their officers: Surgery—President, Dr. G. A. Bingham; Secretary, Dr. A. B. Wright. Medicine—President, Dr. W. H. B. Aikens; Secretary, Dr. F. A. Clarkson. Obstetrics and Diseases of Children—President, Dr. Adam Wright; Secretary, Dr. J. A. Kinnear. Eye, Ear, Throat and Nose—President, Dr. D. J. G. Wishart; Secretary, Dr. C. Campbell. Preventive Medicine—President, Dr. C. Sheard; Secretary, Dr. C. J. Hodgetts.

Papers are announced as follows:—

Dr. John B. Deaver, Philadelphia; Dr. E. F. Cushing, Cleveland, on "Copious Water Drinking in Typhoid Fever;" Dr. W. P. Manton, Detroit; Dr. Little, Montreal; Dr. C. H. Vrooman, Winnipeg; Dr. A. Baines, Toronto; Dr. McFaul, Collingwood; Dr. Slemons, New York; Dr. McDonald, New York; Dr. J. M. Elder, Montreal; Dr. J. M. Rogers, Ingersoll; Dr. Hadley Williams, London; Dr. H. B. Anderson, Dr. W. McKeown, and Dr. C. B. Shuttleworth, Toronto; Dr. E. Ryan, Kingston.

---

#### CANADIAN MEDICAL ASSOCIATION.

The next meeting of the Canadian Medical Association will be held at Winnipeg, August 23rd, 24th and 25th, 1909. The following officers and committees have been appointed: Dr. Blanchard, President. Committee on Transportation—Drs. Blanchard, Vrooman, Mackenzie, Moorhead, Rogers, Leney. Ophthalmology and Otology—Drs. Prowse, Turnbull, Smith, Good, Raymond, Brown, Williams. Entertainment—Drs. Rogers, Field, Devine, Milroy, Young, Fletcher. Finance—Drs. Patterson, Simpson, Pope, Brandson, Popham, Moody. Pathology—Drs. Bell, Pierce, Vrooman, Webster, Leeming. Credentials—Drs. S. Campbell, Kenny, Mitchell. Exhibit and Accommodation Committee—Drs. Munroe, Coulter, Davidson, W. G. Campbell, A. M. Campbell, Hiebert, Dubuc, Burridge. Medicine—Drs. J. R. Jones, Hunter, MacDonnell, Rorke, Bjornson, E. W. Montgomery, Chestnut, McCalman.

Executive—Drs. Chown, Smith, Blanchard, Milroy, Devine, McLean, J. R. Jones, Halpenny, Vincent, Hughes. Surgery—Drs. Nichols, McLean, Blanchard, Todd, Lehmann, Galloway, D. S. Mackay, J. McKenty. Advertising and Publication—Drs. Hugh Mackay, Hughes, D. Stewart, D. Macdonald.

Dr. C. D. Parfitt, who was for six years physician-in-charge of the Muskoka Free Hospital for Consumptives at Gravenhurst, Ont., and has been for the last seven months resident consultant to that institution and the Muskoka Cottage Sanatorium, has resigned his position. Dr. Parfitt will remain in Gravenhurst and continue practice in pulmonary and laryngeal tuberculosis.

Dr. Francis P. L. Cantlie, of Montreal, died on the 10th November, in his thirtieth year. He graduated from McGill University in 1907, and was house-physician in the Royal Victoria Hospital during the next year. During the last two years, Dr. Cantlie was almost completely an invalid, but his death, nevertheless, was unexpected.

Dr. Alfred Caulfield has been appointed resident pathologist to the Muskoka Hospital of the National Sanatorium Association, and Dr. W. S. Lemon was added to the resident staff. Dr. W. B. Kendall continues as medical superintendent.

Dr. C. K. Clarke, Superintendent of the Asylum for the Insane, Toronto, has been appointed Dean of the Faculty of Medicine of Toronto University, in succession to Dr. R. A. Reeve, who has resigned.

## Retrospect of Current Literature.

### OPHTHALMOLOGY.

UNDER THE CHARGE OF DRs. STIRLING, BYERS, MATHEWSON, MCKEE, TOOKE.

DE SCHWEINITZ, GEO. E. "Autointoxication: A Further Contribution to the Possible Relationship of Autointoxication to Certain Diseases of the Cornea and Uveal Tract."

At a meeting of the Section on Ophthalmology of the American Medical Association in Boston, 1906, de Schweinitz presented a paper on "Autointoxication in Relation to the Eye," and concluded this com-

munication with the following summary: "Although we do not know the entity of a single autointoxication, except the acidosis of diabetic coma, and although we know that no known autointoxication is to be attributed to any known end product of any known metabolism, to quote Alonzo Taylor, we do know, from clinical analogy, at least, that autointoxications exist, even if their true nature is as yet a secret. We do know, too, that after food is swallowed, and before the end products of assimilation are eliminated, there may be processes arising under abnormal conditions which yield poisonous products foreign to normal metabolism, the reabsorption of which may be followed by definite symptoms. We have reason to believe, in the absence of other causes, that under these conditions ocular troubles may also arise (largely in the corneo-scleral and uveal tracts, and probably, in so far as the nervous apparatus is concerned, in manifestations to which we apply the term acute or chronic retrobulbar neuritis. We do not know whether these toxins, whatever they may be, actually are the only and sole cause of these conditions, but such examinations as have been made by Elschmig, Kraus, Groyer, Edsall and myself, at least indicate that, to use Elschmig's term, they may be considered accessory causes. As Edsall and I have said, they may be able to play a certain part in the production of the symptoms, and at times are probably the direct cause of their continuance, even when other more commonly accepted etiologic factors have ceased to be active."

As the subject appeared to have excited some interest among certain of his ophthalmic confreres, de Schweinitz continued his investigations, and presented at the last meeting of the A. M. A., Chicago, 1908, reports of a series of cases in which there seemed to be a certain justification for presenting them as worthy of consideration from the standpoint of autointoxication, because the ocular conditions of the cases reported suggested a toxic stage, because the constitutional symptoms in some of them were analogous to symptoms of chronic infections and gastro-intestinal diseases, and because the physical examinations of the patients were, in a measure, indicative of similar etiologic factors.

The general and laboratory examinations in the study of the patients were carried out by Dr. Charles A. Fife, who drew up the following *résumé* of those products detected by urinary analysis, and examination of the fœces and gastric contents, which permit one to indulge in the belief that autointoxication and its effects are worthy of consideration. As this epitome is of the widest interest to the profession, no apology is needed for reproducing it here in full.

1. *Examination of Urine.*—The urine is usually scanty, of dark colour, and albumin, cylindroids and casts may be detected. The presence of acetone, diacetic acid and oxybutyric acid suggests acidosis and derangement in fat metabolism. Indol and skatol, which are the result of bacterial action on an end product of tryptic digestion, unite chiefly with sulphuric acid, forming part of the so-called conjugated sulphates or ethereal sulphates. Phenol and cresol are formed from tyrosin by bacteria and are chiefly eliminated, as are indol and skatol, as conjugated sulphates. These aromatic bodies, that is, indol, skatol, phenol and cresol, but more especially their conjugated forms, are valuable indicators in the urine of protein decomposition products, that is, of intestinal putrefaction; but when considered alone they are not pathognomonic of autointoxication, even though tissue putrefaction is excluded, because the excretion of aromatic bodies may be much in excess of the average normal, and yet no other evidence of disease can be detected. This is especially true of any single type, such as indican.

Urobilin is probably formed from bile pigments in the intestines by the action of bacteria, and hence has been regarded as something of an index to bacterial activity in the intestinal tract. This, however, has not been proved. The volatile fatty acids (formic, acetic, butyric and propionic) have also been regarded, to a certain extent, as indications of carbohydrate fermentation in the intestinal tract. In this respect, however, the volatile fatty acids are uncertain guides, because under some conditions they are increased without the accompanying carbohydrate fermentation. Therefore, the degree of fatty acidity is not of value (when considered alone, but in relation to the diet of the patient, to the presence or absence of acetone, aromatic bodies, urobilin, ammonia, nitrogen and conjugated sulphates, it is, at least, of interest and probably of value. The presence of cystin, leucin, tyrosin and hydrogen-sulphid is of no importance unless associated with other evidences of autointoxication.

The total nitrogen, urea, uric acid, ammonia nitrogen and albumin, when considered in connection with the character and amount of diet, furnish important data on the condition of nitrogen metabolism. The average output of these substances in twenty-four hours, on an average diet, of a healthy adult, is approximately: urea, 20.0 gm.; uric acid, 0.2 gm.; ammonia nitrogen, 0.6 gm.; total nitrogen, 14.0 gm.

Inasmuch as ammonia nitrogen probably bears a reciprocal relation to urea, except where there is an increased formation of acids in the system, the increase of ammonia is an index, though not a perfectly trustworthy one, of acidosis to be confirmed by detection of excess

acetone, diacetic acid, and oxybutyric acid. The sulphates are derived principally from the catabolism of protein material in the body. The largest amount unites with inorganic elements, forming the so-called preformed sulphates, approximately 1.5 to 2.5 gm., being the daily output of a normal adult on an average diet. The conjugated sulphates are the sulphates combined with the aromatic protein decomposition products, averaging from 0.1 to 0.25 gm. per diem, the normal ratio to preformed sulphates being 1 to 10. An increase in amount of the conjugated sulphates is our most reliable evidence of intestinal putrefaction.

2. *Examination of Feces.*—Naturally, a diagnosis of intestinal auto-intoxication cannot be made in the absence of a thorough examination of the feces, and certainly not in the absence of inspection of the dejecta, in order to note their colour, odour, reaction, consistency, state of digestion and the presence or absence of the signs of fermentation, etc.

3. *Examination of Gastric Contents.*—This also is important, in order to ascertain the state of digestion of the test meal, the evidence of retention and decomposition, the presence of acid products of fermentation, the total gastric acidity and the amount of free hydrochloric acid, the presence of sarcinae, yeast, etc.

The cases studied by de Schweinitz were six in number, and included relapsing sclero-keratitis, bilateral parenchymatous keratitis, disseminated exudative chorioiditis, relapsing uveitis, and central exudative chorioiditis in association with peripheral retino-chorioiditis. With the data furnished by exhaustive studies along the lines indicated, dietetic regimina were instituted with brilliant results in three cases, and a striking if not brilliant result in another patient.

De Schweinitz concluded his important paper with the following paragraphs interrogatively stated:

1. Is there any known disease of any of the histologic systems of the eye which of itself would justify the inference that an intestinal auto-intoxication is present? Certainly not, because, in the first place, we have no definitely certain knowledge of any specific intoxication depending upon the non-elimination of metabolic products, and, in the second place, the clinical pictures of ocular diseases, for example, of the uveal tract, may be identical, although their etiology may be widely different.

2. Have laboratory examinations isolated any definite toxin to the influence of which could be attributed any of the diseases of the eye at present under consideration? They have not. Hence, if such a criterion of the diagnosis of an auto-intoxication is necessary, as I have already stated, none of the cases recorded could be regarded as expressions of metabolic disorders.

3. Is it worth while, negative answers having been given to questions 1 and 2, to pursue the line of investigation in the cases under consideration? It would certainly seem so. At least we find or do not find the evidences of intestinal putrefaction and become acquainted with the patient's nitrogen metabolism. If the metabolism is abnormal it may be restored to the normal by a dietetic regimen, which could not be worked out in the absence of the data furnished by such examinations.

W. G. M. B.

---

### Society Proceedings.

---

#### MONTREAL MEDICO-CHIRURGICAL SOCIETY.

The second regular meeting of the Society was held Friday evening, October 15th, 1908, Dr. W. Grant Stewart, Vice-President, in the Chair.

Before the regular business of the meeting was proceeded with, Dr. G. P. Girdwood brought forward the question of the housing of the consumptive and their care in this city. He cited the case of a young man but six weeks out from the old country, in the last stages of consumption. The people where he boarded demanded his removal, but not one institution could be found in the city or outside where he could be placed. Eventually after much litigation he was deported back to his home. Other cases in the same circumstances are constantly being sent to gaol. Dr. Girdwood was of the opinion that the Government should take up this matter, and that as in England each municipality or county be compelled to provide for such cases. Dr. Girdwood therefore moved that this Society appoint a committee to enquire into the matter with a view to approaching the government and to secure legal advice if necessary on the procedure necessary. This was seconded by Dr. Lauterman.

W. GRANT STEWART, M.D.—I think this is a very important question and well worth the attention of this Society. I may say that at the last meeting of the Tuberculosis League two days ago, a letter was read from Lieut. Col. Burland, in which he agreed to give \$50,000 for the establishment of a dispensary with probably 12 or 20 beds for the care of incurable cases, on condition that another fifty thousand be subscribed by the community within three months, and it is hoped that something will be accomplished in the not very distant future.

M. LAUTERMAN, M.D.—I was always under the impression that the Home for Incurables at Côte des Neiges would accept such cases as Dr. Girdwood has described; of course their capacity is limited. It has often occurred to me that the law in this connection is not as defective

as is its application. I do not see any reason why tuberculosis should be regarded in any different light from scarlet fever or diphtheria; it may be that the seriousness of these diseases appeals more to the public because they are more familiar with them; the facts are, however, much the same, and tuberculosis is fully as great a menace to the community as is scarlet fever or diphtheria.

As I understand the law the City is supposed to look after all infectious and contagious diseases, and I think that if the matter were pressed hard enough, they would realize their duty. Anything that this Society can do in the way of securing just such facilities for these unfortunates as Dr. Girdwood has described, I am sure would be willingly done.

G. P. GIRDWOOD, M.D.—With regard to the Hospital for Incurables at Côte des Neiges I enquired there for my patient and found that they had a waiting list for six months to come. This was practically the same with the Grace Dart Home. In order to be effective, any laws enacted would have to be Federal, so that the county from which the patient came would be held liable for his upkeep.

DR. H. A. LAFLEUR.—I would suggest in connection with this motion that anything which this Society would do in this matter should be done in conjunction with the Tuberculosis League, as well as any other Society or Institution interested. At present the Tuberculosis League is supposed to be looking after this matter and they have got so far as having the Government name a Royal Commission.

#### TWO RECENT CASES OF AN UNCOMMON FORM OF PERIPHERAL PARALYSIS.

D. A. SHIRRES, M.D.—Read the report of these cases.

A. G. MORPHY, M.D.—I should like to ask Dr. Shirres if he was able to assign any cause to the disturbance in the first case.

DR. GURD said that this patient had had an indefinite attack of influenza in February, and was in bed then for four or five days, and for the next fortnight was still pretty miserable. After this, though going out and about, noticed that she easily tired. Towards the end of March, from exposure to cold with insufficient clothing, she contracted what appeared to be a second attack of la grippe; there was fever and very severe headache lasting several days and not relieved by fair doses of phenacetin.

#### ACUTE DILATATION OF THE STOMACH.

A. G. NICHOLLS, M.D.—read the paper of the evening.

GEO. E. ARMSTRONG, M.D.—I am sure that we are all indebted to Dr. Nicholls for the carefully prepared paper which he has just read and for the masterly way in which he has put before us the subject of



arterio-mesenteric obstruction. The condition has been only comparatively recently recognized by surgeons. I reported briefly a few cases in one of the discussions which took place before this Society last year. I think many surgeons in looking back, will recall conditions bearing close resemblance to arterio-mesenteric obstruction which are most suggestive, and unfortunately most of these cases succumbed. While physicians will probably meet it most frequently in prolonged illnesses like typhoid fever, in which, the patient having been in bed for a long time, the small intestines have gradually dropped down into the pelvis, dragging the mesentery with them, it occurs in surgical practice more commonly after operations, particularly after operations on the abdomen. All the cases in which I have recognized it myself have occurred during convalescence from appendicitis operations. The appearance of the abdomen in each case has appeared after the bowels have been thoroughly moved many times and the patient is supposed to have passed the danger line and to be recovering. At this time vomiting begins and recurs. On inspection the epigastric region is found to be greatly distended and rounded, while the lower abdomen may be quite flat and flaccid. In three of my cases the condition has developed while the patient was being treated for general peritonitis in the Fowler position, and it would seem but natural that this position would rather favour the development of this particular form of obstruction. Stomach lavage alone in these cases is useless; the stomach continues to refill and the vomiting to recur to the end. On the other hand, if the position of the patient is reversed and the Fowler changed to an exaggerated Trendelenburg position, the stomach then immediately is relieved and the recovery goes on smoothly after one or two gastric lavages. I think that the recognition of the pathology of this condition, and the postural treatment which it suggests, should certainly tend to still further improve our results in abdominal surgery.

D. A. HINGSTON M.D.—One case that came under my notice is, I think, of interest. A girl of fifteen was admitted to the Hotel-Dieu suffering from faecal fistula following appendix abscess which had been operated on two years before. Laparotomy was performed and the fistula closed. Vomiting after the operation was exceptionally severe and persistent, the child dying 48 hours later. A partial post mortem was performed and it was found that the stomach and duodenum were markedly dilated, the distension ceasing abruptly where the duodenum was crossed by the root of the mesentery. Below that point the intestines were collapsed. The mesenteric glands, especially those nearest

the root, were greatly enlarged and this mass of glands was pressing on the duodenum and causing the obstruction. I mention this case as I do not think Dr. Nicholls spoke of enlarged glands as a possible cause of obstruction of the duodenum.

J. G. ADAMI, M.D.—I should also like to add my word of praise of Dr. Nicholls for this thorough and scientific study of acute gastric and duodenal dilatation,—a study which I know has engaged Dr. Nicholls for several years. I still remember vividly the first case which he and I came across of this condition, the first of the Royal Victoria Hospital series reported by him this evening. It was so unexpected. Here was a young fellow, whose main condition appeared to be one of acute generalized gonorrhœa, with rapid failure and death. I shall never forget the huge size of the stomach, the equally striking dilatation of the duodenum, and the tense band of the vessels of the radix mesenterii under which the duodenum passed and beyond which the bowels were of normal calibre. The way in which the two ends of the mesenteric vessels sprung apart when I cut it across was very striking. Later we came across the other cases referred to by Dr. Nicholls.

What impressed me in that first case was the accumulation of the small intestines in a balled up mass, lying well in the pelvis. It seemed here very definite that the pull of this mass of the small intestines over the pelvic prominence upon the elongated mesentery was the essential cause of the obstruction, it being remembered that the young fellow was lying upon his back. But certainly this pull will not explain all cases, especially that group of which laparotomy or other operations appear to be a predisposing cause. It is interesting to observe how, during the last year or two pathologists and surgeons in various parts of the world have been calling attention to the ill effects of narcosis in setting up advanced necrotic disturbances in the liver, almost simulating yellow atrophy, along with severe vomiting and other indications of gastric disturbance. Have we here merely to deal with a mechanical alteration in the relationship of parts, due to the narcosis? I hardly think so. The indications are that we deal with a definite toxic condition, which, on the one hand, may show itself more particularly in liver disturbances; on the other, in this profound vomiting and dilatation of the stomach and duodenum. For myself, I am inclined to separate this group of cases from another group in which the causation is purely mechanical.

M. LAUTERMAN M.D.—I had the privilege of working under Professor Rokitansky in Vienna several years later than the case cited by

Dr. Nicholls, and I may say that in his teaching he emphasized three cardinal principles in this connection.

The patient should not be starved before operation; they were permitted nearly all foods until the night before operation, which was usually performed in the early morning, and it was a common thing to let a patient have a cup of broth shortly before the anæsthetic was administered; he usually used Chloroform.

We were also taught that if there was any waiting to be done, it was the operator and not the patient who should do it, so that the patient was not kept under the anæsthetic any longer than was absolutely necessary.

Another feature of his work, was the avoidance of all unnecessary manipulation; viscera were not removed from the abdominal cavity for the purpose of demonstration, and unless it was especially indicated every organ in the abdomen was not handled.

The few cases of dilatation that I can recall having seen here, were treated by posturing and high enemata, which always seemed to afford relief.

A. G. NICHOLLS, M.D.—I should have liked in this paper to have said considerably more on the pathogenesis and diagnosis of the condition, but time would not permit. I simply had to indicate what I thought were the more important features. One point brought up by Dr. Garrow in regard to the origin of the large amount of fluid vomited up or removed by lavage, is explained on the ground of obstruction of the intestine high up. It is supposed that normally there is a large amount of secretion from the stomach, liver and pancreas which is absorbed by the bowel. In cases of duodenal obstruction, this fluid is not absorbed and passes into the stomach, there to collect. Sometimes 8, 9 and 10 or more pints have been removed in these cases. Dr. Hingston's case is, I think, unique where the obstruction was due to enlarged glands about the duodenum, but it is quite easy to see how such could be a cause in this situation.

---

# INDEX TO VOL. XXXVII.

- A**BBOTT, MAUDE E., M.D., a chart for the study of congenital cardiac diseases, 170
- Abscess of the brain. Partial auditory and visual aphasia with object blindness. Colin K. Russel, M.D., 517
- Accessory caruncle, 155
- Adami's pathology, 676
- Adami, J. George, classification of tumours, 506
- On a giant celled rhabdomyosarcoma from the trout, 163
- Address, inaugural, of the Medical Faculty of McGill University, by G. A. Gibson, M.D., LL.D., 699
- President's, Canadian Medical Association, F. Montizambert, M.D., 477
- Adenomyoma of the uterus—Cullen, 744.
- Aids to surgery—Cunning, 294
- American practice of surgery—Bryant, 890
- Association, American, Laryngological, 446
- American Medico - psychological, Vol. XIII, 56
- of American Physicians, Transactions, Vol. XXII, 1907, 294
- American Surgical, Vol. XXV, 56
- American teachers of diseases of children, 377
- Canadian Hospital, 61, 295
- Canadian Medical, 230, 379, 454, 522, 524, 898
- Dental, 753
- Ontario Medical, 374, 458, 897
- Anatomy, descriptive and surgical—Gray's, by John Chalmers Da Costa, 834
- human—Piersol, 131
- surgical applied, 55
- Appendix in inguinal canal and scrotum, E. J. Williams, M.D., 191
- Armstrong, G. E., M.D., pancreatic cyst, 272
- Atlas and textbook of human anatomy, Sabotta, 371.
- B**ELL, JAMES, M.D., excessive length of sigmoid flexure, James Bell, M.D., 257
- Biblical medicine and hygiene, H. B. Murphy, B.A., M.D., 83
- Bier's hyperæmic treatment, Meyer and Schmieden, 743
- Bi-focal vision—in the use of lenses specially adapted for the estimation of, by Fred. T. Tooke, B.A., M.D., 608
- Bilharziosis, R. P. Campbell, M.D., 178
- Birt, Arthur, M.D., Thomsen's disease (congenital myotonia) by a sufferer from it, 772
- Blood cells, origina of, Oskar Klotz, M.D., 243
- stains—Sutherland, 135
- “Blue Baby,” 17 years old, Norman Viner, M.D., 181
- Brace for loose semilunar cartilage—Nutter, 767.
- Bromural, a new sedative and hypnotic, H. A. Cassebeer, M.D.
- Browne, J. George, M.D., some clinical observations on epidemic cerebro-spinal meningitis, 98
- Burland, Colonel, gift of, 833
- Bushnell, F. G., M.D., D.P.H., the treatment of infective diseases by bacterial vaccines, 403
- C**AESAREAN Section, R. E. Webster, M.D., 821
- Campbell, R. P., M.D., bilharziosis, 178
- Hanford McKee, M.D., and P. G. White, M.D., the ophthalmo-tuberculin test, two severe reactions, 780
- renal tuberculosis, 108
- the spirochaete pallida—its relation to syphilis—a review of the, H. McKee, M.D., and P. G. White, M.D., the ophthalmo-tuberculin reaction, 276
- Carcinoma, primary, of appendix, A. E. Garrow, M.D., and C. B. Keenan, M.D., 340
- Cassebeer, H. A., M.D., bromural—a new sedative and hypnotic, 342
- Cerebro-spinal meningitis, treatment of by Flexner's serum, F. G. Finley, M.D., P. G. White, M.D., 655
- Charlton, M., medicine in Canada, 424, 735
- Opsonins and opsonic index, 354
- Chemistry, physical, in medicine—Pauli, 54
- Chigger fleas, 474
- Chorio-epithelioma malignum, by F. A. L. Lockhart, M.B. (Edin.), M.D. (McGill), 784
- Clinical bacteriology and hæmatology for practitioners—Emery, 746
- diagnosis—Todd, 891
- Confessio medici—author of “The Young People,” 372
- Congenital, cardiac diseases, a chart for the study of, Maude E. Abbott, M.D., 170
- Hypertrophic stenosis of Pylorus, by F. J. Shepherd, M.D., 866
- Congress, German surgical, 543
- International medical, 209
- of tuberculosis, 230
- Conjunctiva, a new pathogenic organism of, Hanford McKee, B.A., M.D., 173
- Consumption—Davis, 683
- Consumptive, what shall be done with the, 739
- Counsel of perfection, 440
- Craig, R. H., M.D., complete occlusion of both anterior nares, 193
- Cutaneous horn, case of John M. Elder, B.A., M.D., 33
- therapeutics—Hardaway and Grindon, 55
- Cystitis in women, modifications of treatment, Ethice McDonald, M.D., 195

- D**EAN, the new, 675
- D**ermatitis exfoliativa neonatorum (Ritter's disease), Malcolm Mackay, M.D., 267
- D**erome, Wm. J., M.D., compound comminuted fracture of the skull—operation—recovery, 725
- D**isagnosis and treatment of pulmonary tuberculosis—Pottenger, 369
- D**iphtheria, trachean and bronchial, 847
- D**isease, treatment of—Wilcox, 530
- D**iseases of children for nurses—McCombs, 60
- of infancy and childhood—Fischer, 836
- of nose and throat—Kyle, 681
- of the nose and throat—Tilley, 451
- of the skin—Stelwagon, 67
- of the skin—Jackson, 892
- of the skin—Schamberg, 396
- D**isinfection of rooms, by Autane, 548
- D**uodenal ulcer, its diagnosis and surgical treatment, A. E. Garrow, M.D., 432
- D**uval, C. W., M.D., melano-sarcoma of the common bile duct, 270
- E**CTOPIC gestation, 79
- E**lder, John M., B.A., M.D., case of cutaneous horn, 38
- E**ssentials of refraction—Atkinson, 835
- E**vans, D. J., M.D., obstetric nursing, 22
- E**xperimental "work-arteriosclerosis," Oskar Klotz, M.D., 165
- E**xtra pharmacopæpia—Martindale and Westcott, 634
- E**ye, commoner diseases of, Wood and Woodruff, 223, 533
- E**yelid, accessory, Geo. H. Mathewson, M.D., 734
- F**LEET, a machine for the forcible correction of deformed—J. Appleton Nutter, B.A., M.D., 88.
- F**eud in Halifax, 440
- F**ibroid tumour of uterus, Laphorn Smith, 769
- F**ibroma, calcified, of the orbit, J. N. Roy, M.D., 721
- F**inley, F. G., M.D., and P. G. White, M.D., treatment of cerebro-spinal meningitis by Flexner's serum, 655
- F**itzgerald, J. Gerald, M.D., the differential diagnosis of some former mental disease, with a note as to treatment, 586
- F**ractures, treatment of—Scudder, 130
- F**yshe, J. C., M.D., gunshot wound causing rupture of bowel without damage to peritoneum, 346
- G**ALL bladder perforation, E. J. Williams, M.D., 191
- G**ardner, Wm., M.D., ovarian dermoid tumour communicating with the rectum, 176
- G**arrow, A. E., M.D., duodenal ulcer, its diagnosis and surgical treatment, 432
- and C. B. Keenan, M.D., primary carcinoma of appendix, 340
- G**astric ulcer, hæmorrhage from, 237
- G**eikie, Dr. W. B., honour to, 364
- G**ibson, G. A., M.D., inaugural address of the Medical Faculty of McGill University, 699
- G**onococcus as a factor in infection following abortion, or full term delivery, Fraser B. Gurd, B.A., M.D., 798
- G**onorrhœa in male, treatment of—Leedham—Green, 684
- G**ordon, A. H., M.D., Vincent's angina, 190
- G**unshot wound, causing rupture of bowel without damage to peritoneum, J. C. Fyshe, M.D., 346
- of upper end of humerus, requiring incision of head of humerus, J. Guy W. Johnson, M.A., M.D., 333
- G**urd, Fraser, B.A., M.D., gonococcus as a factor in infection following abortion or full term delivery, 798
- G**ynæcology—Kelly and Noble, 883
- H**ÆMORRHAGIC disease of infants, Malcolm Mackay, M.D., 268
- H**amilton, W. F., M.D., infantile scurvy, 117
- some further observations on pneumothorax with especial reference to "spontaneous pneumothorax" or pneumothorax in those apparently healthy, 492
- H**ay fever—Lloyd, 893
- H**eat disease and Pregnancy—J. C. Cameron, M.D., 851
- H**eat, diseases of—Nothnagel's system, 222
- "Hepatic toxæmia"—fatal acetonaemia, F. J. Williams, B. A., M.D., 407
- H**ip disease, rational and effective treatment—Bennie, 835
- H**istory of study of medicine in British Isles—Moore, 288
- H**ospital, Montreal General, 228, 752
- Montreal Maternity, 43
- Notre Dame, 229
- Royal Victoria, 61, 137, 138, 194, 753, 837
- Toronto General, 45, 129
- training-school methods—Aikens, 60
- Western, 136
- H**ydrotherapy—Baruch, 532
- H**ygienic and public health—Parkes, 226
- H**ypopion iritis, associated with epidemic cerebro-spinal meningitis, Fred. T. Tooke, B.A., M.D., 184
- H**ypospadias, 399
- I**MMIGRANT, the undesirable, 285
- I**nfant mortality in Montreal, 741
- I**nfantile hemiplegia, 473
- I**nstitute for medical research studies, Vol. 3, part 3, 682
- I**nternal diseases, treatment of—Ortner, 530

International clinics, 135, 370

**J**OHNSON, J. GUY, W., M.A., M.D., two cases of gunshot wounds of upper end of humerus requiring incision of head of humerus, 333

**K**EENAN, C. B., M.D., and A. E. Garrow, M.D., primary carcinoma of appendix, 340

Klotz, Oskar, M.D., experimental "work-arteriosclerosis," 165  
origin of blood cells, 243  
trypanozomes in Montreal rats, 169

**L**ABORATORY handbook for bacteriology—Abel, 371  
methods and tests—French, 295  
Lachapelle, Dr. E. P., and Laval University, 126

Landmarks and surface markings of the human body—Rawling, 750

Lateral curvature forcible correction of—Nutter, 765

Lockhart, F. A. L., M.D., (McGill), M.B., (Edin.), chorio-epithelioma malignum, 784

**M**ACALLUM, A. B., Ph.D., Sc.D., LL.D., F.R.S., scientific spirit in medicine 1

MacCordick, A. Howard, M.D., opsonic technique, 499

Mackay, Malcolm, M.D., dermatitis exfoliativa neonatorum (Ritter's disease), 267

hæmorrhagic disease of infants, 268  
nares, congenital atresia of, 266

McCrae, John, M.B. (For.), M.R.C.P. (Lond.), scarlet fever, some observations upon 325 cases, 627  
unilateral absence (congenital) of the paired genito-urinary organs, 177

McDonald, Ellice, M.D., some modifications of the treatment of cystitis in women, 195

McGill convocation in medicine, 533  
Medical Faculty, the ex-dean and governor, 740  
post graduate course, 359  
Journal club, 287  
new auspices at, 674

McKee, Hanford, B.A., M.D., the cultural features of a new pathogenic micro-organism of the conjunctiva, 173

R. P. Campbell, M.D., and P. G. White, M.D., the ophthalmotuberculin reaction, 276

R. P. Campbell, M.D., and P. G. White, M.D., the ophthalmotuberculin test, two severe reactions, 730

**M**ANUAL of diseases of infants and children—Rurah, 373  
practice of medicine—Stevens, 56  
Malaria, Prevention of, in Mauritius—Ross, 897

Martin, C. F., M.D., mediastinal sarcoma with extensive involvement of heart, 179

Materia Medica—Dawbarn, 893

Maternity—Fry, 293

Mathewson, Geo. H., M.D., accessory eyeKd, 734

Mayo's surgical clinic, A. Laphorn Smith, M.D., 323

Medical development in Kingston, 125

diagnosis—Greene, 136  
examinations questions of the conjunct board, 683

expert, the, 521  
fees, 47

reciprocity, 360

Medicine and therapeutics—Wheeler and Jack, 744

in Canada, 424  
M. Charlton, 735

Melano-sarcoma of the common bile duct, C. W. Duval, M.D., 270

Meningitis, acute pneumococcal, 847  
epidemic, cerebro-spinal, some

clinical observations on, by J. George Browne, M.D., 98

purulent, in an infant, 242  
treatment of, 214

Meningococcus from eye in cerebro-spinal meningitis—Hanford McKee, B.A., M.D., 859

Mental disease, differential diagnosis of, with a note as to treatment, John Gerald Fitzgerald, M.D., 586

Minor medicine—Wynter, 293

Modern electro-therapeutics—Strong, 293

medicine, Vol. IV, 679

Montzambert, F. J. S. O., M.D., F.R.C.S., Eng. D.C.L., presidential address, Canadian Medical Association, 1908, 477

Munro, John C., M.D., surgical rights of the public, 641

Murphy, H. E., B.A., M.D., biblical medicine and hygiene, 83

**N**ARES, complete occlusion of both anterior, R. H. Craig, M.D., 193

posterior, congenital atresia of, Malcolm Mackay, M.D., 266

Natural history of cancer—Williams, 678

Nervous and mental diseases—Patrick, 292

Potts, 373  
monograph series I, 290

Neurological and Mental diagnosis—Clark and Diefendorf, 892

Neuritis, central, Elbert M. Somers, M.D., 713

Nutter, J. Appleton, M.D., fracture of the neck of the radius, 728

a machine for the forcible correction of deformed feet, 88

**O**BSTETRICAL notes from European clinics, 217

Obstetric nursing, D. J. Evans, M.D., 22

- Olmstead, Ingersol, M.D., narrowing of the uterus treated by operation, 35
- Operating room and patient—Fowler, 57
- Ophthalmia neonatorum — Stevenson, 226
- Ophthalmo-tuberculin reaction, R. P. Campbell, M.D., H. McKee, M.D., and P. G. White, M.D., 276  
test, two severe reactions, Hanford McKee, M.D., R. P. Campbell, M.D., and P. G. White, M.D., 730
- Opsonic index, effect of anaesthesia on, A. C. Rankin, M.D., M.R.C.S., 40  
method of treatment—Allen, 289  
technique—A. Howard MacCordick, M.D., 499
- Opsonins and opsonic index, M. R. Charlton, 354
- Orient, a winter cruise to, Casey A. Wood, M.D., 549
- Organization in the west, 832
- Osler's modern medicine, 223
- Osteomyelitis of the tibia with death of the whole diaphysis—Hutchinson, 763
- Ovarian dermoid tumour communicating with the rectum, Wm. Gardner, M.D., 176
- P**ANCREAS, surgery and pathology of, Mayo Robson, 59
- Pancreatic cyst, G. E. Armstrong, M.D., 272
- Paraffin in surgery—Tuckett and Horn, 454
- Parathyroids, 214
- Paré, Ambroise—man and surgeon, W. G. Turner, M.D., M.R.C.S. (Eng.), 409
- Patent ductus arteriosus, 155
- Pathogenic Micro-organisms—Park, 895
- Pathological technique—Mallory and Wright, 834
- Pathologische physiologie—Krehl, 53
- Patrick, David, M.D., uterine inversion, 808
- Peritoneal adhesions, 156
- Personal hygiene in tropical and semi-tropical countries—Brewer, 292
- Physical signs of diseases of thorax and abdomen, 683
- Physiology—Ott, 132  
human, theoretical and practical—Dearborn, 833
- Physiological chemistry—Simon, 894
- Pneumothorax, some further observations on, W. F. Hamilton, M.D., 492
- Portal infection originating in appendicitis—James Bell, M.D., 870
- Potts' disease, Treatment of—A. M. Forbes, M.D.
- Practical gynaecology—Gilliam, 371  
medicine series, Vols. I and II, 1908, 532
- Practice of medicine—Anders, 134  
French, 133  
for nurses—Hoxie, 294
- Pregnancy, auto-toxaemia of, H. L. Reddy, M.D., L.R.C.P. (Lond.), 317
- Principals of pathology, Vol. I, Adami, 747
- Progressive medicine—Hare, March, 1908, 292, Dec., 1907, 58
- Protozoa and disease—Clarke, 291
- Psychiatric hospitals for Ontario, 43
- Psychiatry—Fursac and Rosanorf, 894
- Pulmonary tuberculosis—Bonney, 886
- Pulsating exophthalmos — DeSchweinitz, 836
- R**ADIUS, fracture of the neck of, J. Appleton Nuttler, B.A., M.D., 728
- Rankin, A. C., M.D., M.R.C.S., effect of anaesthesia on opsonic index, 40
- Reciprocity in medicine, 210
- Reddy, H. L., M.D., L.R.C.P. Lond., auto-toxaemia of pregnancy, 817
- Reference handbook for nurses—Wilson, 60
- Reflexes, value of, in diagnosis, J. S. Risien Russell, M.D., 598
- Renal cortex, infarction of, 76
- Rib fractured while coughing, 241
- Rottot, Dr., 127
- Rotunda practical midwifery—Tweedy, 528
- Roy, J. N., M.D., calcified fibroma of the orbit, 721
- Royal society of medicine, proceedings, 439
- Russel, Colin K., M.D., a case of partial auditory and visual aphasia with object blindness, due to an abscess of the brain, 517
- Tabes dorsalis and its treatment, 90
- Russell, J. S. Risien, the value of the reflexes in diagnosis, 598
- S**ARCOMA, mediastinal, with extensive involvement of heart, C. F. Martin, M.D., 179  
of the intestines, F. J. Shepherd, M.D., 274  
rhabdomyo—(giant celled) from a trout, J. G. Adami, M.A., M.D., F.R.S., 163
- Scarlet fever, 325 cases, John McCrae, M.B. (Tor.), M.R.C.P. (Lond.), 627
- Schafer, Professor, E. A.
- Scientific spirit in medicine, A. B. Mac-callum, Ph.D., Sc.D., LL.D., F.R.S., 1
- Scurvy, infantile, W. F. Hamilton, M.D., 117
- Sexual question, the, Forel and Marshall, 532
- Shepherd, F. J., M.D., a case of sarcoma of the intestines, 274
- Sigmoid flexure, excessive length of, James Bell, M.D., 257

- Skull, compound, comminuted fracture of—recovery, Wm. J. Derome, M.D., 725
- "Sleeping sickness," the later history of cases of, John L. Todd, M.D., 511
- Smith, A. Laphorn, M.D., notes on the Mayo's surgical clinic, 323  
tubal pregnancy, 670
- Society, Montreal Medico-Chirurgical, 76, 153, 236, 392, 471, 762, 847, 903
- Somers Elbert M., M.D., central neuritis, 713
- Spirochæte pallida—its relation to syphilis—a review of the literature, R. P. Campbell, B.A., M.D., 347
- Squint and ocular paralysis—Hughes, 884
- State board questions and answers—Goepf, 612
- Surgical rights of the public, John C. Munro, M.D., 641
- Surgical anatomy—W. F. Campbell, 837
- Surgery, cosmetic—Miller, 135  
Keen, 888
- T**ABES dorsalis and its treatment, Colin K. Russel, M.D., 90
- Textbook of ophthalmology—Fuchs, 291
- Thomsen's disease (congenital myotonia), by a sufferer from it, Arthur Birt, M.D., 772
- Thymus, enlarged, 298
- Todd, John L., M.D., the later history of cases of "sleeping sickness," 511
- Tooke, Fred. T., B.A., M.D., Hypopion iritis associated with cerebrospinal meningitis, 184
- Torticollis, 161
- Toxins and venoms—Pozzi—Escott, 134
- Transactions American Physicians and surgeons, 1907, 135  
5th conference of state health officers, 133
- Treatment, index of, Hutchison, Collier and Coleman, 531
- Trypanosomiasis in an European, 474
- Trypanosomes in Montreal rats, Oskar Klotz, M.D., 169
- Tubal pregnancy, A. Laphorn Smith, B.A., M.D., 670
- Tuberculosis, a campaign against, 830  
exhibition at Washington, 826
- Tuberculoma of the brain, 398  
of the tongue, E. M. von Eberts, M.D., 183
- Tuberculosis commission, 610, 613  
congress at Washington, 676  
renal, R. P. Campbell, B.A., M.D., 192, 161
- Tumours, classification of, J. George Adami, M.D., F.R.S., 506
- Turner, W. G., M.D., M.R.C.S. (Eng.), Ambroise Paré, man and surgeon, 409
- Typhoid, the annual visitation, 673

- U**NILATERAL congenital absence of the paired genito-urinary organs, John McCrae, M.B., M.R.C.P., 177
- University club, 127
- Uterine inversion, David Patrick, M.D., 808  
retro-deviations, Casalis, 294
- Uterus, narrowing of, treated by operation, Ingersol Olmstead, 35

- V**ACCINES, treatment of infective diseases by bacterial, F. G. Bushnell, M.D., D.P.H., 403
- Vaginal discharge in an infant, 155
- Vincent's angina, A. H. Gordon, M.D., 190
- Viner, Norman, M.D., "Blue Baby," 17 years old, 181
- Von Eberts, E. M., M.D., tuberculoma of the tongue, 183

- W**ILLIAMS, E. J., M.D., appendix in inguinal canal and scrotum, 191
- gall bladder perforation, 191
- Webster, R. E., M.D., caesarean section, 821
- White, P. G., M.D., R. P. Campbell, M.D., and H. McKee, M.D., the ophthalmo-tuberculin reaction, 276  
and F. G. Finley, M.D., treatment of cerebro-spinal meningitis by Flexner's serum, 655
- Campbell, R. P., M.D., and Hanford McKee, M.D., the ophthalmo-tuberculin test, two severe reactions, 730
- Williams, E. J., B.A., M.D., "hepatic toxæmia," fatal acetonaemia, 407
- Wood, Casey A., M.D., a winter cruise to the Orient, 549
- Wright, Rev. Prof. Wm., M.D., 366

## RETROSPECT OF LITERATURE.

### SURGERY.

- Yeasts and oidial mould forms, 63
- Rupture of pancreas, 140
- The electrical sleep, 143
- Kidney, tumours of, 231
- Status lymphaticus to general anæsthesia, 232
- Retarding of water diuresis through narcosis, 233
- Spinal analgesia, 233
- Lumbar anæsthesia, 234
- Spontaneous rupture of rectum, 296
- Stomach operations in benign cases, 297
- Narath's modification of Talma's operation for hepatic cirrhosis, 293
- Contribution to kidney surgery, 299
- Adolescent thickening of tuberosities of tibiae, 299
- Operations on nerves in Ischemic paralysis, 300
- Resection of chest wall with plastic closure, 300
- Operation for stone, in pelvic ureter, 301



- Experiences with rectoscopy, 301  
 Parathyroid glands, preservation of, 380  
 Treatment of the posterior capsule of the thyroid gland, 381  
 Thyroid metastases in the spine, 381  
 Suture of blood vessels, 382  
 Carcinoma of the breast, 382  
 Sarcoma of the female breast, 383  
 Experiences of 1000 cases of spinal anesthesia, 383  
 Spinal anesthesia, 384  
 The phloridzin test, 539  
 Primary carcinoma of appendix, 540  
 Ulcer of the duodenum, 754  
 Thoracostomy in heart disease, 838
- MEDICINE.
- Polycythemia, 66  
 Disseminated sclerosis with autopsy, 67  
 Arteriosclerosis, 301  
 Interpretation of positive venous pulse, 302  
 Cerebro-spinal meningitis, 303  
 Blood pressure lowering reflexes from irritation of pleura, 205  
 The ophthalmic-reaction in diagnosis of tuberculosis, 384  
 Medical progress in 1907  
 Tuberculosis, 461  
 Acute infectious diseases, 463  
 The question of white and dark meats as food, 546  
 Antihemorrhagic serum, 686  
 Congenital pyloric spasm and congenital hypertrophic stenosis of the pylorus in infancy, 687  
 Health resorts of Canada, 755  
 Les anémiques pernicieuses, 759  
 400 cases of epidemic meningitis treated with antihemorrhagic serum, 840  
 Treatment of septic diseases with colargolum emenata, 841  
 Subtemporal decompression in chronic nephritis with uremia, 842  
 Fatal cerebral affections without anatomical lesions, 843
- OBSTETRICS.
- Pelvic deformities, 69  
 Cesarean operation, 69, 70  
 Pubiotomy, 71  
 Version, 72  
 Premature delivery, 73  
 Perforation, 74  
 High forceps, 75  
 Cesarean section, 146  
 Obstetric significance of blood pressure and its relation to the work of the heart, 615  
 Chorea during pregnancy, 617
- GYNÆCOLOGY.
- Sarcoma of vulva, 149  
 Primary sarcoma of vagina, 150  
 Suppuration of ovary, 150  
 Hysteropexy, 151  
 Ovarian and uterine functions, 151  
 Uterus vicornuate, 153
- Gynæcological operations on the aged, 152
- ORTHOPÆDICS.
- Fractures and joint injuries, 387  
 The arthritides.  
 Spondylitis tuberculosa.  
 Tuberculosis of joints.  
 Pathology of tuberculosis of hip joint, 387  
 Injuries to bones or joints, 391
- NEUROLOGY.
- Muscular co-ordination by the nervous system, 622  
 Nerve anastomosis in infantile paralysis, 623  
 Drug insanities, 624  
 Epidemic infantile paralysis, 625
- DISEASES OF CHILDREN.
- Acquired and congenital defect of kidney, 541  
 Aspirin as a cause of nephritis, 541  
 Acute hemorrhagic nephritis following mumps, 542  
 Autopsy in a case of orthostatic albuminuria, 542
- PHYSIOLOGY.
- Page, 691
- OTOLOGY.
- Physiology and pathology of the semi-circular canals in man, 312
- OTO-LARYNGOLOGY.
- Resection of the nasal nerve for paroxysmal coryza, 621  
 Retro-pharyngeal abscess, 844  
 Paralysis of external rectus muscle of right eye in acute otitis media and mastoid involvement, 844  
 Bacteriology, etiology and prophylaxis of ozæna of atrophic rhinitis, 845
- OPHTHALMOLOGY.
- Angiosclerosis of the eye, 234  
 Treatment of partial optic and retinal atrophy by electricity and massage, 235  
 Ocular manifestations of systemic gonorrhœa, 307  
 Optic nerve disease in connection with diseases of posterior accessory sinuses of nose, 310  
 Treatment of ocular tuberculosis and tuberculin, 311  
 Experience with Koch's tuberculin, 311  
 Some rarer ocular lesions associated with gout and general Æthemia, 312  
 Autointoxication, 899
- PATHOLOGY.
- German Pathological Association, 467  
 Hydrocœle in children, 689  
 Staining of living spirochaetes, 689  
 Bacteriology of congenital syphilis, 689  
 Primary cancer of liver, 690  
 Fat in interstitial tissue of kidney and in renal vessels, 690  
 Calcium in cortical vessels of kidney in children, 691