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Selections: Medicine.

THE NATURE AND ACTION OF THE CAUSES OF DYSPNŒA IN PNEUMO- NIA, OTHERWISE THAN HEPATIZA- TION, AND THEIR SPECIFIC TREAT- MENT.

BY BEDFORD BROWN, M.D., ALEXANDRIA, VA.

The function of respiration may be affected very differently in individual cases by the same extent of consolidation of pulmonary tissue in pneumonitis.

The consolidation of one-half or three-fourths of one lung may, in one patient, prove the cause of no serious disturbance of respiration, while the same extent in another case would be attended with an extreme degree of dyspnoea. Again, a very limited pneumonitis, which in one person would scarcely elevate the respiratory rate above the healthy standard, may in others cause serious respiratory embarrassment.

These facts, which are familiar to all medical men, would indicate that the symptom of dyspnoea to which we attach so much importance in our prognosis, and as a guide to treatment in pneumonia, does not always correspond in degree with the amount of tissue involved in the process of hepatization, but that other causes are also operative for its production, the nature and action of which are necessary to be clearly comprehended.

The importance of dyspnoea in pneumonia, in these particulars as a symptom, cannot well be over-estimated. No fatal case of pneumonia has ever come under my observation which was not characterized by the most distressing dyspnoea.

Prolonged and close investigation of the subject of dyspnoea, convinces me that it is not a simple result only of mechanical obstruction of a certain set of air cells, but that really the causes of this symptom are rather of a complex character, and are most intimately associated with the disordered functions of both the heart and lungs. As a confirmation of this statement, we know that with a sound heart acting with perfect rhythm, slowly and forcibly in pneumonitis, though very considerable consolidation of lung may exist, there will generally be but slight resulting dyspnoea. On the contrary, if, in pneumonia, the heart acts irregularly, feebly, and with unusual frequency, though the area of hepatization may be moderate in extent, there will almost of a certainty be troublesome dyspnoea.

In health, the respiration rate varies from nineteen to twenty-one per minute, while the pulse rate also varies from sixty to seventy per minute. This is the normal pulse-respiration ratio or equilibrium. There are also *abnormal* pulse respiration ratios. For instance, when the rate of cardiac action rises to one hundred and twenty-five, probably the respiration rate will, of necessity, also rise to forty or more. This is an abnormal pulse-respiration rate. Thus it is just as essential that this equilibrium should be maintained in disease as in health, by the adaptation of the rate of respiration to that of the heart. The latter follows the former invariably in the process of adaptation.

When hepatization has been fully established, the pulmonary circulation is absolutely suspended through the consolidated portion of lung. It is positively cut off from that avenue. Therefore all the blood of the entire system must

pass through the pulmonary vessels of the healthy portions of the lungs. This, of course, creates a necessity for an increased number of inspirations per minute, to compensate for the diminution of pulmonary capacity, and also for the increased pulse-rate.

So long as the column of blood from the right side of the heart can pass to the left, regularly, evenly and continuously, admitting sufficient air for its oxygenation into the lungs, there need be only a few additional inspirations per minute, to compensate for the loss of breathing space. But when there is a failure to do this, either from inadequacy of cardiac power, or from excess of that power, or from some intervening circumstance, as œdema, excess of bronchial accumulation, and more venous blood accumulates in the healthy lung tissue than can pass to the left side, then true dyspnoea begins, with all its train of distressing consequences. So there is a marked distinction to be drawn between the laboured breathing of true dyspnoea caused by a sense of impending suffocation, and the simple acceleration of respiration necessary to meet the new rate of cardiac action. The action of those remarkable sedatives, veratrum and aconite, serves to illustrate this question in an interesting manner.

The primary therapeutic influence here is on the action and rate of the heart. When these have been reduced to within an approximation of the normal standard, though extensive pneumonic hepatization may exist, the respiration rate will surely fall correspondingly—the two keeping pace, as closely as in the abnormal rise.

ŒDEMA OF THE LUNGS IN PNEUMONIA A CAUSE OF DYSPNOEA.—Œdema of the pulmonary tissue is a very common factor in the causation of dyspnoea in this affection. To some extent, it doubtless exists in a majority of cases; but in certain instances it becomes excessive, when it proves a dangerous obstacle to respiration.

The forms of pneumonitis most prone to pulmonary œdema are the typhoid, malarial, and those cases associated with great blood impoverishment, as in anæmia and uræmia, the poisoning of pyæmia, and lastly, in mitral disease.

In malignant typhoid and malarial pneumonitis, œdematous effusion in the pulmonary tissue is often so sudden, rapid and overwhelmingly extensive as to cause the most alarming dyspnoea, and not unfrequently a suspension of respiration within a few hours after the first onset. This condition of affairs is not unfrequently confounded with active congestion, and the error is often acted on. In these cases, the primary effect on the pulmonary circulation is obstruction, then passive engorgement of the pulmonary circulation, excessive accumulation of venous blood in the right ventricle and auricle, and finally in the entire venous system, causing not unfrequently thrombosis of the pulmonary artery. We have here a state of affairs co-operating for the production of dyspnoea, more exquisitely painful and alarming than in almost any other form of this disease.

No one can witness such scenes as these cases present without appreciating the importance of the subject of its various causes, its serious bearing on the course and termination of pneumonia, and without entertaining a deep and earnest desire to afford relief from the suffering and danger which it entails.

SPECIAL TREATMENT OF PULMONARY ŒDEMA.—In the treatment of this condition of the lung, the combination of infusion of digitalis in full doses, with the tincture of the chloride of iron, and infusion of ergot, constitutes a valuable and efficient means of removing the effusion, and of improving the general state of both the circulation and blood. To this may be added, to render the diuretic action of the treatment more decided, the liquor ammonie acetatis. The value and efficiency of these remedies depends very much on their frequent repetition.

The application of revulsives, in the form of extensive dry cupping, and, if necessary to procure relief, over the entire chest, and, indeed, over both the diseased and healthy lungs, when œdema is excessive and the dyspnoea is very great, is invaluable. This remedy is equally applicable to the treatment of all the various conditions causing dyspnoea. Its action in relieving distressing dyspnoea, under these circumstances is often prompt and speedy.

Forty or fifty dry cups applied over the chest, produce enormous dilatation of cutaneous and subcutaneous capillaries and arterioles, which, when considered in the aggregate, constitutes a very extensive temporary diverticulum, capable of retaining, for some little time, a pound or more of blood, which forms a freer and larger channel for the diversion of blood, which it is desirable to save, from the internal and now embarrassed channels. It is remarkable how long this extensive dilatation of these external vessels will continue to invite this free and abundant supply of blood to themselves from the internal organs.

All are familiar with the troublesome and excessive hæmorrhages which a few dilated capillaries of the mucous surface will cause by creating a new and free channel for the circulation. The principle of action of this remedy is very similar. This diversion of a large portion of blood from the internal circulation to the external, by dilating the arterioles to two or three times their natural calibre, relieves the right ventricle from much of its labour in these cases, and the pulmonary circulation from its overloaded condition, and, in part, from the danger of thrombosis.

EXCESSIVE MUCOUS ACCUMULATIONS AND BRONCHIAL PARALYSIS AS A CAUSE OF DYSPNOEA.—Bronchitis as a complication of acute pneumonitis, is not unusual. In many of this class of cases, the mucous secretion is copious and rapid. The accumulation in the bronchial tubes is greater than its expulsion by cough. This accumulation continuing to increase, dilatation necessarily follows, terminating ultimately in complete relaxation of the bronchial tubes and bronchial paralysis, with a very dangerous state of insensibility, or anæsthesia of the respiratory system of nerves, and those of the vaso-motor system distributed to the lungs. Under these circumstances, cough and expectoration either decline or cease entirely.

In this class of cases, bronchial occlusion from mucous collection and paralysis is, if extensive, fraught with extreme danger, and is always the cause of intense dyspnoea. When perfect occlusion of a bronchial tube from the presence of a mucous plug occurs, the venous blood in the pulmonary capillaries distributed over its

mucous coat, remains fixed, and consequently charged with carbonic acid gas. This poison acts the part of a sedative on the respiratory and vaso-motor systems, as potent as aconite or veratrum, producing a state of anæsthesia, and ultimately paralysis of the muscular structure of the bronchi.

We often see grave cases of pneumonitis, in which there are extensive moist bronchial râles with very laboured breathing, much lividity of complexion, frequent, feeble pulse, with either very inefficient cough or its entire absence. While the râles are often loud and noisy, the patient is partially insensible to suffering, except from difficult breathing. Without prompt relief, these cases go on from bad to worse, the mucus accumulating in the bronchial tubes, dyspnoea and lividity continuing to increase, while the cough is not only suppressed, but the patient feels no desire to cough, and but little pain or inconvenience. In truth, at this stage of the case, there is a universal state of anæsthesia pervading not only the vaso-motor and respiratory system of nerves, but also affecting those of sensation and volition through the great nervous centres, from the presence of carbonic acid gas—an anæsthetic as effective, and far more deadly, than chloroform. Here is a cause of dyspnoea which must and will come under the observation of every practical physician.

TREATMENT OF BRONCHIAL OBSTRUCTION AND PARALYSIS.—There are two leading objects to be accomplished in treating these conditions—one, to stimulate bronchial action and relieve paralysis; the other, to remove excessive accumulation.

In relaxation of the bronchiæ and loss of sensibility, with defective expectoration when the mucus secretion is copious, but thin, inconsistent, and not tenacious, the free administration of nitric acid, combined with minute quantities of nux vomica and ipecac, constitute the most potent means of exciting bronchial expulsive action, and correcting this state of paralysis, which we have. The ipecac acts on the muscular coat of the bronchial tubes as a stimulant, causing active contraction and expulsion of contents. In this manner, cough and expectoration may be restored under al-

most hopeless circumstances. When this relaxation extends to the general system, and there is universal prostration and a tendency to debilitating perspiration, sulphuric acid and belladonna may be added to the treatment with advantage. When the mucous secretions are of the character spoken of, the mineral acids are specially adapted. On the contrary, when they are tenacious and adhesive in character, the acids are injurious, and the alkalis, particularly the preparations of ammonia, are peculiarly useful, as solvents, to aid in their expulsion. By the use of acids, we desire to curtail and diminish those copious secretions which endanger life by quantity. Hence, they are useful in a condition the opposite of that of the sthenic type, and are, therefore, only suited to states of debility and relaxation.

When the bronchial tubes are overloaded with thick, tenacious and adhesive mucus, while in a state of insensibility and paralysis, with inefficient cough, distressing dyspnoea and lividity of complexion, we must introduce an agent which can act as a solvent of this tenacious material, and, at the same time, use means to stimulate the dormant nervous powers concerned in the process of respiration, to expel the cause of obstruction. The alkaline agents, carbonate of ammonia and bicarbonate of soda, in combination with the wine of ipecac and tincture of nux vomica, unite all the medicinal properties requisite for these purposes. If the administration of ipecac is commenced in small doses and progressively increased, the stomach comes to tolerate very large quantities of the remedy, which acts decidedly and efficiently in connection with the other agents in causing free expectoration and the re-establishment of cough.

WEAK AND IRRITABLE HEART FROM NATURAL CAUSES THE MEANS OF PRODUCING DYSPNOEA IN PNEUMONITIS.—The natural strength of the muscular structures of the heart, and its force of contractile power, differ very widely in different individuals, without actually being a condition of disease. In many constitutions, the cardiac muscle is so attenuated in structure and feeble in action as to place the subject at decided disadvantage in an acute attack of pneumonia.

Much, in pneumonia, depends on a strong,

forcibly-acting, non-irritable right ventricle, with a steady and regular contractile power. Females and feeble men proverbially do not resist attacks of pneumonia as well as strong males. It grows out of the fact that the muscular structure of the heart in the former is weaker than in the latter, and the nervous powers also more feeble.

Just in proportion as the heart, in its organization and function, diverges from the average standard of strength, will there be difficulty, in the event of an attack of pneumonia, in sustaining the regularity of the pulmonary circulation, and in equal ratio will there be embarrassment of respiration. Thus, it is not difficult to understand why it is that in the case of two individuals with the same extent of local disease—one having a strong, non-irritable, slowly-acting heart, the other having a feeble, attenuated, excitable organ—the former will suffer so little and the latter so much from dyspnoea in pneumonia.

Probably one of the best evidences of cardiac weakness in pneumonia, is inordinate frequency of action. Just in proportion to the increase of frequency of action is there loss of strength and power. A heart acting at the rate of one hundred per minute, cannot sustain a column of blood, or, in other words, the body in a perpendicular position and the respiration at a normal standard, as long as one acting at the rate of seventy. In proportion also as the ventricular contractions gain in frequency and lose force, the power to sustain the pulmonary circulation declines, while venous blood accumulates in the lungs, causing extreme dyspnoea. Thus, when the rate of ventricular contraction reaches one hundred and thirty or forty per minute, they become so feeble in propelling force that the right ventricle fails to force the pulmonary circulation through, while the left ventricle, in not receiving its accustomed supply of oxygenated blood, fails to throw the arterial column with sufficient force to the systemic capillaries.

In this way, there is inordinate accumulation of blood in the entire venous system, and, consequently, excessive disturbance of respiration, with dyspnoea.

Now, if, by any means, the rate of cardiac

action can be restored to seventy or eighty in rate per minute, without impairing ventricular power, we will not only observe the capillary circulation moving on regularly through the pulmonary vessels, but blood aeration will be restored, and all dyspnœa relieved.

TREATMENT OF DYSPNŒA CAUSED BY WEAK AND IRRITABLE HEART IN PNEUMONIA.—The most important considerations for the relief of this condition are to slow the inordinate frequency of the heart's action, and at the same time not only not impair its force, but actually to increase cardiac power. The right ventricle, which, in these cases, makes extraordinary efforts to propel the column of blood through the obstructed lungs, being unequal to the task, becomes enfeebled, exhausted, and exceedingly irritable. To impart the wanted power of contraction, and to lessen irritability, we have at our command active agents, which exert an exceedingly energetic influence on the vaso-motor system—both having a tonic and sedative influence on the heart. These agents are digitalis, belladonna and nux vomica. By this combination, with the aid of stimulants and nourishment, the excessive action of the heart may be reduced to the normal standard, while the right ventricle receives ample power to sustain the pulmonary circulation, until resolution has been accomplished.

SOFTENING OF THE MUSCULAR STRUCTURE OF THE HEART A CAUSE OF EXCESSIVE DYSPNŒA IN PNEUMONIA.—Softening of the heart of an acute character is a far more frequent complication of pneumonia than is usually supposed. It may exist only in a slight or partial degree, when the muscular structure of the organ has lost but little of strength and elasticity, or it may pervade the muscular fibres to such an extent as to render them entirely friable, so as largely to deprive them of their contractile power. This condition of the heart, in various degrees of intensity, is not an unusual accompaniment of the malignant and adynamic types of pneumonia, and in all cases wherein there is a depreciated state of the blood.

Under these circumstances, the ventricular walls are greatly enfeebled, and rendered far less capable of forcible action or prolonged exertion under excitement, or when called

upon for the performance of unusual labour, as may be required to sustain the pulmonary circulation through the diseased lung. Attenuation and dilatation of the cardiac walls may prove an additional complication. Softening of the heart in pneumonia presents characteristics very similar to the same condition in typhoid fever. Cardiac action is exceedingly rapid and feeble. There is usually absence of impulse, or, if present, it amounts to a mere vibratory thrill. The systolic sound is generally absent, or very indistinct. Dyspnœa is always very distressing in these cases. The tendency to asphyxia is decided, as indicated by the lividity of complexion and tongue.

When the rate of cardiac action reaches one hundred and forty, the two sounds are merged into one—the systolic being lost. The respiration not unusually amounts to sixty per minute. In this class of cases, the equilibrium in the circulation between the arterial and venous systems is, for the time, lost—the larger proportion of blood accumulating in the latter, while the former is deprived of its proper supply.

The walls of the right ventricle, upon the vigour of which everything depends in pneumonia, contract rapidly, but with exceeding feebleness and inefficiency. That peculiar spiral character of ventricular contraction, which is prolonged, forcible and effective in propelling the column of blood onward through the lungs from the right to the left side of the heart, is lost, and there is substituted in its place a contraction which, from loss of power and excessive frequency, becomes concentric in character. In this manner, the right ventricle becomes incapable of fully sustaining the pulmonary circulation, while the process of engorgement progresses, causing the most intense degree of dyspnœa.

TREATMENT OF DYSPNŒA FROM CARDIAC SOFTENING IN PNEUMONIA.—The primary object in these cases is to slow the rate of cardiac action, and at the same time to strengthen the power of ventricular contraction, by the influence of those tonics and sedatives which act on the heart through the vaso-motor systems. The infusion of digitalis and tincture of nux vomica, in combination, will accomplish that

object better than almost any other agents, particularly when associated with nourishment and diffusible stimulants.

For the permanent improvement of the condition of the blood, which is always depreciated in these cases, the nutrition of the tissues of the heart, and the restoration of its impaired forces, the tincture of the chloride of iron, the solution of the acetate of ammonia, and arsenic, in the form of Fowler's solution, are all valuable. It will be seen that in the treatment of dyspnoea arising in this connection, we must look really more to the state of the heart and its action than to that of the lungs. As a rule, in these cases it will be found that in proportion to the restoration of the action of the heart towards a healthy standard of force and rate, difficulty of respiration will decline, and the case progress favourably.

In regard to the specific action of digitalis on the heart, there can be no doubt that it is directed with as much, if not more, force to the right ventricle than the left. This is clearly illustrated by its action in cases of excessive mitral constriction, with pulmonary engorgement and dyspnoea. Here the dilatation, impaired power and enfeebled action, and, not unfrequently, softening of tissue, are confined to the right ventricle. The digitalis, by its tonic and regulating influence on this ventricle alone, enables it to propel the pulmonary circulation through the constricted mitral orifice, relieving the engorgement and dyspnoea. By this influence, the right ventricle has acquired the additional force necessary to overcome the forward obstruction. This is a simple example of the action of the same therapeutic agent in the softened and impaired condition of the right ventricle in pneumonia, with excessive difficulty of breathing.

UNEQUAL ACTION OF THE RIGHT AND LEFT VENTRICLES A CAUSE OF EXCESSIVE DYSPNOEA IN PNEUMONIA.—In violent attacks of acute pneumonia of a genuine sthenic type, when the right ventricle, acting with inordinate power, and at an increased rate of frequency, propels with greater rapidity a much larger amount of venous blood into the pulmonary vessels than they can carry through into the left auricle, there results a highly deceptive state of affairs.

In these cases, by excessive action of the right ventricle, the cardiac impulse becomes exceedingly violent and forcible; the dyspnoea is very great, and the temperature high; while the radial pulse, though accelerated, is apparently, in its softness and feebleness of character, entirely disproportioned to the violence of type of the other symptoms. In such cases, there is active and extreme engorgement of the pulmonary circulation; and in a former generation, when phlebotomy was fashionable, medical men were wont to bleed, knowing that, in proportion as venous and pulmonary congestion was relieved, there would be developed strength and force in the radial pulse.

TREATMENT.—In this class of cases, the action of those cardiac sedatives—aconite and veratrum viride—by their direct and prompt influence on the inordinately excited right ventricle, slows and regulates its action towards a normal standard, permits the congested lungs to disgorge their excess of blood, and the left ventricle to receive its full share of the circulating current. In this manner, while the violence of cardiac impulse and excitement are allayed, the dyspnoea is relieved, and the pulse is both slowed in rate and increased in force. In weak and irritable hearts and in softening of the heart, inducing impairment of its force in pneumonia, attended with dyspnoea, we need a cardiac slower, with tonic powers, such as digitalis, to reduce frequency of action and give ventricular strength. In violent action of the organ with too much power, but also dangerously affecting the respiration, we need also a cardiac slower, but with sedative properties, as the aconite.—*Vir. Med. Monthly.*

IRON AND DIGITALIS.—It is often very desirable to give these remedies together. A common way has been to administer the ammonio-citrate of iron and tincture of digitalis. According to Mr. F. Y. Livy, however, in the *British Medical Journal*, a mixture of tincture of muriate of iron, tincture of digitalis, and dilute phosphoric acid, is the best formula. The acid prevents the formation of a tannate, and is useful in case there is any stomachic disorder. We have tried the above mixture, and find it without precipitate, as described.

THE GULSTONIAN LECTURES ON EPILEPSY.

BY W. R. GOWERS, M.D., F.R.C.P.

The treatment of epilepsy is a subject on which numerical analysis gives little help. A large number of cases are under observation too short a time to enable the effect of remedies to be fairly estimated; and of the cases in which benefit is derived, we have no means of ascertaining how many relapse when treatment is discontinued. My notes of the result of treatment in this series of cases extend to 562 cases only. In the remainder, either the period of observation was too short for a just conclusion to be drawn, or, in the press of out-patient work, the influence of remedies was not noted with sufficient precision. The effect of treatment is more likely to be recorded when it is distinct and considerable, than when it is slight. Hence the following figures have no relative value. Of the 562 cases, the attacks ceased while the treatment was maintained in 241; doubtless many of these relapsed when treatment was discontinued, but in a few I have been able to ascertain that the patients remained free from fits even for years after they ceased to take medicine. In 266 cases, improvement short of arrest was obtained; the fits being reduced in many to $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{5}$, and even $\frac{1}{10}$ of their former frequency. In 55 cases, little improvement was obtained by any method of treatment.

Time forbids me to enter at length on the details of treatment, and I can do little more than mention the remedies which in this series of cases were of most distinct service. The subject of possible modes of action it is better to leave almost untouched. It may be doubted whether a rational therapeutics of epilepsy is yet possible. At any rate, up to the present time, remedies used empirically have been of most service.

Although the results show that we must not only rely exclusively upon bromides in our treatment of epilepsy; they show also, as might be expected, that on these our chief trust must still be placed. Of the arrests of fits, 66 per cent., and of the improvements short of arrest, 62 per cent., were due to bromides given alone.

Of the three alkaline salts of bromine, that of potassium deserves, I think, as it has popularly received, the first place. I have made a careful comparison between the salts of sodium and of potassium in a series of about fifty cases, substituting the one for the other. In a few cases the sodic salt appeared to do better; in the great majority it was distinctly less useful. Bromide of ammonium possesses slightly more power than bromide of potassium; but this is not greater than the larger quantity of bromide it contains will account for.

The period after its administration at which the maximum effect of a dose of a bromide is obtained varies, I believe, with the dose. The larger the dose, the longer is the maximum effect deferred; the smaller the dose, the sooner does it occur, and the sooner is its action over. When small doses are employed in cases in which attacks occur at regular times, they should not therefore be given more than two or three hours before the attack is expected. This is contrary to some opinions which have been expressed; but I have several times known attacks arrested when a dose was given about two or three hours before the fit was expected, which were not arrested when the dose was given twelve hours earlier.

The effect of bromide upon fits appears to be for a time cumulative, just as is, indeed, its action in causing bromism. Attacks may continue under its administration for a time, and yet ultimately cease without any increase in the dose. On the other hand, still later, tolerance or rather indifference may be established, and attacks which have been for a time arrested may ultimately recur.

Drugs which increase reflex action, such as strychnia, are now believed to do so by lessening the resistance in the nerve-centres involved. Bromide diminishes reflex action, antagonises strychnia, and it is probable that it does so by increasing the resistance in the centres. If the view above expressed is correct, that the morbid state in epilepsy is essentially an instability of the resistance in the cells, it is also probable that bromide of potassium acts by increasing the stability of this resistance.

Bromide is commonly administered in a continuous course, in such moderate doses as will

just suffice to keep the fits in check. Given thus, it needs to be given frequently. I have more than once observed that a daily quantity which, given in two doses, did not quite arrest the fits, arrested them completely when given in three doses. If, therefore, the greater convenience of infrequent doses—one or two daily—be preferred, a somewhat larger quantity must be given.

When the bromide is thus given continuously, it has not seemed to me desirable to increase the daily dose beyond a drachm or a drachm and a half. If this do not arrest the fits, I have rarely found that larger doses succeed so well as the combination of bromide with other drugs. But it is, I think, open to question whether the method of administration, using doses only just sufficient to arrest the fits, is the wisest in all cases. If bromide cure epilepsy, as without doubt it does sometimes, it must be by effecting a nutritive change in the nerve-cells corresponding to its action, whereby they are rendered permanently more stable. That it, or any other drug, does good by influencing the vascular state of the brain, appears to me to be improbable. Even if such were its action, we are only driven back to a similar influence in increasing the stability of the cells of the vaso-motor centre. There are, I think, many grounds for the belief that the change in the nutrition of the cells may be produced more effectually by subjecting the patient for a time to the full influence of bromide, giving doses much larger than are needed to arrest the fits, in the hope of producing more readily a permanent nutritive change. In giving bromide thus, I have preferred large doses at intervals of two or three days, gradually increasing the dose until it is as large as can be well borne, and then diminishing it. The largest single doses which I have given in this way have been doses of one ounce. This, in some patients, produces slight stupor, sometimes reaching its maximum on the second day after the dose. In other cases, it produces very little disturbance beyond headache. From the marked difference which patients present in their tolerance, it is not well to begin this method of treatment with a larger dose than four drachms.

The value of the various combinations of the

bromide with other drugs was tested, as far as possible, on an uniform plan. First, bromide was given alone for several months, and the additional drug was added to the same dose of bromide, and the result watched for several months longer. Of the various combinations which are in common use, those with digitalis and belladonna unquestionably deserve, as they have commonly received, the first place. Digitalis is one of the oldest remedies for epilepsy. It was recommended by Parkinson two hundred years ago, and has been perhaps for a still longer time a popular remedy for this disease in certain rural districts in the West of England. I have met with no case in which, given alone, digitalis arrested the fits for more than a few months, but in several cases it effected very distinct improvement. The combination of digitalis and bromide, however, was distinctly more useful than bromide only, in no fewer than sixty-three cases. In more than half of these, thirty-seven cases, the attacks ceased under its use, although they had continued under bromide alone. In the cases in which cardiac disturbance was associated, the combination was almost always superior to bromide alone; but its use is not confined to these cases. Many cases of nocturnal and other forms of epilepsy yielded to the combination, although the attacks had continued under bromide, and this when there was no evidence of cardiac disease. I know of one patient with nocturnal epilepsy who, for two years, under this combination, has not had a single fit, although the attacks occurred every few weeks with bromide only.

In rare cases, belladonna alone will arrest attacks. I have met with only one case in which attacks, which continued on bromide, ceased entirely when belladonna was substituted, and this was a case with hysterio-epileptic symptoms. The combination of bromide and belladonna, however, was distinctly better than bromide alone in thirty-five cases, and in fifteen of these arrest of the fits was thus obtained.

Indian hemp was first employed in epilepsy by Dr. Reynolds, and is sometimes of clear value. In one case, the attacks were invariably arrested for many months by its use, recurring only when the patient ceased attendance; but twice, on his resuming attendance, the drug in-

stantly arrested the attacks. When bromide was substituted for the Indian hemp, the attacks at once recurred. Combined with bromide it is also sometimes useful, and seems to exercise most influence over attacks in cases in which there is persistent headache. The same fact has seemed true of the combination with gelseminum.

The use of opium in epilepsy has long been advocated by Dr. Radcliffe, and in some cases is certainly effective. The combination of bromide and morphia I have rarely found to present special advantages. In the status epilepticus, in which attacks occur with great frequency and severity, and where bromide, even in large doses, was useless, I have found small hypodermic injections of morphia of great service.

The combination of bromide with aconite and hydrocyanic acid I have also tried, and found in some cases slightly better than bromide only. The addition of iodide to bromide has been lately said to increase its effect. Occasionally this is true, and in four cases of the series the combination was distinctly better than bromide only, but in many other cases it was ineffective. Even in the cases on the subjects of inherited syphilis, it has not appeared of special value.

Zinc unquestionably deserves some of the repute it has enjoyed for more than a hundred years as an anti-epileptic. Of the cases of this series in which it was employed, it was distinctly useful in ten, but in only three did the attacks cease. In three other cases, attacks which continued under bromide ceased under bromide and zinc; and in a fourth, they ceased under zinc, digitalis, and bromide. The oxide of zinc was the form commonly employed. Its nauseating influence constitutes a serious drawback to its use, as toleration is difficult to establish, and I have rarely succeeded in giving more than twenty grains a day. Bromide of zinc has seemed of small value, and is borne badly. The addition of arsenic to bromide in no case produced any marked effect on the attacks. It was used in a large number of cases on account of the readiness with which it was found, the bromide rash could be prevented by its use.

Bromide of camphor, highly praised by Bourneville, was tried in a considerable number of cases without any good results. Turpentine

has been recommended by Dr. Radcliffe, and I have seen it produce very striking benefit, but only in cases of hystero-epilepsy.

The use of iron in epilepsy has been discounted by high authorities, on grounds which are not altogether beyond question. In rare cases it increased the frequency of attacks; in the majority of cases in which it was used, it was borne without any ill result; in many, the addition of iron to bromide was attended with a marked and permanent improvement, and in some cases iron alone arrested the fits. The series includes four cases which ceased under iron only, and eight others in which iron alone was distinctly better than bromide, and nineteen cases in which the addition of iron to bromide exercised a marked influence. In no fewer than eleven cases, attacks, which persisted on bromide, ceased on the addition of iron, and remained absent as long as the treatment was continued.

In several inveterate cases of epilepsy, in which bromide had no effect, I have tried borax. In some cases it did no good, but in twelve its value was most distinct. I may mention one or two. In one, fits which had continued on bromide and on zinc, ceased entirely on borax for three months, and then only recurred when the medicine was discontinued. In another case, the fits continued (about one weekly) during three months' treatment on bromide and on belladonna. Borax was then substituted, the fits at once ceased, and for five months the patient had not a single fit; then he had one in each of the two following months; the dose of borax was increased, and up to the present time (eight months later) no other attack has occurred. In a third case, one or two attacks occurred once a fortnight on bromide. Borax was substituted, and for five months the patient had not a single fit. The doses given have been ten to fifteen grains, twice or three times a day. It produces in some patients gastro-intestinal disturbance, and, rarely, a form of dysenteric diarrhoea. By others it is well borne, and one of my patients has taken forty-five grains a day for twelve months without the slightest inconvenience, and says that no medicine has ever done him so much good. In cases in which bromide fails, borax certainly deserves a trial.

The use of *cocculus Indicus* in epilepsy, recommended by Dujardin-Beaumez, has lately attracted attention in consequence of the recommendation of Planat. I have tried the alkaloid picrotoxine in a few instances, but in only one case has it appeared to do good. My own experience of its use has, however, been small; and I am very much indebted to my colleague, Dr. Ramskill, for permitting me to mention some interesting results which he has obtained by the hypodermic injection of picrotoxine. His experience of its effect on the fits when given through the skin is nearly the same as my own of its employment by the mouth. In seven cases in which it was injected, in daily doses of from one to four *milligrammes*, no beneficial result was obtained; in most cases, indeed, the attacks were rather more frequent and severe. Of course, we are not justified in assuming that the effect of picrotoxine and of the *cocculus Indicus* itself are identical. A very interesting fact has, however, been ascertained by Dr. Ramskill, viz., that picrotoxine in larger doses of from fifteen to eighteen *milligrammes* will almost invariably produce a fit in twenty or thirty minutes. In one patient, for instance (according to the notes of Mr. Broster, who carried out the experiments), the dose was daily increased, and, when more than five *milligrammes* were injected, a sensation of giddiness followed, similar to that with which the attacks commenced. The same effect followed larger injections, and, when the dose reached eighteen *milligrammes*, a severe attack occurred thirty minutes later, and an attack always followed the injection of this dose. In another patient, a similar progressive increase of the dose was followed by giddiness and headache when eight *milligrammes* were injected. When the dose of fifteen *milligrammes* was reached a severe epileptic fit followed. Next day a second dose of fifteen *milligrammes* did not cause a fit; but eighteen *milligrammes*, two days later, caused a fit in half an hour. After a week's intermission, twenty-four *milligrammes* were injected, and a severe fit occurred in twenty-five minutes. In a third patient, a fit occurred after one injection of eight *milligrammes*, but ten *milligrammes* next day caused no fit. Fifteen *milligrammes*, however, were followed by a fit in thirty min-

utes, and a second injection of the same dose the following day caused a fit in fifteen minutes. Seventeen *milligrammes* next day caused a fit in thirty minutes. In a fourth patient, a single dose of eighteen *milligrammes* caused, in ten minutes, giddiness and slight dazzling before the eyes, and in thirty minutes there occurred the usual aura of an attack: a sensation of something creeping up the right arm to the top of the head, and numbness and twitching in the right thigh, but no fit followed, although the patient was stupid and dull for a time, just as after a fit.

Among other drugs which I have tried and found useless, I may mention benzoate of soda and nitro-glycerine. In hystero-epilepsy, bromides, sometimes useful, fail entirely much more frequently than in simple epilepsy; and the combinations with digitalis and belladonna are also less frequently useful. Iron, especially when guarded by aloes, is often of the highest value, quite apart from the existence of anæmia, and, next to it, valerianate of zinc, morphia, and turpentine.

High authorities have urged on different grounds that the diet of epileptics should contain little or no animal food. In a few observations which I have made by keeping a patient under unaltered medicinal treatment for alternate periods, on a diet with and without animal food, I could observe no difference in the attacks, except that in one patient they were slightly more frequent in the periods when animal food was excluded; and in one patient, hystero-epileptic attacks on ordinary diet became, when meat was excluded, severe epileptic fits, and again became hystero-epileptic when animal food was restored.

In pure epilepsy, the only treatment during the attacks is such care as shall secure the patient, as far as possible, from injury. It is very different with the attacks of hystero-epilepsy, which, from their character, severity, and long duration, often furnish the attendants with a task of no small difficulty, and which can, almost always, be cut short by appropriate treatment. The patients often hurt themselves during the attacks, and some control is absolutely necessary. But, as already stated, restraint tends to increase the violence, and makes the paroxysm last longer. Hence considerable

judgment is often required, so to adjust control as to be efficient and not too much. I have seen these patients put within padded partitions and left alone, but I have never myself found this necessary.

The slighter attacks can be arrested by closing the mouth and nose with a towel for thirty seconds, after Dr. Hare's method. The profound effect on the respiratory centre, and the related higher centres, caused by the anoxæmia, seems to arrest the convulsive action. Cold water over the head is often successful if applied freely; in severe attacks, a moderate quantity only excites redoubled violence, while a second gallon is often more effectual than the first. This has the disadvantage of drenching the patient's head, and often giving cold. When the mouth is open during attacks, a small quantity of water poured into it is often effectual. A much more convenient and more effectual remedy than water, however, is strong faradisation to the skin; applied almost anywhere, it will commonly quickly stop the attack. Of ovarian compression I spoke in a previous lecture. In this country, it is rare that ovarian pressure will arrest an attack. In some cases, all these means fail, even when thoroughly used, and I have known such attacks go on, in spite of skilled treatment, for several hours. Chloroform is of little use; its administration is a matter of extreme difficulty, often impossibility, and the attack is commonly renewed when the influence of the anæsthetic passes off. The remarkable effect of nausea in relaxing spasm led me some years ago to try the effect of injections of apomorpha, and I have found in it an unfailing means of arresting the attacks. After the injection of a twelfth of a grain, in four minutes with certainty all spasm ceases, and normal consciousness is restored; in six minutes the patient will get up and go to the sink; in eight minutes will vomit, and afterwards, except for slight nausea, is well. A twentieth of a grain has the same action, but is rather longer in its operation. Moreover, I have found that the treatment is, so far as the hysteroid symptoms are concerned, curative as well as palliative, for the attacks in many cases ceased after a few paroxysms had been thus cut short.

I regret that, in this survey of some points in the clinical history of these diseases, it has been necessary to omit all reference to many facts regarding symptoms, diagnosis, and prognosis, which are presented by the series of cases analysed. I am conscious that, as it is, in the details I have introduced, I have made a large demand upon your patience. But it is only by ascertaining the facts of these diseases that we can hope to learn their nature, or to find the guidance in our efforts at prevention or at cure.

Whatever may have been the nature of the demoniacal possessions of old, few who have watched an epileptic fit can doubt that they have their representatives among us still. The old power of casting them out has gone from the earth; and it is only by the study of their origin and history, and careful experiment in their treatment, that we can hope to regain over them such power as may still be possible to man. And the present generation has witnessed an advance in the treatment of these diseases, equalled in perhaps no other branch of therapeutics. Thanks to the influence of one drug, the use of which in epilepsy is due wholly to the Fellows of this College, hundreds of epileptics have been cured, and thousands are leading useful lives who would otherwise have been incapacitated by the disease. Although the condition of many sufferers is still gloomy enough, it is not without hope, and to them also, we may surely trust, the progress of the recent past is the dawn of a brighter day.—*British Medical Journal*.

PERNICIOUS ANÆMIA; CIRRHOTIC CONTRACTION OF THE STOMACH AND DISAPPEARANCE OF THE GASTRIC FOLLICLES.—*Nothnagel* (*Cbtl.*, January 31) reports a case, in a shoemaker, aged 23, who had suffered nine years from nausea, vomiting, anorexia, flatulence, and a feeling of fulness in the epigastrium. In May, 1878, he presented himself with symptoms of progressive anæmia. In spite of transfusion, the patient died.

On post-mortem the body presented a general pallor; in many of the internal organs blood was found. The stomach was 5 inches long and 2½ inches wide. Its walls, especially towards the pylorus, were greatly thickened and grated on cutting.

Microscopic examination showed the absence of the follicles in the vicinity of the cardiac orifice and a scantiness of vessels owing to the development of fibrous tissue.

MALT EXTRACT, AND DIGESTION OF STARCH.

The *Medical Record* of March, 1880, quotes from the *Practitioner*, December, 1879: "Dr. Roberts, of Manchester, England, gives the results of his investigations on the subject of the digestion of starch. He says that in infants under three or four months of age saliva has a feeble, diastatic power; further, he has ascertained that the pancreas of sucking calves does not possess any diastatic power, and that it is fair to presume that the pancreas of the infant at the breast is in the same condition. For this reason farinaceous food cannot be digested by young infants, unless some artificial means be employed. Malt extracts being infusions of malt concentrated to the consistency of syrup or molasses, by evaporation (containing no more value as food than an equal amount of syrup), the diastase exists only in small quantity. As to malt infusion, it possesses powerful diastatic properties. It is made as follows: Three ounces of crushed malt are very thoroughly mixed in a vessel containing half a pint of cold water; the mixture is allowed to remain from twelve to fifteen hours, and then passed through filtering paper until it comes through perfectly bright. It is rich in diastase, and contains maltose in considerable quantity. As it is subject to fermentation, it should be freshly prepared each day, or it may be preserved by adding a few drops of chloroform to the infusion and keeping it well corked. Dr. Roberts thinks that the malt preparation will prove of more service if taken with the food than after the meal, as, by so doing, it will become thoroughly mixed with the food. An excellent way of administering malt infusion is by adding one teaspoonful to half a pint of gruel. In conclusion, he speaks of the liquor pancreaticus, made by infusing one part of fresh pancreas with seven parts of water; this was found to possess twenty times the diastatic power of the malt infusion alluded to."

CASTS OF THE URINIFEROUS TUBULES—THEIR NATURE AND CLINICAL SIGNIFICANCE.—James Tyson, M.D., Professor of General Pathology and Morbid Anatomy in the University of

Pennsylvania, thus concludes a paper published in the *Philadelphia Medical Times*:

1. Hyaline casts are found in all forms of Bright's disease, as well as temporary congestion of the kidney, active or passive.

2. Epithelial casts are found in acute, sub-acute, and chronic parenchymatous nephritis. In the latter two forms the cells are generally degenerated and fragmentary.

3. Blood casts are found in acute parenchymatous nephritis, and where hemorrhages have occurred in the kidneys.

4. Pale granular casts are found in interstitial nephritis (contracted kidney) and chronic parenchymatous nephritis.

5. Dark granular casts are found in parenchymatous nephritis, acute and chronic, and rarely in interstitial nephritis.

6. Waxy casts are found only in chronic Bright's disease, and attend either of the three principal forms.

7. Oil casts are found in sub-acute and chronic forms of Bright's disease, and attend either of the three principal forms, but are most numerous in chronic parenchymatous nephritis (fatty kidney).

8. Free fatty cells and free oil-drops are found in chronic parenchymatous nephritis.

9. The form of fatty cell known as the compound granular cell is found in acute and chronic parenchymatous nephritis.—*Ohio Recorder*.

THE SPIRILLA-SPIROCHETES.—It has been pretty conclusively proved by Obermeier that relapsing fever is due to the entrance into the blood of this minute air-born vegetable organism. In further proof of this, we are informed by the *London Medical Record*, January 15th, 1880, that Vandyke Carter, in India, has injected under the skin of monkeys defibrinated blood proceeding from patients suffering from relapsing fever, and which contained spirilla. On the sixth day the monkeys were attacked with violent fever, and the blood was filled with spirilla. Cohn, of Breslau, has further cultivated this spirillum in successful culture-fluids outside of the body, and reproduced feverish attacks with the third or fourth culture fluid.

Surgery.

TRACHEOTOMY IN DIPHTHERIA AND CROUP.

BY GEORGE BUCHANAN, A.M., M.D.

Professor of Clinical Surgery in the University of Glasgow.

The following case is recorded, because it affords some lessons which can never be too often enforced. In speaking of my experience in tracheotomy, I have sometimes been met with the observation, that no doubt some of my cases have been examples of simple spasmodic croup, and that, if I had waited longer, the fits would have passed off and the child recovered without operation. But, in reply, I can say that in most if not in all the cases the child was approaching or had actually arrived at a stage when life could no longer be supported without an additional supply of air to the lungs, whatever was the cause of the necessary quantity being prevented from entering. Secondly, simple spasmodic croup, or *laryngismus stridulus*, is a very rare affection; indeed, I have never seen it among the cases of approaching suffocation to which I have been called. Thirdly—and this is the point on which I wish to insist, because it is of practical importance—in all cases of croup and tracheal diphtheria there is an element of spasm, intermittent, sometimes with long intervals of relief, which leads to the belief that the obstruction is not permanent, but only occasional, and often causes the operation to be too long delayed. As the disease advances, the spasms become more frequent, and end in a continuous obstruction, which then, but often too late, is recognized as depending on mechanical narrowing of the trachea.

Of course, it is familiarly known that the suffocation of croup and diphtheria may depend on two different conditions. First, it may be caused by the obstruction being situated in the trachea and larynx; second, it may depend on the viscid secretion extending down into the bronchi and smaller bronchial tubes, thus stuffing up the lungs and preventing either the free ingress or egress of air. To either of these conditions the element of spasm may be added; and, as this is often the most prominent and alarming feature, it may mask either of the

other two, or render it difficult to decide which is the real essence of the disease.

But I have long ago pointed out a diagnostic mark which cannot be too frequently insisted on and promulgated, and which is the only true means for enabling us to decide when tracheotomy is justifiable and when it is *not*—viz., the respiratory movements as seen by observing the naked chest. When the obstruction is situated in the trachea or larynx, the lungs remaining normal, the efforts of the child to obtain breath are painfully visible by the powerful drawing inwards of the ensiform cartilage, the intercostal spaces, and every elastic part of the chest-wall; showing the thirst for air, and the capacity of the lungs to receive it, if only it could gain entrance. But when the smaller bronchial tubes are full of viscid and perhaps pseudo-membranous effusion, the movements of the chest-wall are impeded; the chest is puffed out like one affected with chronic emphysema of the lung, and heaves in a mass with difficulty.

In the first of these cases, tracheotomy affords instant relief—often permanent—and ultimate saving of life; in the second, if unfortunately it be performed, it affords at best a temporary and short interval of repose, if even that, and only when the element of spasm is present.

It will be seen that in these few remarks I have avoided all reference to the disputed question as to the identity or non-identity of croup and diphtheria. I leave that to those who, as general practitioners, see the diseases in their early stage. As a surgeon, I am only concerned with cases in which it is probable that tracheotomy may be required. My remarks apply to all cases, whatever may be the original malady, in which it appears nearly certain that the patient will die of *suffocation* from *obstruction* situated in the *larynx* or *trachea* unless a free supply of air is obtained by tracheotomy. And I have before given the diagnostic mark on which I now invariably rely in determining whether to perform or refrain from performing tracheotomy.

I shall now give a short report of my last case. Peabody Grierson, a boy aged 8, in previous good health, a stout well-formed boy, on Saturday, November 15th, 1879, began to complain of his throat, with a slight tickling cough coming at intervals, with some slight feeling of

choking. On Sunday, the 16th, Dr. Pirie was called, who detected incipient croup by the fever, flushed face, pain in the neck, and a crowing sound with the cough, which came at intervals. Ipecacuan, mustard blisters, steam in the apartment, were kept up till Monday at 8 A.M., when I saw the patient with Dr. Pirie. The spasms, though severe, were not frequent; and in the intervals the breathing was fairly normal, so we determined to delay changing the treatment for some hours. In the afternoon it became quite evident that the spasms, which were becoming more frequent and severe, were only the reflex effect of a permanent obstruction in the trachea. At no time was there any inflammation, swelling, or false membrane to be seen on tonsil, palate, or fauces. The agony of the little sufferer was very painful to witness, and the diagnostic mark of the powerful indrawing of the intercostal spaces was as characteristic as I ever saw it. I sent for Dr. Pirie, and drove home for my instruments and an assistant; and by the time I got back the case was indeed urgent. In fact, it seemed as if we were too late. The lips were livid; the face pallid, and covered with a cold sweat; the pulse flagging; the breathing very laboured; the eyes staring, open, and glazed; in fact, the child seemed *in articulo morbis*, and I said to his mother that I feared it was too late. I have rarely heard a more piteous appeal. The mother was an intelligent woman, who had been educated as a nurse in Guy's Hospital, and had afterwards come to Glasgow Royal Infirmary, where she for several years had charge of my emergency ward, and where she nursed for me, to a successful termination, one or two cases of tracheotomy. She said: "I see by your face that there is little encouragement to operate; and, if you think there is no hope, do not do it; but, if you think there is any chance of success, as death is fast approaching, for the love of God, try to save my boy."

I operated without chloroform, as the child was rendered almost insensible to pain by the carbonization of the blood. The white rings of the trachea were rapidly exposed in the bottom of the wound, and a free incision was made into the tracheal tube. This was followed by the usual result—a struggle, a forcible expiration,

during which shreds of tough membrane and viscid mucus were expelled. Presently the breathing became quiet. During this time, the lips of the wound in the trachea were held apart by the opened blades of a dressing-forceps. The silver tube was easily introduced, and the little patient was left breathing calmly and easily.

He remained very well during the night; but next morning, at 7 o'clock, I was called. The breathing through the tube had become rather obstructed and whistling: the inevitable sign of a dryness of the tracheal secretion. I passed into the tube a soft feather well moistened with tepid water, and mopped out the lower end of the outer silver tube and the trachea itself, when a convulsive cough took place, and a large piece of a membranous cast of the trachea was expelled through the tube with great force. I now directed the mouth of the tube to be kept constantly covered with a bit of honeycomb-sponge wrung out of hot water, which I find by far the most effectual way of moistening the entering air. After this there was no more trouble with the case. The tube was removed on the eighth day, and the child made an excellent recovery.

STATISTICS OF TRACHEOTOMY.—I have now performed this operation for croup and diphtheria fifty times. I have entered as cases of diphtheria all such as had an effusion of white false membrane on the tonsils, palate, or fauces.

Total tracheotomies, 50; cured, 19; deaths, 31.
Tracheotomy in croup, 17; cured, 7; deaths, 10.
Tracheotomy in diphtheria, 33; cured, 12; deaths, 21.

RESULTS.—Taking the whole of the cases, the result is, that nearly *two* out of every *five* operations were successful; and, as the operation was never performed unless there was no hope of recovery otherwise, it may be fairly stated that the lives of these nineteen children were *saved* by tracheotomy.

The primary object of the operation is to prevent death from obstruction at the entrance of the air-passages. Opponents of surgical interference are very much in the habit of speaking as though the operation had ever been proposed for the treatment of croup, and that consequently it was discredited altogether if the

patient died. It can never be too forcibly impressed on the professional as well as on the public mind, that the primary object of the operation has nothing whatever to do with the progress of the disease. It is only proposed for the purpose of meeting one of the complications—certainly the most fatal—namely, stenosis about the larynx. If that complication be met and overcome, the operation deserves full credit, even though the patient may subsequently succumb to influences which surgery may be powerless to encounter. The surgeon who is called upon to catheterise in a case of retention of urine in fever, does not even dream that he is thereby treating the general disease. He who has to puncture the bladder in a case of acute retention in stricture or enlarged prostate, does not think that he thereby treats those affections. He only interferes to relieve a symptom which he knows will be fatal unless operation be resorted to, and he would not feel himself justified in blaming the procedure because the patient might subsequently sink under the original disease. But this is the style of argument generally used against us when we lose a patient who has been operated on.—*British Medical Journal*.

POINTS IN THE SURGERY OF THE URINARY ORGANS WHICH EVERY PRACTITIONER OUGHT TO KNOW.

At the meeting of the Harveian Society of London, April 15th, 1880, Mr. Teevan read a paper on the above subject, an abstract of which was published in the *Medical Press and Circular*, April 28th, 1880:—

The first point he brought before the Society was, that retention of urine in children is always caused by a stone, unless there is some mechanical obstruction to the escape of urine, such as a contracted meatus or tight foreskin. *Second Point*.—That incontinence of urine which is diurnal as well as nocturnal, may be caused by a calculus impacted in the deeper portions of the urethra. He explained how it was that in one case a stone would give rise to retention, and in the other to incontinence. When a calculus was at the meatus internus it was accurately and firmly embraced by the sphincter, so that no

urine could escape. When, however, the stone advanced half an inch further forward, it acted as a gag and prevented the sphincter from closing, so that the water dribbled away along the sinuosities in the calculus. *Third Point*.—That incontinence of urine in boys may be caused by a congenitally-contracted meatus. If the urine could not escape freely in the act of micturition, reflex irritation was set up, and dribbling took place. *Fourth Point*.—That dribbling of urine in men signifies retention, not incontinence. He explained the apparent paradox, showing how in cases of enlarged prostate or stricture, the patient always left some urine behind after each act of micturition, which gradually accumulated, the over-distended bladder not being able to contract on its contents, the action of the sphincter being still perfect. At last, however, the sphincter became weakened a little by great pressure, and leakage followed, so that urine was always dribbling away. *Fifth Point*.—That if, when a catheter was passed in a man, the urine was expelled with great pain and violence, not only through the instrument, but in streams by its sides, there must be a calculus impacted in the deeper portion of the urethra. *Sixth Point*.—That it is not possible to empty every man's bladder with a catheter, as the organ is sometimes sacculated. *Seventh Point*.—That a gleet of more than six months' duration means an incipient stricture. *Eighth Point*.—Behind an enlarged prostate always suspect a stone, as there are in that complaint all the conditions present for the local formation of calculus. *Ninth Point*.—If a man who complains of painful and frequent micturition is worse in the day than at night he most likely has a stone. Prostatic cases were much worse at night than in the day, whereas calculus patients were most comfortable while in bed, but when they moved about in the day they suffered greatly from the movements impressed on the stone. *Tenth Point*.—When a man who complained of frequent and painful micturition was much worse when riding in a vehicle or on a horse, he most probably suffered from stone. The explanations in the former point applied exactly to this also. *Eleventh Point*.—Before delivering a child, see that the mother's bladder is empty. *Twelfth Point*.—If a woman had retention of urine after childbirth, she ought to be relieved with an elastic olivary catheter, the interior of which was completely filled by a bougie. For the want of this precaution the catheter often became plugged with mucus, and cystitis was set up by the nurse's ineffectual attempts to withdraw the urine.

SENILE CHANGES IN BONES.—Dr. Humphry, in illustration of the subject of so-called Senile Changes, showed, at the Cambridge Medical Society, a specimen of fractured neck of the femur, taken six weeks after the injury, from a woman aged seventy-six. A longitudinal section showed the bone to be well and firmly united, a result owing partly to impaction. He doubted whether the reparative process was enfeebled by old age apart from other causes. He showed also the other femur, which did not bear out the prevalent view that the angle of the neck becomes less in old age. No doubt the angle of the jaw altered as the teeth disappeared, and the curve of the back yielded as the back muscles became weaker; but he knew of no evidence that any of the long bones altered. He had lately, with the help of Dr. Anningson, made a number of measurements of the angle at the neck of the femur at different ages, and he found that, in a series of bones from middle-aged subjects, the angle varied from 125° to 133° , and in a series from aged subjects, it varied within the same degrees. In the femur of a woman aged 103, the neck had as wide an angle as that of a young person. Dr. Humphry showed also, from the same case, the cartilages of the ribs, which were soft to the knife and uncalcified. He considered calcification of the rib cartilages to be a morbid phenomenon, and not incidental to old age as such. In the case of old Parr, who died at the age of 153, Harvey observed the costal cartilages were quite soft to the knife; and it is probable that in every very old person they remain uncalcified. The significance of calcified costal cartilages is rather that the individual will not live to a very advanced age. In very old people there are not many appearances of disease of any kind—very few, in fact, of what are called “senile changes.” The heart and aorta from the same case showed only slight traces of atheroma; and he would include atheroma of arteries as another so-called senile change which was not proper to old age as such.—*London Lancet*.

AN UNDESCRIBED FRACTURE OF THE FIBULA.—M. Duplay recently brought before the *Société de Chirurgie*, of Paris, two cases of an undescribed form of fracture of the upper extremity of the fibula (*La France Médicale*). Both the men had been caught in a leather driving

band. Above the situation of the upper end of the fibula was a bony projection contiguous to the tendon of the biceps, and immovable. Below there was a manifest depression. There was then detachment of part of the head of the fibula. The diagnosis was very clear in both cases. In one case, at each turn which the driving band caused him to make, the outer side of his leg struck against the wall. In one of them, who had many fractures, there was complete paralysis of the extensors of the foot and the lateral peroneals, dependent on a lesion of the external popliteal. The second patient died suddenly, without our being able to find, at the autopsy, the cause of death. We had not had time to remark in him paralysis of the muscles of the antero-external region of the leg. In the specimens exhibited from this patient, the nerve is seen to turn round the fracture of the bone, so that it must have been included in the lesion. In the first patient it is probable that osseous union will be impossible, but that nevertheless the functions may be re-established; it does not appear likely to be the same with the paralysis. The patient left the hospital some months after with the paralysis remaining, and has been heard of since as being in the same state.—*Medical Press and Circular*.

NEW METHOD OF PLUGGING THE POSTERIOR NARES.—Dr. J. M. Spear, in the *Medical and Surgical Reporter*, suggests that probably the best impromptu device for this operation consists of a piece of round fine-linked gold chain, slightly flexible and smooth, about one-tenth of an inch in diameter and an inch or more long, attached by one end to a fine waxed silk cord, a foot or more long. If such a chain be not procurable, a short string of metallic cylindrical beads, or bird shot, compressed on a cord, or small strips of sheet-lead wrapped on a cord, might answer the purpose, the essential qualities of a nasal gravitator being smallness, smoothness, and slight flexibility. After providing an instrument, which can generally be done at any farmhouse, the patient is then laid upon the back, the floor of the nose brought as nearly vertical as may be, and the loaded end of the gravitator lowered into the pharynx. Its arrival there will generally be announced by coughing, retching, or clearing up of the throat. The patient, then being brought to an erect position, easily hawks up the weight and carries it forward on the tongue, when the operation of plugging may be proceeded with as usual. The practicability of this procedure he has had occasion to demonstrate frequently, and he finds it much less annoying to the patient than Bellocq's sound or other unyielding instruments.—*British Medical Journal*.

Midwifery.

TREATMENT OF INFANT DIARRHŒA.

BY A. JACOBI, M.D.

In the first year of life it is diseases of the digestive organs that produce the highest mortality; in the second year, diseases of the respiratory organs. To avoid this high rate of mortality in the first year, insist on the mother nursing, if only for a limited period, and pay great attention to infant dietetics.

The most normal breast-milk contains more fat than is capable of being completely absorbed. A good deal is eliminated unchanged. The detritus in the fœces, which we generally call indigested casein, is largely composed of fat. In the preparation of artificial foods we give too much fat. Cream, for this reason, is reprehensible.

Milk is not filtered blood serum, but the transformed cells of the gland. Unhealthy milk with transuded serum, and too much butter and fat, causes diarrhœa. Infants harmed by the mother's opiate, or influenced by her taking mercury, belong to the earliest periods of lactation, or when the mother's health is deranged. Sugar, if abnormally plentiful, as in colostrum, causes diarrhœa, and if below the normal may cause constipation. Casein, if large in quantity, will be likely to constipate, but if it remain undigested will produce diarrhœa. Goat's milk, as an artificial food, should be rejected on account of the large percentage of fat it contains. Cow's milk is improper on account of the large quantity of butter it contains, from its tendency to become acid, and especially from the large percentage and character of its casein. Cow's casein is soluble in water in the proportion of $\frac{1}{20}$, and renders the water slightly acid. Woman's casein dissolves almost entirely in water, and gives a neutral reaction. Cow's casein, in artificial gastric juice, takes longer to dissolve, and coagulates in hard, dense masses. The addition of cream to cow's milk is of doubtful utility. Dr. J. Rudisch uses a mixture composed as follows:— To one pint of water add one-half a teaspoonful of the officinal dilute muriatic acid; to this mixture add one quart of raw, cold milk. Mix

thoroughly, and then boil for ten or fifteen minutes. When pepsin is added to this mixture, the casein coagulates in small, incoherent particles. No cow's milk nor farinaceous articles of diet should be administered without the addition of chloride of sodium. Condensed milk has been supposed to form lactic acid very readily. Fleischmann accuses it of producing thrush and diarrhœa. Yet taken mixed with a certain proportion of barley water it is good. Daly found that children took the milk readily and grew fat, yet showed slight endurance.

In giving cow's milk it should be skimmed, boiled, and diluted with barley water or oatmeal gruel. The whole barley to be boiled for hours. Where there is a tendency to diarrhœa, dilute with barley water. Where constipation is the habit, dilute with oatmeal gruel. Gum arabic and gelatine are also useful diluents. Muriatic acid should be administered with the latter. It may be necessary at times to deprive the child of all milk, giving him barley water alone, even for two or three days. When barley water does not suffice, and when the strength must be kept up, add the white of one egg to three or six ounces of barley water, and add salt and sugar sufficient to make it palatable, and give in large or small quantities, according to circumstances. Where there is much gastric as well as intestinal catarrh, deprive the child of all food or medicine for four or six hours. They will at first suffer greatly from thirst, but this will soon pass off. The first meals should then be small, and will probably be retained. Also give plenty of cool, fresh air. Remove undigested masses from the intestinal tract. If calomel be given for this purpose, it should be administered in four or six grain doses, once. No food which contains concentrated salts should be given, as beef-tea. Avoid everything which increases peristaltic action, as carbonic acid and ice. Avoid increasing the acids in the stomach. Use antacids; any alkali will do, but phosphate of lime is one of the best. Lime water is good, but it must be remembered that it is very dilute, and requires to be taken in large quantities. Destroy ferments. Calomel in *small* doses, $\frac{1}{10}$, $\frac{1}{4}$, $\frac{1}{2}$ grain every two or three hours. Nitrate of silver, largely diluted, $\frac{1}{40}$ to $\frac{1}{16}$ grain in a tablespoonful of water.

Bismuth, one-half to two or three grains every two or three hours. Calm the hyperæsthesia with very small doses of opium—frequently repeated and watched. Alcohol acts as a stimulant and arrests fermentation, and takes the place of food. It is absorbed by the stomach, and thus gives the intestines a rest. Reduce the amount of secretion by astringents.

The main indications are to neutralize acids, reduce nervous irritability, arrest secretion, and change the condition of the catarrhal mucous membrane. When stimulants are necessary, and alcohol alone does not fulfil the requirements, give a hot bath. Camphor stimulates the heart, and though its action is not permanent, yet it is more so than carbonate of ammonia. The dose may be from $\frac{1}{4}$ to $\frac{1}{2}$ grain every hour or two. In collapse and great debility *musk* is very effectual. But it is difficult to obtain pure, and is very expensive. In collapse, five or ten grains should be given at once, and repeated every half-hour. More than two or three such doses will not be required to produce a result.—Condensed from *Am. Jour. of Obstetrics*.

THE ANATOMY AND PATHOLOGY OF TWO IMPORTANT GLANDS OF THE FEMALE URETHRA.

This is the subject of a paper by Dr. A. J. C. Skene, in the *American Journal of Obstetrics*, April, 1880. Dr. Skene describes two tubules large enough to admit a No. 1 probe of the French scale, situated one on each side, near the floor of the female urethra. They extend from the meatus urinarius upward from three-eighths to three-fourths of an inch. These tubules are parallel with the long axis of the urethra, and are located in its muscular wall beneath the mucous membrane. Their mouths are upon the free surface of the membrane, just within the meatus urinarius. The upper ends of the tubules, as shown in specimens prepared by Dr. F. B. Westbrook, terminate in a number of divisions which branch off into the muscular walls of the urethra. When Dr. Skene first discovered these glands, he regarded them as mucous follicles that were accidentally of unusual size, but investigation in over one hundred subjects shows them to be constantly present, of uniform size and location.

Nothing is known of the physiology of these glands. Their pathology, however, is of great practical interest. They are subject to inflammation of varying intensity. In the milder forms of inflammations the mouths of the ducts are enlarged and surrounded by a very narrow bright red areola, and by pressure upon the urethra from behind they discharge a white serous fluid, but this condition gives very little trouble, and would readily escape notice. The most important pathological condition yet observed is a purulent and continuous inflammation, involving the surrounding tissues. The mouths of the ducts thus inflamed are usually seen externally, and present very small ulcers of a yellowish gray colour. The mucous membrane of the meatus is thickened and of a deep red colour, and has the general appearance of caruncle or papilloma. The lower third of the urethra is very tender, and is a source of great discomfort, which, as a rule, is not increased by urination. The absence of dysuria distinguishes this condition from urethritis and caruncle. In inflammation of the glands their mouths may be distinctly seen. In caruncle of the urethra the diseased tissue is generally limited to the lower border of the meatus between the orifices of the tubules. A simple caruncle, if removed or destroyed, rarely returns. The vascular growths about the mouths of the diseased tubules, if removed one or more times, continue to return until the inflammation of the glands is cured. Dr. Skene regards this as explanatory of the usual statement that caruncle is liable to return. In the cases observed by Dr. Skene, he believes the inflammation to have been caused by gonorrhœa, which persisted in the glands long after the original trace of the disease had disappeared. His treatment has been injection with the tincture of iodine and the passage of a probe coated with nitrate of silver along the entire depth of the tubules, and the injection of nitrate of silver dissolved in water by means of a hypodermic syringe with a probe-pointed needle. Sometimes these cases are very obstinate, and the symptoms do not fully disappear after treatment, and as soon as treatment is suspended the inflammation returns. Dr. Skene says that in an obstinate case he would lay the duct open by dividing it from within outwards, *i. e.*, divide the urethral wall from the ducts into the vagina, and keep the wound open until it heals from below outwards. He would treat it as a fistula in ano. *Chicago Medical Gazette.*

DR. SIMS, in a reprint from the *American Journal of Obstetrics*, April number, in speaking of the use of the clamp in ovariectomy, says Listerism "has killed the clamp, and even Spencer Wells uses it no longer; or so rarely as to make its use quite exceptional. He uses the intraperitoneal ligature, cutting it off close, and leaving the pedicle within the peritoneal cavity. His pupils, Bantock and Thornton, who succeeded him in "The Samaritan Hospital," in December, 1877, adopted the antiseptic method then, and with it the intraperitoneal ligature, never having used a clamp since that time. Thus we see the two greatest ovariectomists living, Spencer Wells (with his lieutenants, Bantock and Thornton), and Thomas Keith, both treating the pedicle by the intraperitoneal method—the one by the ligature, and the other by the cautery, which settles forever the question of the clamp."

Dr. Sims says Keith's operation for ovariectomy is characterized by system. "He uses Lister's apparatus with three jets, which works six hours if necessary, and is placed to the left of the patient's head, at a distance of eight or nine feet from the seat of operation. Most surgeons place it at the feet and to the left. By Keith's plan the spray interferes less with the assistants, and is not expended on their arms and elbows. After operations, his sponges are thoroughly washed, and then soaked for ten or twelve hours in a solution of washing soda, which cleanses them of blood and fibrine. Previously to operation, they are soaked in carbolized water (one to twenty). Just before operation they are wrung out of a hot carbolized solution, and put in a tightly covered tin-pail, and placed near the fire to be kept warm till they are used."

SIMS' SPECULUM ALWAYS AT HAND.—The index and middle fingers of the right hand may be used as a perineal retractor in place of the ordinary Sims' speculum. They may be introduced with the patient in Sims' latero-prone position, the operator standing back of the patient, on the side of the table, in exactly the same position as the assistant who holds the speculum in the ordinary way. In this manner the cervix and vagina may be exposed almost as well as by the speculum. This method of exposing the parts may be of great use when a speculum is needed and not accessible,—in the application, for instance, of the tampon in sudden hemorrhage, or in consultations at a distance, when, for reasons not anticipated, it becomes necessary to examine the pelvic organs.—
Chicago Medical Gazette.

Original Communications.

"METHOD IN MEDICINE."

BY GEO. H. EMERY, M.D.

"Order is Heaven's first law." An expression oftentimes quoted and repeated by men in all the avocations of life; and yet, is it not true that much is lost to the human family, in both science and art, by irregularity in the arrangement of affairs, and want of method in observation? I have sometimes thought that in no business or profession is there a greater lack of this important element than in that of which we are members. Early in my professional career I had many occasions for annoyance at my own want of proper method of systematizing my cases, and minutely recording treatment; and my memory so often failed me that it was with the greatest self-condemnation and chagrin that I would find myself, after a brief space of time, unable to repeat some previously given prescription, at the request of my patient; in fact, I had forgotten the case as well as the prescription, and resorted to guessing at some compound as near as possible resembling that, that I might insidiously draw out of my patient what my former prescription had appeared like.

As the method now presented by the writer, as original, is the result of several years' experience, and has been simplified so as to be easily followed, and has been of great value to the author as a protection and reference, and furthermore has been subjected to the test of almost ten years' continuous use, I have decided to give it through this Society to the criticism of my compeers, and to the profession generally, accompanied with some arguments on its behalf, which I trust may assist in making it plain, and, if possible, attractive. I would further premise my system by the assertion that it is not an easy or indolent way of avoiding work, nor has this been an effort on my part to make a method of abbreviations which will be less than I see in the many forms of visiting lists now issued by various publishing houses throughout this and other countries, and which I deprecate as mentally dwarfing, unbusiness-like by comparison, and

injurious many times alike to the physician as well as the patient; but for the purpose of improving the physician in minuteness of observation, protecting him from unkind inuendos and malpractice prosecutions, and giving him an exact and intelligent method of referring to the experience of his past professional life. With this object in view, I advance this system for your consideration. Objections on the ground of too much labour have been raised by some, and may present themselves to your minds, while all have concurred in commending the plan; but years of experience and continued observation will, I believe, demonstrate the truth of the aphorism, "There is no true excellency without labour." As I proceed, I shall endeavour to meet my objectors by facts and arguments which I think incontrovertible, but shall now briefly detail the method in question. This consists in a memorandum book (Reynolds & Reynolds, No. 3) and a prescription book, original in style, same size as the preceding, containing about one hundred prescriptions, and perforated so that a stub the same size as the prescription remains in the book. I use carbon paper, cut the size of the prescription blank; and when I have written my prescription, have thereby an exact copy of the original. Each of these stubs I number, and continue the numbers in regular rotation from book to book. My mode of observation is as follows: I will now suppose myself in the presence of my patient, either by visit or in my office. I take out my memorandum or case-book, write in a full plain hand (usually in the morning, before business hours,) the day of the week and date thereof (this, of course, answers for all patients of that date); name of patient in full, with V for visit or O for office; then age; on the line below I proceed to write the prominent indications, as I propound questions and patient answers the same. I would here state that in my gynæcological practice I have had some blank forms prepared, same as those described in Prof. Thomas' valuable work on "Diseases of Women," page 58, and which I find very convenient for my first examination of all cases in this department; these I number, and after making an entry in my case-book of the name

of patient as before, I write. At all subsequent examinations of these cases I use my case-book, making notes in full. After writing all the prominent symptoms deemed necessary in each case, should I write a prescription, I place the number thereof at the bottom of the record, opposite the pulse, temperature, and respiration. This method of keeping a reference from the case records to the medicinal agents used is of the utmost importance, as I shall show further on in my thesis; and I call your attention specially thereto, so that you may remember it when we come to arguments thereon.

The symptomatic records are longer or shorter according to the exigencies of the case, never failing to make some memoranda of symptoms for every patient consulting me; in surgery especially, fractures and dislocations, being very particular to note the action of my patient as to obedience to my instructions, the measurement, modes of dressing, changes of same, etc. My account books are separate, and consist of day-book, cash-book, and ledger; in the first of which I simply enter name and amount, numbering each entry in regular order, placing this number on the margin of my case-book in red ink. I then arrange each account in ledger in the usual manner, using only the numbers from the day-book (which also agree with the marginal numbers on my case-book), and placing the amount charged immediately above; this enables me to refer directly from my ledger to the case-book, and speedily tell the precise services rendered in case of any dispute, and also economize space. The day-book may be dispensed with if the physician choose to make his ledger-entry direct from case-book.

Since and before I had established this case-recording system, I have many times had patients, in whom I held the most unbounded confidence, dispute visits and services; and it was only after I showed them the details of services that they were convinced of their error and willing to settle my claim. Before I had any very definite method, I usually discounted my bill at the dictum of the patient, and many times with loss and injustice to

myself. In the early years of my practice I was often annoyed, as I before stated, by the return of a patient, for whom I had prescribed some weeks or months preceding, with a request of me for a repetition of the prescription then given, assuring me of its great efficacy and excellent action. Assuming an exceeding wise attitude, and gazing very approvingly at my admirer, and bidding she or he be seated, we would hold about the following colloquy :

DOCTOR.—Hem ! Yes ! Yes ! Your name is— (pausing for the patient to fill up the blank, and ransacking my brain in a vain attempt to remember that I had ever seen the party before.)

Smith, rejoined the patient.

DOCTOR.—Oh yes ! Mrs. Smith, you were suffering with headache.

Mrs. SMITH.—No, Doctor ; it was a difficulty in my bladder.

DOCTOR.—Yes ! Yes ! I remember. How long is it since I saw you ?

Mrs. SMITH.—About six weeks.

DOCTOR (pulling out my visiting list, and slowly turning the pages, continues).—Did you pay for your prescription, Mrs. Smith ?

Mrs. SMITH.—Yes ; I gave you a dollar.

(Of course, at this point all hope sank, for I always put my cash practice in my pocket, without note or comment, but I continued)—The medicine I gave you was a white liquid, wasn't it ?

Mrs. SMITH.—Oh no ! it was powders and pills.

DOCTOR.—Yes ! Yes ! You were taking a powder in the morning, and pills at dinner and in the evening.

Mrs. SMITH.—No, Doctor ! a pill morning and evening, and a powder at dinner.

DOCTOR.—Yes ! Yes ! Exactly !

By this time I had gotten about all I could hope for, or wanted to get out of this lady, and after changing the subject to the weather, &c., I would deliberately write a prescription for pills and powders, without any more certainty of its similarity to the previous medicine than I had to the character of the inhabitants of Saturn or Jupiter.

This unsatisfactory mode of memorizing and

referring to previous work led me to make a special memoranda of important cases ; but many that I considered unimportant were frequently those to which my attention was subsequently called, and about which information was requested. This led me to the method of writing the important symptoms presenting themselves in every case, at the immediate time and place that I obtained the same from the patient, as before stated.

Let me, however, by some practical illustrations culled from my own experience, show the inestimable value of the system to those employing it.

1st. *As a protection against Malpractice Suits.* And as these usually occur in the department of Surgery, particularly in fractures and dislocations, very full and concise notes should be taken at each visit made, respecting every duty performed.

Some years ago, after treating a patient for compound fracture of tibia and fibula, at one of my visits, and before leaving, I made a request for a small amount on my bill, and left with the usual injunction that I be sent for in case of any unfavourable changes. The next day, however, another physician, since deceased, was summoned ; and without deigning to notify me, or instructing the family so to do, he responded. And with that child-like and bland expression, known only to the members of our profession, in the most confidential and sympathetic manner assured the man, that if he had not been called, and arrived at that immediate moment, amputation would have been absolutely necessary, and many other untruthful criticisms, which helped the patient in a purposed endeavour to defraud me of remuneration for my services. At the appointed time for my visit I proceeded as though I had heard nothing of the change of physicians, and found all my dressings altered, and neither extension or counter-extension in use. I took full notes of the change, and after so doing stated the full amount of my bill. In due time I requested settlement, which was refused, with threats as to what would be done in showing publicly my ignorance if I attempted to collect the amount ; my medical friend, of course, encouraging him in his position. I immediately

commenced suit, and was answered with a counter-suit for malpractice. At the trial I was enabled to detail minutely every visit and method of treatment, with measurements, etc.; while my opponents, depending on memory, made so many discrepancies that their attorneys, after two or three days' conflict, requested a withdrawal of suit, and gave judgment for my bill in full. Nothing but my case-book won me the suit, and prevented my reputation from severe injury and malicious slander. In many similar cases that I have since witnessed in the courts, physicians seem to be uncertain and confused as to their treatments, and can detail nothing with positiveness, which fact itself shows a lack of care and attention.

2nd. *As a reference whereby we may protect the interests of our patients.* This assertion I can best prove by giving you an illustration selected from a number of similar cases occurring in my own practice. In 1874, while practising in Northern Wisconsin, the author was consulted by a man with necrosis of femur, caused by a gunshot wound received while in the army. A number of pieces of dead bone were removed, and, after a time, the patient passed from my observation. About two months since I received a letter requesting me to detail the case, in an affidavit, for pension purposes. I could not even recall the name on reading the letter; but upon consulting my records, I found symptoms and treatment so detailed as to revive the whole case to my mind; and this enabled me to give an extended statement of the facts, thereby not only proving beneficial to the party interested, but very gratifying to myself. Many times have such incidents occurred in the past, but this is sufficient to suggest its benefits in this direction.

3rd. *As a financial benefit to our patients, and a protection to life.* I suppose I do not err in making the assertion, that a principal objection to our school of medicine, on the part of our friends as well as those opposed to us, consists in the expense attending the procuring of medicine. I further venture the assertion, that millions of dollars are expended annually to procure useful and expensive medicines, of a class that I will term durable, and which I place under the general head of Tonics. I say

millions of dollars are expended annually for such remedies, and after a few doses the bottles are set aside, perhaps by necessity, for other prescriptions, or because of the convalescence of the patient, and thus *small drug stores* (as commonly expressed) are accumulated in private residences, without any method of referring to the contents of the bottles, etc., on the part of the physician, and the same medicines are prescribed and accumulated, until the advice of Shakespeare is followed, and the *physic is thrown to the dogs*. This waste may be almost entirely avoided by having the initials of the patient on the prescription and stub, with the number on the stub; then when a prescription is written, put the number of the stub at the bottom of the records of symptoms in the case-book. This refers you in an exact manner to your line of treatment from the case-book. (The writer hereof claims to have been the first to have originated and applied such a method in this practical way.) You should also always insist that the druggist mark the initials of the patient and the date on the label, as they find it on the prescription; thus, J. H. D., or Mrs. R. T., or S. J. B.'s child. After a time we are again consulted or summoned to see the patient, and informed that there is some medicine left of a previous prescription. Selecting it by the initials from the accumulated medicine of perhaps three or four other members of the same family, I instruct my patient to send to my office at a certain hour; in the meantime I shall examine the prescription, and may be enabled to have them use the same mixture, suggesting economy, etc. After so doing I have repeatedly found the medicine just what I should have prescribed had I written another prescription, and what had been purchased at the cost of a dollar or more, with frequently two-thirds of the medicine remaining on hand.

I believe I can truly say I have saved hundreds of dollars to my individual patrons in this manner. I have often pitied the poor as I have observed the waste in this direction, and must say that I believe it is our duty as honourable and honest men, working so much among the sons and daughters of honest toil, to do everything in our power to establish

methods of economy in this direction; and I am fully convinced that, if the profession adopted a system such as is here presented, vast sums would be saved to the people. But I further claim that the initials of my patient on each label is a source of protection to life, by enabling the nurse or attendants to keep medicine for different patients from being mixed, except by carelessness on their own part, and without the possibility of a shadow of reflection upon the physician or druggist. Frequently, in each of our practice, we are called to a family where two or more patients of different ages are sick at the same time, and I have known powders and mixtures being prescribed and obtained from the doctor or druggist, for an adult and for a child—the medicine in similar form, but of the most terrible and deadly difference of power—and the person administering them having nothing to guide them from a fearful error, except their memory, as to the position of the medicine upon the table or shelf; and, gentlemen, I and many of you have known of the child receiving the poison mixture or powder, and the nurse, or administerer, condemned; but I have always felt and believe that the physician or druggist who failed to mark the initials or name on the label was in part culpable with the unfortunate administerer of the dose.

4th. *As a check between the Physician and Druggist, preventing recrimination as to the contents of prescriptions.* I have frequently heard the complaint made by druggists, and have known physicians to pretend to duplicate a prescription (where the label had been defaced or the bottles mixed with others, and no means of selecting them marked thereon), when the patient returned to the physician, stating, "this mixture is not like the other you gave me." He (the physician) would commence a tirade on the druggist, asserting the incompetence of the "Knight of the Mortar," and advises the patient to avoid that store, &c., &c.; whereas the mixture was correctly compounded, but the doctor had forgotten his previous prescription, and the last one was entirely dissimilar to the first. You can readily see that, if we have our duplicates of prescriptions, such prevarication and misrepresentation is positively avoided.

And in conclusion, by combining the case book and prescription book, in the manner described, it produces concentration of thought, exactness of method, and confidence on the part of an intelligent patient, which the author has found more than repays the trouble to every honest and earnest student in the pursuit of knowledge. This I cannot conceive obtainable by the system of abbreviations which I find prepared by publishing houses in book form, and which consists in giving each patient a line, and each day its column, making a dot for a visit to be made and crossing it when made. Will any gentleman assert that he can, after a few months (not to say years), give therefrom any correct, exact, or truthful account of services rendered? You tell me this method has too much labour. All I can say is that while it has more labour than those plans whose demerits I have tried to show by contrast, yet in every other department and profession of life, we, with the people, demand a similar correctness. As a proof hereof, let us compare ours with the other learned professions. Take the Theologian and see his manuscript work, or the Attorney with his carefully prepared brief. What if we should say to the former, Why don't you, as a graduate in your profession, dispense with so much work of preparation? and to the latter, Can you not find a method of abbreviation whereby you may avoid the trouble of writing so much about your case? Why, the mere statement of such a proposition would be ridiculous; and yet in the most serious profession to the human family, that which deals with its most weighty affairs, namely, life and death, we find objectors to a little labour, and those who with the stroke of a pencil signify all they deem important to themselves or the patient. Does this satisfy and enlarge the mind, and produce full approbation of conscience? I leave you individually to answer. If my method is such as to meet your approval—and I certainly trust that it may merit some attention and prove of benefit to many present in their future practice—I shall be amply repaid for preparing this thesis, and giving it to this Society.

SEVEN medical students have died of diphtheria contracted in the Hospital des Enfants-Malades, Paris, during the past year.

Translations.

EXPLOSIVE MIXTURES.

M. Kæuffer has published, in the *Annales de la Société Medico-Chirurgicale de Liège*, an interesting study of pharmaceutic preparations, which in certain cases, often not well marked, may give rise to explosions. Amongst these very numerous substances we will cite only the most important. The author, for example, while preparing a pomade composed of chloride of lime, flowers of sulphur and other substances, saw small detonations produced, and the entire mass entered into deflagration. Another time, essence of turpentine having been poured into a bottle in which remained some sulphuric acid, the vase burst. These explosions may be produced in many other cases. A German journal reports that in America, one of the most dangerous substances, nitro-glycerine, is found in all the homœopathic pharmacies. The hypophosphites may also be the cause of accidents. In one case, the mixture of hypophosphite of lime, chlorate of potash and acetate of iron produced a violent detonation, which burned the preparator and put his life in danger. The trituration of the hypophosphite alone may be dangerous when the substance is very pure. The solutions of oxydizing bodies in glycerine demand the greatest prudence. Thus, chromic acid in glycerine has been able to give rise to a violent detonation. In this case the solution should be made drop by drop in order to avoid accidents.

The solution of permanganate of potash in glycerine presents an analogous danger. Pills of oxyde of silver have equally been able to determine on the one who carried them a formidable explosion. The iodide of nitrogen, which may be formed in certain circumstances, is also detonating. Now, in America there are frequently seen prescriptions ordering a mixture of tincture of iodine with ammonia, which necessarily form iodide of nitrogen: if the explosion is rarely produced, it is because the trituration is generally made in the presence of water, which prevents this result. In any case, this mixture should only be made in very small quantities. A pharmacien ought then to refuse to fill a prescription for which tincture of iodine is

to be mixed with an ammoniacal liniment; he ought also to refuse to make every mixture of chlorate of potash mixed with sulphur and analogous substances. Thus chlorate of potash mixed with tannin is dangerous, and these bodies ought only to be delivered separately, in the case where the physician prescribes them in substance and not under the form of gargle. A tooth powder pointed out by Price, composed of chlorate of potash and cachou, and used with a dry brush, would be capable of producing a detonation in the very mouth of the patient. Price also noted danger from concentrated solutions of permanganate of potash in alcohol and water, which may be filled but never delivered in uncorked bottles; if not, explosion follows infallibly.

Chlorate of potash with glycerine also constitutes a dangerous mixture. Once a gargle prescribed by one of the most renowned physicians of New York, containing equal parts of chlorate of potash, perchloride of iron and glycerine exploded with great violence, not in the pharmacy, but in the saddle bags of the bearer.

Another time, a similar mixture exploded only some time after its preparation, under the influence of the rays of the sun. This time the explosion caused the burning of the house. Lately there has been noticed an explosion of a powder containing chlorate of potash and hydrochlorate of morphine.—*Union Méd. du Nord Est.*

ECZEMA OF THE SCALP AND NOSE.

Neumann of Vienna, in moist eczema of the hair and scalp, bathes the diseased parts twice a day with the following solution:

Venetian borax	
Crystalized alum	5 parts.
Glycerine	100 "

For this lotion may be substituted a pomade thus formulated:

Venetian Borax	5 grammes	ʒi.
Dissolve in a sufficient quantity of glycerine.		
Mutton suet		
White wax—āā	25 grammes	ʒij.
Olive oil		ʒs.

In eczema of the nose he introduces into the nasal orifice suppositories composed with

Cacao butter—80 centigrammes	12 grs.
Pure tannin—15 "	ʒ¼ "

The tannin may be replaced by 0.15 centigrammes (2¼ grains) of oxide of zinc.—*Le Practicien.*

ON THE ROLE OF THE EUSTACHIAN TUBE IN
THE PHYSIOLOGY OF AUDITION.

BY DR. EDOUARD FOURNIÉ.

The conclusions of a paper by Dr. Fournié are :

1. To the number of usages generally attributed to the Eustachian tube, and which are—The maintenance of an equal tension of air on both faces of the membrana tympani, and the evacuation of the matters secreted, we add a third. The tube, in our opinion, is destined to transform the closed cavity of the tympanum into an open cavity, for the purpose of preventing the interior and exterior vibrations from arriving through the solid parts into a closed cavity, and there giving rise to a resonance incompatible with the excellence of hearing.

2. Contrary to the opinion generally adopted nowadays, the Eustachian tube is always open, and the communication of the external air with that of the cavity of the tympanum is incessant.

3. The external bundle of the pharyngo-staphylin, the internal and external ferri staphylins, are obturators of the Eustachian tube and not dilators of this conduit, as it is generally professed.

4. The obturation of the tube is always but momentary, and it is produced day and night during the movements of deglutition, during the pronounciation of certain letters, and during singing.

5. The circulation of the air of the tube and of the drum of the ear represents a kind of respiration, in which the obturator muscles perform the functions of expiratory forces, whilst the elasticity proper to the tubal cartilage represents the inspiratory forces.—*Gaz. des Hôp.*

TREATMENT OF VAGINITIS BY IODOFORM.

M. Martineau employs in vaginitis an emulsion made of equal parts of iodoform and oil of sweet almonds. Under the influence of the oil, the iodoform almost entirely loses its odour, to such an extent that it may be employed without the persons surrounding the patient being able to suspect the nature of the dressing.

M. Constantine Paul indicates another process to do away with the disagreeable odour of iodoform. It is sufficient simply to drop a few drops of the essence of bitter almonds upon the iodoform powder.—*Gaz. des Hôp.*

THE CANADIAN
Journal of Medical Science,

A Monthly Journal of British and Foreign Medical Science, Criticism, and News.

TO CORRESPONDENTS.—We shall be glad to receive from our friends everywhere, current medical news of general interest. Secretaries of County or Territorial medical associations will oblige by sending reports of the proceedings of their Associations to the corresponding editor.

TORONTO, JULY, 1880.

J. & W. HORLICK & Co.'s PREPARATIONS.—The Infants' Food of this firm has the best reputation among the leading medical men in the States (such as J. Lewis Smith and others) as a diet, when unfortunately the little sufferers have to be put on artificial diet in that troublesome and fatal disease, cholera infantum. We hope that a full report of the results obtained by its use here will be presented.

UNIVERSITY OF TORONTO—MEETING
OF CONVOCATION.

On Monday, June 7th, a meeting of Convocation of the University of Toronto was held in University College, and we are gratified to be able to say was much better attended than has been heretofore the case, over seventy graduates being present. Owing to the regretted absence of the Chairman, Chief Justice Moss, through illness, the Chancellor, Hon. Ed. Blake, presided. John A. Boyd, M.A., Q.C., was elected in the place of Hon. Thomas Moss. In reply to Mr. J. C. Hamilton, in reference to the resolution passed last year, Dr. Oldright stated unofficially that it was the intention of the Senate to make public its proceedings as far as possible. A Committee, consisting of the Chairman and Dr. Oldright, Messrs. Hodgins, Cattanaich, Loudon, Gibson and the clerk, was appointed to report on a proposed code of rules, at the next meeting. Mr. N. Kingsmill moved as follows :—

“That a Committee be appointed to consider the desirability of procuring amendments to the Acts relating to the University of Toronto,

and amongst others the amendments indicated in the schedule to this resolution; that the Committee be composed of the following gentlemen:—The Chancellor and Vice-Chancellor, and Messrs. J. M. Gibson, H. M. Deroche, R. Harcourt, R. M. Wells, J. M. Buchan, Dr. Richardson, J. C. Hamilton, J. H. Hunter, and the mover and seconder, and do report to the next meeting of Convocation which may be held, general or special.

“*Schedule of Suggested Amendments.*—(1) That the election of members of the Senate be preceded by a nomination of candidates, nominations to be made by nomination papers signed by ten members of Convocation entitled to vote, and to be sent to the Registrar by such a day as will enable him to send the names of the nominated candidates, with the names of the ten persons nominating them, by circular, along with the voting paper, to each graduate entitled to vote, names of candidates to be also published in one or more of the Toronto newspapers. (2) That sec. 15 of Rev. Stat., c. 210, be amended so as to provide that voting papers may be delivered to the Registrar at any time between the nomination and the time appointed for the counting of votes. (3) That in alternate years seven and eight of the elected members of the Senate shall retire annually, and that no such retiring member shall be eligible for re-election for the succeeding year unless he shall have attended half the number of meetings in the preceding year. (4) That all graduates shall be *ipso facto* members of Convocation, subject only to such rules as to payment of fees and otherwise as Convocation may prescribe. (5) That twenty members shall form a quorum of Convocation. (6) That the Barsar be required to transmit annually to the Senate, and to Convocation, as well as to the Lieutenant-Governor, the account mentioned in sec. 6 of Rev. Stat., c. 211. (7) That Convocation shall fix the term of office of the chairman.”

He spoke briefly in support of the various suggestions in the resolution.

Mr. J. A. PATERSON, in seconding the resolution, expressed the opinion that the number of members of the Senate should be increased.

The motion was carried.

A LEVY.

On motion of Mr. D. BLACK, the sum of \$1 was fixed as the fee for the current year. A few minutes were thereafter spent in receiving the fees of members, \$67 having been subscribed.

NEXT MEETING.

On motion, it was decided that the next meeting of Convocation should be held on the

day fixed for the next College Convocation, at 7.30 p.m.

THE UNIVERSITY LIBRARY.

Mr. J. C. HAMILTON moved, “That this Convocation is of opinion that the rules of the University library should be such as to allow graduates to take books out of the library within proper restrictions, and also that the library should be open at least one evening every week for the benefit of graduates or undergraduates who may wish to use the same.” Carried.

SENATE LEGISLATION.

Mr. Wm. HOUSTON, in accordance with a notice he had given at the last meeting, moved, “That the Senate be and is hereby requested to furnish for the information of Convocation copies of all statutes and general resolutions passed by it, and now in force.” The motion was carried.

MISCELLANEOUS.

Mr. J. H. HUNTER thought the time had come when the University of Toronto should issue an annual calendar.

Mr. W. HOUSTON gave notice that at the next meeting of Convocation he would move “For a Committee to consider and report upon the question whether the bequest of the late Richard Noble Starr, M.D., ‘for the encouragement of the study of the subjects of anatomy, physiology, and pathology’ has hitherto been applied by the Senate in the manner best calculated to give effect to the devisor’s intention.”

Mr. W. H. VANDER SMISSEN, Mr. SMALL, and Mr. KING referred to the project of placing an organ in Convocation Hall as worthy of the support of graduates.

Mr. W. H. C. KERR remarked that the organ he would like to see established was a University magazine.

After votes of thanks to the Chairman and to the railway companies for favours extended, the meeting concluded.

THE ANNUAL DINNER.


Convocation Hall in the evening was the scene of the annual dinner and re-union of graduates, at which an exceedingly pleasant evening was spent. The hall was brilliantly lighted, and the tables tastefully arranged, so that when over two hundred guests took their places round the “festive board” the scene presented was a very striking and happy one. The chair was occupied by the Chancellor, Hon. E. Blake, the vice-chairs by Lieut.-Col. Gibson, M.P.F., of Hamilton, and Mr. G. H. Smith, of Kingston. A large number of graduates as well as many of our most distinguished citizens were present. The usual loyal and patriotic toasts were duly honoured and re-


sponded to, the following being the speakers:—The Bishop of Toronto, Rev. Dr. Potts, Rev. Principal Caven, Hon. Mr. Crooks, Mr. Justice Patterson, Mr. Justice Cameron, Hon. Frank Smith, Prof. Goldwin Smith, Col. Durie, Col. Denison, Dr. Aikins, Dr. Geikie, Dr. Richardson, Col. Otter, and others. "Toronto University, and University College, Stepping-stones to the University," "The Honour Men," "The Ladies," and "The Press," concluded the programme of probably the most successful dinner ever held in Toronto University. It was high time that a more enthusiastic University feeling should be aroused among the graduates, and a more largely attended meeting of Convocation brought together. We were rejoiced to see it, and hope that annually a repetition of such a pleasant and profitable gathering will obtain. We only regret that we cannot give a fuller report; but as our space is limited, and full reports have appeared in the daily city press, the omission will be less felt.


ELECTRO-MEDICAL APPARATUS.—Jerome Kidder, M.D. Kidder's Electro-Medical Apparatus (in general), to which was awarded, in 1875, the Gold Medal of Progress, retains at this date its superior qualities for electro-therapeutical purposes, and we again recommend that the Diploma for maintained superiority be awarded him. Especial mention should, however, be made of an exceedingly compact Faradic apparatus, which Dr. Kidder has devised during the past year. The apparatus is constructed, so far as relates to the motive powers, after the pattern of Gaiffe's celebrated machine, but the helix and rheotome are peculiar to the manufacturer's larger batteries. The merit of this apparatus consists in its ingenious combination of old and new ideas, resulting in the construction of an instrument which for its size gives a current (in strength and variations of quality), superior to any other now in use. We recommend that to this little apparatus be awarded the medal of superiority.

GALVANO CAUSTIC AND GALVANIC APPARATUS.—The merits of the galvano caustic apparatus were fully pointed out in the report of '76. This instrument is substantially the same in construction and thermic power now, as then, but after a more extended test of its merits, and a better knowledge of other forms of caustic batteries, we agree that the one under

consideration is entitled to the Medal of Superiority. Concerning the constant current batteries, nothing can be said further than was given in the report of last year.

 **Diploma for Maintained Superiority.**—For Electro Medical Apparatus.

 **The Medal of Superiority.**—For an exceedingly compact Faradic Apparatus.

 **The Medal of Superiority.**—For Galvano Caustic and Galvanic Apparatus.

A true copy of the report on file.

JOHN W. CHAMBERS, Sec.

Copy of the Judges' Report in Department III, Group 5, Division B, at the 46th Exhibition of the American Institute, held in the City of New York, October and November 1877.

AMERICAN MEDICAL ASSOCIATION—WILLIAM WOOD & Co.'s EXCURSION.—This well-known publishing house gave an excursion to the delegates to the American Medical Association, round and through the harbour of New York to Brighton Beach, Coney Island, and return. We regret that we were unable to accept their kind invitation to participate in such an enjoyable and hospitable part of the amusements provided by the New Yorkers for their visitors. The meeting appears to have been well attended, and well provided with intellectual and other entertainments.

LACTOPEPTINE.—This valuable preparation has become so well known that we need scarcely call attention to its usefulness in all varieties of dyspepsia. It has also gained a high reputation in cholera infantum, so prevalent in our hot months, and in that other troublesome complaint that is all in season—vomiting of pregnancy.

UNIVERSITY OF TORONTO.—ANNUAL COMMENCEMENT FOR CONFERRING DEGREES, HONOURS, &c., was held on June 8th, and, as usual, largely attended. Pleasing incidents this year were the presentation by the graduates to the Senate of a portrait of Dr. McCaul, the delivery of a brilliant speech by the Chancellor, and the fact that a lady this year had carried off scholarships in Modern Languages and General Proficiency. It is almost needless to remark, in conclusion, that "Old Grimes" was present in full force.

NEWSPAPER LAWS.—We call the special attention of postmasters and subscribers to the following synopsis of the newspaper laws:—1. A postmaster is required to give notice *by letter* (returning a paper does not answer the law) when a subscriber does not take his paper out of the office, and state the reasons for its not being taken. Any neglect to do so makes the postmaster *responsible* to the publishers for payment.

2. Any person who takes a paper from the post-office, whether directed to his name or another, or whether he has subscribed or not, is responsible for the pay.

3. If any person orders his paper discontinued, he must pay all arrearages, or the publisher may continue to send it until payment is made, and collect the whole amount, *whether it be taken from the office or not*. There can be no legal discontinuance until the payment is made.

4. If a subscriber orders his paper to be stopped at a certain time, and the publisher continues to send, the subscriber is bound to pay for it *if he takes it out of the post-office*. The law proceeds upon the ground that a man must pay for what he uses.

5. The courts have decided that refusing to take a newspaper and periodicals from the post-office, or removing and leaving them uncalled for, is *prima facie* evidence of intentional fraud.

WILLIAM WARNER & Co.—The pills of this celebrated Philadelphia firm are elegant pharmaceutical preparations. They are well sugar-coated, and keep for years without becoming hard and inert. This firm has also become well known as manufacturers of *Ingluvin*, so useful in gastric troubles. We have used it frequently with satisfactory results, and can therefore recommend it.

UNIVERSITY COLLEGE, TORONTO.—Professor Daniel Wilson has been appointed to the vacant Presidency; and Mr. Warrant, of Magdalene College, Oxford, takes the Classical Professorship.

Our thanks are due to Dr. Thomas Pyne, Registrar Ontario Medical Council, for his never-failing courteous accedance to our request for information about such Council matters as could properly be made public.

Book Notices.

Annual Report of the Kingston Asylum for the Insane, for the year ending September 30th, 1879.

Time of Conception and Duration of Pregnancy. By GEORGE J. ENGELMAN, M.D., St. Louis.

Third Annual Announcement of the Dental Department of the University of Pennsylvania, 1880-81.

Ovarian Tumours: At what Stage of the Disease is it the Proper Time to Operate? By EDWARD BORCK, M.D., St. Louis.

On Fluid Extracts, as proposed for the coming Pharmacopœia. Reprint from *Therapeutic Gazette*, April 15th, 1880. Detroit: George S. Davis.

Investigation of the Albany Medical College. Report of the Special Committee of the Common Council of the City of Albany, on the Affairs of the Albany Medical College and the Removal of Dr. John Swinburne.

The Population Question at the Medical Society of London; or, the Mortality of the Rich and Poor.—A paper read at the Society, with the debate. Edited by CHARLES R. DRYSDALE, M.D., Senior Physician to the Metropolitan Free Hospital of London, and Physician to the Rescue Society.

The Principles and Practice of Gynecology. By THOMAS ADDIS EMMET, M.D., Surgeon to the Woman's Hospital of the State of New York. Second Edition, thoroughly revised. Philadelphia: Henry C. Lea. Toronto: Hart and Rawlinson, 1880.

We were much gratified on receiving the second edition of this admirable book, of which we had occasion so favorably to speak a year ago. This edition has been carefully revised, and we can wish the author and his publishers nothing better than that, by an equally rapid sale as met the first edition, a third may shortly be required.

Montreal General Hospital Reports, Clinical and Pathological. Edited by WILLIAM OSLER, M.D., M.R.C.P., London. Vol. I. Montreal: Dawson Bros., 1880.

These reports are dedicated to the veteran Chairman, George W. Campbell, A.M., M.D., LL.D. The volume is well got up, is the first of its kind issuing from a Canadian institution, and is most creditable to its talented editor and to the medical staff. We trust its publication will stimulate the trustees and medical men of other hospitals throughout the Dominion to promote their usefulness to science by adopting some similar method.

Eyesight: Good and Bad. A Treatise on the Exercise and Preservation of Vision. By R. BRUDENELL CARTER, F.R.C.S. London: Macmillan & Co. Toronto: Willing & Williamson, 1880.

The author says in his preface—"A large portion of the time of every ophthalmic consultant is occupied, day after day, in repeating to successive patients precepts and injunctions which ought to be universally known and understood. The following pages contain an endeavour to make these precepts and injunctions, and the reasons for them, plainly intelligible to those who are most concerned in their observance."

Mr. Carter has more than fulfilled his task, and has given to the laity the best manual in many respects yet written specially for them. Other works of the kind cover much the same ground, but Mr. Carter has discussed his subject with greater minuteness.

A Guide to the Practical Examination of Urine.

For the use of Physicians and Students. By JAMES TYSON, M.D. Philadelphia: Lindsay & Blakiston. Toronto: Hart & Rawlinson, 1880.

That this little work has been well received by those to whom it is addressed is evidenced by its having attained to a third edition.

The subject-matter is well condensed, and yet corroborative tests are given for all the principal organic and inorganic constituents of the urine.

The book opens with a very short description

of the secretion of urine, then takes up the general physical and chemical characters, and then studies the constituents of the urine in health and disease, devoting a large part of the work to the organic constituents. The remarks on Urinary Deposits are good, and in the microscopic search for casts a hasty judgment is deprecated.

The work is made up in portable form, and the paper and typography are good.

Clinical Lectures on the Diseases of Women.

By J. MATTHEWS DUNCAN, M.D., LL.D., F.R.C.S., &c. Philadelphia: Henry C. Lea; Toronto: Hart & Rawlinson. 1880.

This is one of the most captivating books we have read in a long time, and we do not wonder at the enthusiasm with which his students always speak of Matthews Duncan. But while we are charmed with its racy style, we feel somewhat disappointed in the matter.

The book consists of nineteen lectures, delivered to his class in St. Bartholomew's Hospital, and most of them have appeared from time to time in the medical journals, and have generally been very highly praised.

The first lecture is on "missed abortion, that condition in which the fœtus dies, the symptoms of pregnancy cease, where the liquor amnii either escapes or becomes absorbed, leaving the fœtus in a macerated or mummified condition, rolled up in its membranes, and retained in the uterus for weeks or months after its death," when it may so impair the woman's health that means have to be taken to secure its expulsion. This lecture is full of interest, and touches upon many other matters only indirectly connected with the subject of the discourse.

The second lecture, on abnormal pelvis, does not display the author's usual clearness, either as to the results of pelvimetry or the directions for its practice. Indeed, we think he fails to show that pelvimetry is either positively reliable or practicable in just the cases in which it would be most useful; that is, in those cases of very moderate contraction or deformity in which the induction of premature labour would afford the best chance of saving both mother and child, for he says that in these cases the

measurement can only be taken after the conclusion of labour.

In the third lecture, catarrh of the cervix uteri, is discussed in his usual clear and decisive manner. He very justly disapproves of the term "ulceration of the womb" as applied to that red granular state of the os uteri so often associated with chronic inflammation of the lining membrane of the cervix. He is very graphic in his account of the disease and its symptoms, although a little indefinite when he says, "a glairy albuminous crystalline, or slightly opaline discharge, is scarcely to be called morbid." In regard to the treatment, he justly disapproves of strong vaginal injections, but gives an implied approval of the solid nitrate of silver, which is to be passed into the cervix every third or fourth day; but he says, "If after say about ten such applications the case is not cured, the practitioner should give it up as not amenable to the method," and we heartily agree with him. He recommends zinc-alum for the milder, and caustic potash for the more severe cases, and sometimes the actual cautery, and with these his catalogue of remedies is complete. We only hope our readers will always find them sufficient. He very properly says that a little redness on one hip or around the os may often be disregarded, as it is not always pathological.

The fourth lecture is on ovaritis; but it would be heresy to doubt his estimate of the relative frequency of that disease with perimetritis and parametritis, although we think it will hardly hold true in either private or hospital practice in this country. The lecture is well worth the careful attention of all practitioners, especially that portion which deals with examinations of the ovary.

Lectures V., VI., and VII. are devoted to different forms of perimetritis and panametrinitis; and although they are results of a vast experience, yet they are not so clear as the writings of some of our American authors; and for our own part, we prefer the American terms of pelvic cellulitis and pelvic peritonitis, as being more intelligible to the majority of medical students.

The remaining lectures on Painful Sitting, Aching Kidney, Irritable Bladder, Vaginismus, Spasmodic Dysmenorrhœa, Hepatic Disease in Obstetrics, Fibrous Tumour of the Uterus, Cancer of the Body of the Uterus, Uterine Hæmatocele, Parovarian Dropsy, Rupture of Ovarian Cystoma, and Procidentia Uteri, we recommend to the careful attention of all our readers, as they will be found most delightful and instructive reading, and embody the opinions and teachings of one of the most popular and experienced gynecologists of this age.

Miscellaneous.

TORONTO SCHOOL OF MEDICINE.—The annual distribution of prizes given by the Toronto School of Medicine took place at the school buildings. 4th year.—P. H. Bryce, B.A., Mount Pleasant; 3rd year.—I. H. Duncan, Goderich; 2nd year.—I. T. Duncan, Goderich; 1st year.—W. J. Robinson, Fergus.

PARAPHIMOSIS—Simple Mode of Reduction.—(*Le Praticien*).—In very difficult cases, where ordinary means fail, Bardinet proceeds as follows: he takes a hair-pin, presses the points together somewhat, and inserts the curved end under the strangulation back of the gland. He then applies a second and a third at intervals around the gland; then drawing the prepuce forward, reduces it with great facility, the skin sliding over the three bridges without obstruction.—*Chicago Medical Journal*.

TO CHECK DENTAL HEMORRHAGE.—Dr. E. H. Danforth gives these directions in the *Dental Cosmos*.—I keep a piece of the very softest, finest sponge, which I wet, and dry under pressure. In a case of hemorrhage after the extraction of a tooth, I cut off a piece about one-half the size of the crown of the tooth, and having first rubbed the side to be inserted with a little nitrate of silver, I dip it into tannin; then with the point of an instrument press it into the socket, and hold it there until it is saturated. It immediately adheres to the walls of the cavity, and if properly inserted will remain until it needs to be taken out. I have used this treatment over twenty years.

TO GET LEECHES TO FASTEN.—Almost every physician has at times experienced the difficulty of getting these animals to bite. The following plan is commended, and will be found effectual in all cases when the leeches are healthy: Put the animals into a small glass vessel half filled with water. The part of the body which is to receive them is carefully washed with warm water, and the glass is quickly inverted upon the skin. The leeches attach themselves with surprising rapidity. When all the animals have bitten, the glass is carefully removed, the

water escaping being absorbed by a sponge. If a single leech is to be applied, the same plan is adopted, using a test tube in place of a glass; by this means the animal may be compelled to bite at just the point desired.—*Ohio Recorder*.

A MODEL FOUNDLING HOSPITAL.—M. Broca, at a recent meeting of the Paris Academy of Medicine, read a very favourable report upon the Foundling Hospital at Moscow, which he had visited while in that city. M. Broca says that this hospital, which was founded in 1764, covers five acres of ground, and that "infants are received into it without any inquiry as to their origin, though the parents are allowed to claim them back. As soon as they are admitted they are provided with nurses, and remain in the hospital for three or four months, at the expiration of which time they are put out with their nurses into lodgings in the country. The rate of mortality in the hospital, which was about 81 per cent. at the end of last century, has now been reduced to 25 per cent.—a result which M. Broca attributes in part to the spacious and well-ventilated rooms and numerous baths which have recently been erected, and partly to the fact that the medical staff has been increased to such a degree that no doctor has more children under his care than he can manage. The children are weighed every week, and the registered weights form some interesting statistical tables. There are never fewer than 3,000 nurses with infants at the breast in the Moscow hospital, and some months there are as many as 11,000 infants admitted.

CHLORAL HYDRATE AND CAMPHOR IN TOXIC AND THERAPEUTIC DOSES.—Dr. Simmons first describes prolonged narcotism of several days' duration following the accidental ingestion of two drachms of a mixture containing equal parts of *camphor and chloral hydrate*, which had been prescribed as a local application for neuralgia. The effects following this toxic dose suggested a therapeutic use of the mixture. The first trial was made in a case of periodical mania in the lunatic department of the hospital. The patient, on whom the or-

dinary routine of narcotics, including chloral, morphia, hyoscyamia, etc., had been frequently tried to no purpose, experienced a quiet and refreshing sleep of two hours after taking twenty drops of the camphor and chloral hydrate. On waking, he was given fifteen drops more, when he again fell asleep, resting for several hours, and awaking in the condition usual to him in the intervals of his paroxysms. On subsequent occasions the remedy was used in the same case, always with the same happy result of cutting short a period of several days of violent mania. In other cases of mania, delirium tremens, etc., the author has found the mixture in question able to accomplish what other sedatives seemed powerless to do. He recommends it as a happy combination which will effect, in doses of twenty drops, what is altogether beyond the reach of twenty grains of either camphor or chloral hydrate, administered alone.—*New York Medical Journal*.

MEMBERS OF MEDICAL COUNCIL OF COLLEGE OF PHYSICIANS AND SURGEONS OF ONTARIO FOR 1880-5. *Territorial Representatives*:—Western and St. Clair Division—Dr. J. L. Bray, Chatham; Tecumseh and Malahide, Dr. E. G. Edwards, London; Sauguen and Brock, Dr. Robt. Douglas, Port Elgin; Gore and Thames, Dr. J. A. Williams, Ingersoll; Erie and Niagara, Dr. W. McCargon, Caledonia; Burlington and Home, Dr. J. D. Macdonald, Hamilton; Midland and York, Dr. J. H. Burns, Toronto; King and Queen's, Dr. W. Allison, Bowmanville; Newcastle and Trent, Dr. H. C. Burritt, Peterboro'; Quinte and Catarqui, Dr. C. A. Irwin, Wolfe Island; Bathurst and Rideau, Dr. W. Mostyn, Almonte; St. Lawrence and Eastern, Dr. D. Bergin, Cornwall. *Representatives elected by the Colleges, Universities, etc.*:—Queen's College, Kingston, Dr. J. McCammon, Kingston; University of Toronto, Dr. W. H. Ellis, Toronto; Trinity Medical School, Toronto, Dr. W. B. Geikie, Toronto; Regiopolis College, Kingston, Dr. D. Phelan, Kingston; Trinity University, Toronto, Dr. E. Spragge, Toronto; (Victoria College, Cobourg, Dr. W. H. Brouse, Prescott; Toronto School of Medicine, Toronto, Dr. W. T. Aikins, Toronto; Ottawa University, Ottawa, Dr. J. A. Grant, Ottawa; Roy. Coll. Physicians and Surgeons, Kingston, Dr. M. Lavell, Kingston—appointments not yet received). *Homeopathic Representatives*:—Dr. Geo. Logan, Ottawa; Dr. G. Henderson, Strathroy; Dr. R. J. P. Morden, London; Dr. Elias Vernon, Hamilton; Dr. E. G. Husband, Hamilton.

HOME-MADE KOUMISS, OR METAMORPHIC MILK.—Mr. Power, Medical Officer of H. M. Prison, Portsmouth, has made a series of experiments in the fermentation of milk which appear to us well worthy of attention, since they may have for effect the placing of this valuable product within the reach of everybody. After trying the action of various ferments with little success, it occurred to him that milk contains in itself the elements of fermentation (casein and sugar of milk), and that exclusion of the atmosphere and retention of the carbonic acid produced, at a suitable temperature, would fulfil all requirements and yield excellent koumiss. Mr. Power's experiments have, he tells us, proved the correctness of this supposition. Milk fresh from the cow is put into clean soda-water bottles, filled nearly to the top, tightly corked, and the cork secured with cord or wire. It is kept at a temperature of about 70° F., and shaken every day for ten to eighteen days. It is fit to drink in ten days. By keeping it beyond eighteen days the quantity of carbonic acid becomes so considerable that a syphon tap must be used to decant it, otherwise the whole contents of the bottle would escape when it is uncorked. It can be prepared also with milk from which the cream has been removed after standing for twelve hours. In this preparation it is, of course, necessary to take precautions against the explosion of the bottles; endeavours should be made also to secure a tolerably uniform temperature of about 70°, and some discretion must be used as to the length of time the milk is allowed to ferment.

There are probably several reasons for the palpable defects in our clinical and other teaching in metropolitan schools. Some we have already indicated frequently, and with quite unmistakable plainness. They are the tendency to regard hospital office and school lectureships as the heritage of the pupils of the particular school, and to treat them as a sort of succession which are to be the rewards of young men of moderate income, good staying power, and general utility, willing to take whatever comes first in turn, and as ready to lecture on botany as to teach medical jurisprudence,

treating comparative anatomy as an introduction to materia medica, or a supplement to patient practice, and the whole as stepping stones to practice, to be leaped over with much speed and lightness of foot as possible until the opposite bank is gained; and the hospital lectureship and clinical teaching all deserted together; the successful man turns his back on the student as early in life as possible, and the happy day is reached on which the medical world is proudly informed that "owing to the increasing claims of private practice," the happy incumbent withdraws his ripest knowledge and most matured skill from the sphere of medical education. This is so in any other country in the world with which we are acquainted. The Nélatons, Trousseaus, Rokitanskys, and Langenbecks feel clinical teaching to be their proudest and their noblest occupation, their most delightful and fruitful duty; they never desert it; and so with the Henles, the Du Bois-Reymonds, the Claude Bernards, the Sappeys, the anatomical and physiological teachers of the great foreign schools. How strangely would the theory be regarded abroad, that such scientific lectureships should be the changeable pursuits of a life devoted really to medical practice, and aiming at medical success and popularity.—*Brit. Med. Jour.*

Births, Marriages, and Deaths

BIRTHS.

On June 4th, the wife of Dr. McAlpine, of a son.
On Sunday, May 23rd, the wife of Dr. R. B. N. of a daughter.

At Aultsville, on June 13th, the wife of E. Ault, M.D., of a son.

MARRIAGES.

At Towle, on June 16th, Dr. William Burt, of P. to Janet MacHoull, eldest daughter of David Ball hall.

On June 16th, Ross Mackenzie, to Lizzie, eldest daughter of the late F. L. Lizars, M.D.

DEATHS.

At Parkdale, on June 8th, Charlotte Arnold, of Dr. Playter.