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### CANADA

# MEDICAL JOURNAL.

#### ORIGINAL COMMUNICATIONS.

Lectures on the Diseases of the Eye, recently delivered before the Ophthalmic Class of the Toronto School of Medicine. By A. M. Rosebrugh, M.D.

(Continued from page 104.)

#### 4. SECONDARY GLAUCOMA.

Many surgeons know "to their sorrow," that sometimes, after making a pretty free division of a cataractous lens (keratonyxis), the globe becomes very hard, the anterior chamber shallow, the cornea ancesthetic, and of a dirty sallow colour, and the pupil slightly dilated. The lens may become completely absorbed and the pupillary space faultless, and yet the sight almost, if not quite destroyed. The nature of this complication was not fully understood until Von Graefe made the double discovery that it is glaucomatous in its character and that iridectomy is the remedy.

The diseases that may be complicated with glaucomatous symptoms are traumatic cataract, iritis, posterior staphyloma and (according to Von Graefe) prominent corneal cicatrix.

TRAUMATIC CATARACT.—The capsule of the lens may be divided accidentally by a foreign body; or it may be divided by the cataract needle for the cure of cataract; in either case the aqueous humour comes in contact with the lens and causes it to swell from imbibition of the fluid. The amount of swelling varies considerably in different cases. If the lens is transparent, the swelling is much greater than when it is opaque (cataractous). A division of the capsule in the adult will often

cause severe inflammatory complications; the lens becomes swollen, and by its contact with the iris and ends of the ciliary processes causes inflammation of these structures.

Each case of cataract must be treated upon its own merits. In addition, it will often be found advisable to remove the softened lens by "linear incision," or by "suction;" but in the case of adults, the glaucomatous complication must be relieved at an early day by iridectomy.

comatous complication must be relieved at an early day by iridectomy.

IRITIS.—If, during an attack of iritis, the pupil is not kept constantly dilated with a strong solution of atropine frequently applied,\* there usually results more or less extensive adhesions of the iris to the capsule of the lens (posterior synechia). These adhesions act as a constant source of irritation, and sooner or later develop a chronic or recurrent iritis. With each attack of inflammation, the pupillary margin of the iris is adherent to the anterior capsule (synechia posterior totalis, and called by M. Graefe "exclusion of the pupil.") After the whole of the free edge of the iris becomes adherent to the capsule, the eye usually becomes glaucomatous; the aqueous humour being secreted in the posterior chamber, the iris is pushed forwards; the ball becomes abnormally hard; and if there is a clear pupillary space of sufficient size to admit of an ophthalmoscopic examination, the optic nerve is found cupped. Iridectomy acts beneficially in this form of glaucoma, not only by relieving intra-ocular pressure, but also by restoring a communication between the anterior and posterior chamber, and by giving the patient an artificial pupil.

Posterior Staphyloma.—In my introductory remarks on the optical defects of the eye, I drew attention to the fact that in cases of "short-sightedness," where the myopia exceeds \( \frac{1}{5} \) (the "far point" being less than 5 inches from the eye), there usually co-exists staphyloma of the sclerotic coat at the posterior part of the globe. With the ophthal-moscope, the staphyloma is seen forming a brilliant white crescent round the outer edge of the optic nerve-entrance, and between it and the macula lutea. In such cases vision does not generally become impaired, unless the staphyloma involves the yellow spot of Soemmerring, or becomes complicated with detachment of the retina. Apart from these causes, however, the eye may become glaucomatous, the acuteness of vision becoming impaired, the eyeball abnormally hard, the pupil dilated, and the optic nerve entrance excavated. "Iridectomy proves also beneficial in these

<sup>\*</sup>In treating cases of iritis, the pupil must be promptly dilated with a 4-grain solution of atropine, applied at first every half hour; and the pupil should be kept widely dilated for two or three weeks after the inflammatory symptoms have disappeared.

cases, saving the sight of the eye, which would otherwise have become completely blind."—(J. S. Wells.)

#### III. TREATMENT.

In cases where glaucoma is left to take its course, or not properly treated, the prognosis is most unfavourable, as the disease, sooner or later, leads to complete destruction of vision. It having been demonstrated that all the symptoms of glaucoma depend solely upon excessive intra-ocular pressure, the treatment must be directed to this point. Iridectomy having been proved to relieve (in most cases permanently) abnormal tension of the eye,—all other modes of treatment having failed,—this operation is now adopted by most of the distinguished oculists throughout the world.\*

TREATMENT OF THE PREMONITORY STAGE.—Von Graefe hesitate for a long time before performing iridectomy in the promonitory stage of glaucoma for the reason that between the intermissions of the attacks, the vision is still acute. Even now, in cases where the attack of the premonitory symptoms is mild in its character, and does not impair vision, and the intermissions are months in duration, he does not consider an operation advisable. Such patients are simply warned against excessive use of their eyes, and against excesses of any kind. Iridectomy is more especially indicated in this stage of glaucoma, when one eye is already blind from this disease; and the other is threatened; in such a case. Von Graefe resorts to the operation as soon as the premonitory symptoms become well marked, and especially if the attacks are accompanied by indistinctness of vision. The operation is also recommended in cases where the premonitory symptoms occur at short intervals, and an attack of acute glaucoma seems imminent, as well as in cases where the disease seems to be passing gradually, and perhaps almost imperceptibly, into chronic glaucoma.

TREATMENT OF ACUTE GLAUCOMA.—Von Gracfe at first endeavoured to alleviate the symptoms of acute inflammatory glaucoma by antiphlogistic treatment, opiates, &c.; but at a later period he became convinced that, notwithstanding the violence of the inflammation, it was better to perform iridectomy immediately: "for it is especially under these circumstances that any delay is dangerous, and the operation itself is the most certain treatment of the inflammation." If the operation is

Mr. Hancock, of London, recommends an operation which he calls division of the ciliary muscle, for the relief of intra-ocular pressure; but it is considered to be both an inefficacious and dangerous remedy,

performed within two weeks of the commencement of the acute attack, and while the patient retains considerable vision (sufficient to enable him to count fingers at a short distance from the eye), the prognosis is quite favourable. The ciliary pain is usually relieved at once by the operation; the symptoms of irritation recede without any other treatment; the turbidity of the aqueous and vitreous humours rapidly disappears, and vision usually commences to improve from the first.

Mrs. Houghton of Stratford, aged 55, was sent to me by her physician Nov. 12th 1862. She had the symptoms of acute glaucoma in both eyes; abnormal tension, dilated pupils, ciliary neuralgia, etc., etc.; the ambly-opia was almost total,-being unable to distinguished fingers at The vitreous humour was too hazy to admit of an ophany distance. thalmoscopic examination. The pain and other symptoms of acute inflammation had somewhat subsided in the left eye, but the blindness still remained. The left eye had been affected four weeks, the right but ten days. The only premonitory symptom noticed by the lady was the fact that for a short time before the acute attack, she had been obliged to change her reading glasses for stronger ones. As no time was to be lost I operated npon the right eye the same day (the 12th), making the iridectomy upwards. There was some homorrhage into the anterior chamber. In five days the pain on that eye had ceased, and the anterior chamber was free from blood; an the ninth day she could read No. XX. of Snellen's test types. On the 26th, I operated upon the left eye,—making the excision of the iris upwards. Some harmorrhage into the anterior chamber followed this operation also. In two weeks all pain had ceased, and with that eye the patient could see the cross-bars of the window at a distance of about five feet. Six weeks afterwards I again saw her; the right eye had continued to improve from the first; she could read ordinary type with the aid of her glasses. The left eye, however, had not progressed so favourably; there was still abnormal tension, and vision was indistinct. I then evacuated the aqueous humour by making a radiating incision (in the direction from the pupil) transversely through the cicatrix of the last operation.\* About a year afterwards (January 1864), Mrs. Houghton's son reported that her sight was perfect in both eyes, and that she was then able to read without spectacles. this case iridectomy was performed on the right eye ten days after the out break of the acute attack,-resulting in perfect restoration of sight in that eye in six weeks. In the left eye, six weeks had elapsed before the

<sup>\*</sup> In a report of this case published in the American Medical Times July 23rd, 1864, this operation is spoken of as "division of the ciliary muscle."

operation, and the recovery was less satisfactory, rendering a second operation necessary.

According to the experience of Von Graefe, although vision was perfectly restored in all his cases of acute glaucoma where iridectomy was performed within two weeks of the attack of inflammation, he nevertheless considers it much safer to operate in the premonitory stage; he says, "an accident of consequence will rarely occur in the promonitory stage, even when the operation is not quite well performed; on the other hand success may be frustrated in the acute period by internal hæmorrhages, very large retinal ecchymoses, &c., when all precautionary measures are taken."

TREATMENT OF CHRONIC GLAUCOMA AND GLAUCOMA SIMPLEX.—In most cases of chronic glaucoma and glaucoma simplex, the prognosis is unfavorable. Unfortunately, in these cases, the patients do not apply until the disease has far advanced. If, however, in any case, the macula lutea is still the most sensitive part of the retina (the "fixation" being "central"), vision not being very much impaired, and excavation of the optic nerve entrance not marked, iridectomy will generally, at least stay the progress of the disease, and in many cases improve the vision. The improvement that follows the operation in these cases is always very gradual, generally extending ever a period of many months.

TREATMENT OF GLAUCOMA ABSOLUTUM.—When, in the later stages of glaucoma, the disease has run its course, and all sight is lost, iridectomy still proves useful by diminishing inflammatory symptoms and relieving severe ciliary pain.

TREATMENT OF GLAUCOMATOUS DEGENERATION.—In the last stage of the disease in which the eye is completely disorganized, it is sometimes necessary to remove the eye altogether in order to relieve the patient's sufferings and save the other eye from becoming sympathetically effected. When this operation is performed, the bulb only is removed; the muscles and conjunction are allowed to remain to form a movable cushion ("stump") for the subsequent adaptation of an artificial eye.

#### THE METHOD OF PERFORMING IRIDECTOMY.

In the operation of iridectomy, for the relief of glaucoma, the chief point is to remove a segment of about  $\frac{1}{3}$  of the iris, from the pupillary edge quite up to its ciliary attachment,—leaving a pupil of the shape shown in fig. 3. The instruments required for the operation are, a wire speculum to keep the cyclids open, (Laurence's or Weiss' stop-speculum), a pair of forceps to keep the cyclall steady, a lance-shaped knife  $\frac{3}{4}$  of an

inch wide at the base (see fig. 1), a pair of bent iris forceps, and a pair of strabismus scissors.

The patient should be placed in the recumbent position and brought fully under the influence of chloroform. Some surgeons apply a little of the extract of the calabar bean to the eye about half an hour before commencing, for the purpose of keeping the pupil contracted during the operation; the pupil being usually widely dilated, and the anterior chamber considerably flattened, there is danger of wounding the capsule of the lens unless this precaution is taken.

In order to simplify the subject, let us suppose that the operation of iridectomy is to be performed upon the outer side of the left eye; in that case we proceed as follows: Having opened the eyelids to the desired extent with the stop-speculum, the operator places himself in front of the patient, with the knife in his right-hand and the forceps in the left. With the forceps, the conjunctiva and sub-conjunctinal tissue is to be seized near the cornea at the inner side of the eye, for the purpose of keeping the ball steady during the operation,—care being taken that no pressure be made upon the globe. The point of the iridectomy knife is now laid upon the conjunctiva, at the outer side of the eye, about half a line behind the margin of the cornea, and is thrust through the conjunctiva and selerotic into the anterior chamber; when the point of the instrument has entered the anterior chamber, the handle is well laid back towards the temple, so as to bring the flat of the blade parallel with the plane of the iris; the knife is now steadily pushed forwards in front of the iris towards the opposite side of the anterior chamber. (See Fig. 1,) care being taken not to evacuate the aqueous humour or prick the iris; when the incision is of the desired length or the widest part of the blade has entered the wound, the instrument must be withdrawn very slowly and gently so as to evacuate the arqueous humour very gradually; otherwise the intra-ocular pressure would be relieved too suddenly,-

followed perhaps by a rupture of some of the capilliaries of the retina and extravasation of blood. A very good method, recommended by Mr. Carter, is, first, to loosen the knife in the incision—to allow the gradual escape of the fluid, and afterwards to withdraw the blade quickly,—the handle being kept well back so that the point of

FIG.I.



the instrument will be kept from wounding the iris or lens. The forceps are now given to an assistant, with which he must turn the eye to a convenient position for the next step in the operation. The bent iris

forceps are taken between the thumb and fore finger of the right hand, and if the iris is not protruding through the wound (prolapse), they are passed into the anterior chamber, and the iris seized near the pupillary margin and withdrawn a little outside the lips of the wound. The forceps, still holding the iris, are now very carefully changed from the right to the left hand, and the seissors taken in the right, with which, the projecting portion of the iris must be slit up from the free edge (close to

the iris forceps) to the ciliary margin within the sclerotic incision. The slit should be made above the forceps, and the lower division torn from its ciliary attachment, by dragging it against the lower limit of the sclerotic incision; it is rendered tense (Sec. Fig. 2,) and cut off with the scissors close to the conjunctiva. The upper division of the iris (which usually remains projecting through he wound), is also torn from the ciliary



margin by dragging it upwards to the extreme limit of the scleroti wound where it is also to be made tense and cut off close to the wound. By thus removing the lower division first, any harmorrhage that might

follow would be less likely to interfere with the removal of the upper division. Fig. 3 represents the shape of the pupil after the segment of the iris has been excised. If there is hæmorrhage into the anterior chamber after the operation, an effort must be made to evacuate it, by making pressure with the forceps or curette upon the posterior lip of the wound. After the eye has been freed from blood, the eyelids must be gently closed



and two or three narrow strips of Husband's isingless plaster applied to keep them in apposition. In cases of extensive hæmorrhage into the anterior chamber, Arlt's compressed bandage should be applied. If pain should come on soon after the operation, two or three leeches should be applied to the temple without delay. The patient must be kept quiet and the eyelids kept closed for about four days.

The beginner will find it much the easiest to perform iridectomy outwards; the upward exsection is however to be preferred, for the reason that the eyelid afterwards covers the slight deformity and prevents any unpleasant dazzling by shading the upper portion of the enlarged pupil-In performing iridectomy upwards, it is necessary to use an iridectomy

knife that is bent close behind the widest part of the blade; and the assistant must use very great care in rolling the ball downwards.

Mr. Carter, of Stroud, England, performed iridectomy 57 times without any mischance; there are however certain disadvantages that may arise from the operation; under certain circumstances the outbreak of laucoma in the other eye may be accelerated; in some cases the incisions in the sclerotic heals imperfectly ("cystoid cicatrix;") but these are very slight drawbacks when compared to the "inestimable boon which the operation affords."

In confirmation of the views expressed in the foregoing pages in favour of iridectomy, I make the following quotations, with which I must bring this lecture to a close:

"An immediate operation for strangulated hernia can never be more essential to the preservation of life than an immediate iridectomy frequently is to the preservation of eyesight. The time during which it can be usefully performed is often very limited, and the patient whose case requires it has a right to expect relief at the hands of the nearest practitioner. There can be no doubt, I think, of the correctness of the opinion advanced, a year or more ago, by the Editor of the British Medical Journal, to the effect that any surgeon who neglected iridectomy in the presence of certain indications for its performence, would incur great risk of being mulcted in very heavy damages as the defendant in an action for malpractice." (Carter.)

"From the first introduction of iridectomy into England, in 1857, it has proved the source of the greatest blessings to numerous sufferers; and now that the indications for it, and the mode of performing it, are generally understood, there will very shortly, in my opinion, be no excuse for any one, oculist or general surgeon, who shall neglect either to perform it himself in suitable cases, or to pass on his patient to some one who will." (Bowman)

### REVIEWS AND NOTICES OF BOOKS.

Chloroform: its Action and Administration. By ARTHUR ERNEST SANSOM, M. B., London, late House Surgeon and Physician-Accoucheur's Assistant to King's College Hospital. Svo. pp. 279 Philadelphia: Lindsay & Blackiston. 1866.

The work before us consists of twenty chapters on the subject of chloroform, its action and administration. Chapters one and two, are

on the discovery of chloroform and the influence of that discovery. The author gives a succinct history of the means adopted, from the very earliest periods, of preventing suffering during surgical operations. The ancient Egyptians employed drugs to produce a state of insensibility; these were chiefly the Cannabis Indica, and the juice of the poppy. Romans, at the time of the Empire, employed various means to mitigate the pain inflicted by the surgeon's knife. Pliny and Diascorides mention several medicaments given by the stomach to relieve pain. Chinese of the third century employed inhalations of the fumes of burning hemp, for the purpose of mitigating the horrors of surgical operations. At various periods of the world's history, surgeons have endeavoured to allay pain by the exhibition of narcotics. Sir Humphrey Davy experienced relief in cutting a wisdom tooth by inhaling nitrous oxide gas, and he suggested that it might be used with advantage during surgical operations. In 1844, we find his suggestion adopted by Horace Wells, an American dentist, who extracted teeth, without pain, from parties while under the influence of laughing gas. Subsequently, sulphuric ether was employed by inhalation, and Morton, the dentist, extracted a tooth from a man named Frost, while under the influence of sulphuric ether, absolutely without his knowledge of the operation; this was at Boston, U.S., on the 13th September, 1846. Some delay was occasioned in extending the benefits of this boon to suffering humanity, as Mr. Morton secured patent rights, and did not explain the nature of the substance inhaled

We remember well this cause celèbre, and shortly after we saw in the Montreal General Hospital the vapour of ether tried in a case in which amputation of the leg was deemed necessary. About the same period, ether by inhalation was employed by Dr. Douglas at the Quebec Marine and Emigrant Hospital, Dr. Worthington of Sherbrooke, and more extensively in the United States hospitals of New York, Philadelphia, Boston, &c. But the discovery of the properties of chloroform, by Dr. Simpson, completely supplanted ether as an anæsthetic.

Before the discovery of the anæsthetic properties of chloroform, the surgeon required nerves of steel to enable him to perform his duty on the shrinking, writhing form before him. In looking back, at the times that are past, we well remember the sensations experienced in witnessing surgical operations performed under the most trying circumstances, when the groans and shrieks of the sufferer sent many a pang of horror to the looker on. We regard the benefits derived by the discovery of anæsthetics in inestimable. The mortality of all operations has been considerably essent, according to the statistics given by one author, they are in

some instances fully one-half. All honour, then, is due to the benevolent men, who, at the risk of their own lives, discovered the anæsthetic property of chloroform.

It was to the persevering energy of Sir J. Y. Simpson, that the world owes this great discovery.

"In March, 1847, Flourens announced to the Academy of Sciences of Paris, certain observations on the anæsthetic powers of chloroform upon animals. He considered it dangerous. Meanwhile, Dr. Simpson, of Edinburgh, had experimented on many hydrocarbons, on acetone, nitrous ether, &c., with a view of determining their anæsthetic properties. On the memorable evening of November 4th, 1847, he determined on trying a hitherto discarded, heavy fluid, chloroform.

"Dr. Miller gives a graphic account of this birth of chloroform. Doctors Simpson, Keith, and Duncan sat each with a tumbler in hand, and in the tumbler a napkin. Chloroform was poured upon each napkin, and all patiently inhaled and waited for something to turn up. After a probation, Dr. Simpson, drowsy as he was, became convinced that something had turned up, for he heard Dr. Duncan snoring, and Dr. Keith kicking about in an inelegant manner. All these effects had been manifest in a very short time, and the experimenters (or experimentees) all agreed that chloroform was far more agreeable than ether.

"Hereby, then, Dr. Simpson established an agent far quicker in operation, far more pleasant than ether. Soon afterwards, chloroform was administered to a highland boy, and a diseased portion of the bone of his forearm was removed absolutely without pain."

The next four chapters are on the chemistry of chloroform, the effects of its inhalation, its physiological effects and action on the blood. We next come to "the danger of chloroform;" diseased conditions, which increase that danger, and danger of incautious administration of chloroform; signs of danger, and mode of death.

Chapters twelve and thirteen are devoted to the subject of resuscitation in apparent death from chloroform, and practical details, &c., for producing resuscitation. There are several marked cases which have been recorded in which the patient has been saved by constant and unwearied attempts at reanimation.

"In the first case of resuscitation recorded the pulse had ceased, but artificial respiration restored the patient (Ricord). In a case recorded by Mr. Broadbent, the heart had ceased to beat, the pulse had quite stopped. Artificial respiration and tracheotomy restored the patient. In another case the alarming sign was that the blood issuing from the wound made for the removal of an adenoid tumor of the breast ceased.

The heart had, of course, failed. Artificial respiration was commenced, and at the end of three minutes the pulse began to return; in six or seven minutes there was recovery. A third instance is recorded by Dr. Burge, of New York, Chloroform was given to a young lady for the performance of amputation of the thigh. The respiration ceased, the pulse could not be felt, and the jaw dropped, but artificial respiration restored life. A fourth is recorded by George Wigan, Esq. In a fifth, after respiration, had ceased, the pulse ceased, and all around thought that death had taken place. Trachetomy performed immediately, and artificial respiration, kept up for an hour and a half, restored life. In a sixth case, a girl of six, the pulse ceased—'there was no pulse for a quarter of an hour.' Artificial respiration, kept up for half an hour, restored life. In a seventh, a boy of four, the pulse had quite ceased, the jaw had dropped, and the body had become corpse-like. Artificial respiration, continued by means of Faradization of the diaphragm, restored life."

There is a chapter on methods of administering chloroform, as also one on practical rules to be observed during its administration. The concluding chapters are devoted to the subjects of chloroform in surgery; in obstetric practice; in practical medicine, and in dentistry; and the author fully points out the benefits derived by the employment of this agent. In surgery it has produced a revolution in practice, as it is not alone the saving of shock and pain to the patient, but what is often of greater value to the surgeon, the relaxation of muscles as in cases of dislocation. The author has certainly "supplied a want," and has at the same time given to the medical world a work of great practical merit. We must recommend its perusal to all. It is neatly got up; but we think the illustrations, of which there are some sixteen, might be better executed. To be had of Dawson Bros.

A Manual of the Principles of Surgery, Based on Pathology, for Students. By WILLIAM CANNIFF, M.D., M.R.C.S., England, late Professor of General Pathology and the Principles and Practice of Surgery, University of Victoria College, Toronto, C.W., &c., &c., 8vo. pp. 402. Philadelphia: Lindsay & Blackiston. 1866.

The author informs us that the basis of this work was laid while he was engaged in delivering lectures on the Principles and Practice of Surgery, in connexion with Victoria College, Toronto, C.W. It may be regarded, therefore, as the work of a Canadian author, and although we are not of that class who look for no good thing out of Nazareth, we must say that we cannot commend this book as containing original teaching, the result of extended observation. In fact, the author honestly affirms

that "the ground work is mainly derived from the lectures delivered by him upon general Pathology and Surgery," and that "in the preparation of these lectures, the following works were freely consulted"—Rokitansky, Jones, Sieveking, Gross, Simon, Miller, Cooper, Chelius, Paget, and Holmes. The author deserves credit in having produced a book, which will be found of use to the student, as containing much information, put before him in a clear and comprehensive style. No new light is thrown on the subject under consideration; still the latest views on Surgical Pathology are given, and given in plain language easily understood.

The arrangement is peculiarly the author's own, and in this consists much of the merit of this work. It consists of five divisions, the first chapter being introductory, treats upon nutrition, development, growth, decay, repair.

In the first division is considered the subject of inflammation, and the diseases which arise out of this state of the system. This is a most extensive subject, covering a large surface, and hence we have devoted to it nearly one-half of the volume. In the second division the author takes up the consideration of the healing process, and diseases of the healing process.

In the third division are considered external injuries, contusions and wounds. In the chapter on gun-shot wounds, the author gives some interesting facts with regard to the course and extent of wounds inflicted by projectiles which he witnessed during the late American campaigns.

"When it is remembered that the body is capable of assuming a great variety of positions-that the limbs, one or more may be stretched, or flexed in different directions, and that during the conflict the soldier will necessarily be at times in every conceivable attitude, while the enemy may fire upon him from different directions, it can be readily understood that not only may the body he wounded in any part, but the ball may pass in every direction through the body or limb. At the first battle of Fredericksburg there were a certain number of men placed in a very exposed position. This was done during the night, and in the morning they had to lie flat upon the ground to be safe from the Confederate sharpshooters. This position was held during the day; and now and then, when the head of one of them was raised to the slightest extent from the ground, it became a target for the rifleman. The result was that a large number were wounded in the head, face, neck, and summit of the chest, In some cases the ball had traversed the neck obliquely. had passed parallel with the body, and into the thorax and abdomen."

"I saw not a few cases in which the ball had travelled along through a limb. Sometimes from the knee, striking the limb when flexed, up through the thigh into the pelvis, or down the leg to the ankle. Also up or down

Sometimes the same ball had inflicted several wounds. case, which I saw after the battle of Chancellorsville, will serve to illustrate this fact, as well as the extraordinary direction the ball may take. A private of one of the New Jersey regiments had been wounded in the right arm while in the act of putting a cartridge into his musket. had completely cut off his forefinger, then passed directly through the body of the hand, and again entering the back of the arm, about two inches above the wrist, had ploughed a furrow for a few inches, and then entering into the deeper part of the arm, had finally made its exit and escape a little above the external condyle of the humerus. Now, it can be at once understood from the foregoing, that when the ball, instead of making its escape from the body, remains within it, it will be exceeding difficult to ascertain its locality. Not only may the ball the lodged in a part very remote from its place of entrance, but chance may have taken it in one direction, or perhaps the opposite. It will be impossible to tell its course unless its track can be traced externally, or the patient can call to mind the position he was in at the time he was wounded, and the direction the ball came; but then, even, it may be impossible to say wither it has passed."

The fourth division is devoted to the consideration of diseases of certain tissus, such as bones joints (including fractures and dislocations,) also diseases of arteries and veins; this division is very complete and contains much matter the result of the observation and experience of the author. The last division is on morbid growths.

Altogether this book bears evidence of careful study and preseverance, devoted to this particular branch of the science of the healing art, and will be found of use by the student, as enunciating the doctrines of masters of the science of surgery, with much that is the result of patient and pains-taking observation.

The work is an excellent manual, printed on good paper; the cuts are clear and distinct, and are taken, as the author intimates, from Paget's Surgical Pathology.

Medical Diagnosis, with special reference to Practical Medicine. A Guide to the Knowledge and Discrimination of Disease. By J. M. DA COSTA, M.D., Lecturer on Clinical Medicine, and Physician to the Pennsylvania Hospital; Fellow of the College of Physicians of Philadelphia, &c., &c. Illustrated with engravings on wood; second edition, revised. 8 vo. pp. 784, Philadelphia: J. B. Lippincott & Co., 1866.

The acceptance, by the profession, of any scientific work, by its ready sale, is a fair evidence of its quality and usefulness. We gave our

opinion of Dr. Da Costa's work some two years since, and again we have the pleasurable duty of recommending a second revised edition to our readers, as containing additional matter, of the most useful character to the junior practitioner; not alone to him, as all well be enlightened by its clear teaching. Diagnosis may be said to be the most important department of the healing art and to a logical mind, one not too much given to speculation, the diagnosis of disease becomes almost a matter of certainty. In this edition the author has added about ninety pages and twenty-two wood-cuts. These additions are chiefly on subjects which were rather briefly noticed in the first edition, such as on diseases of the brain, larynx blood, urine, abdominal enlargements, and on parasitis, though new matter has been added to other parts of the work. We can cordially recommend this book as eminently of great value to the practitioner, and would advise all our readers to secure a copy. The work is well printed on excellent paper, and the wood cuts finished in the highest style of art.

### PERISCOPIC DEPARTMENT.

## Surgery.

DETACHMENT OF THE RETINA—THE CAUSES AND THE TREATMENT.

By HAYNES WALTON, Surgeon to St. Mary's Hospital and to the Central London Hospital.

Detachment of the retins from the choroid may be the result of an accident—for instance, blows on the eyeball or about the orbit—but for the most part it cannot be traced to an injury, nor is it generally palpably associated with any. It is the physical effect of fluid effusions of various natures, chiefly however serous, or of firm solid deposits, or malignant diseases.

It is to the class of cases only produced by the pouring out of serum—dropsy under the retina—that I intend to consider.

This separation of the ocular tunics by fluid is a common occurrence and one of the greatest changes, mechanically and pathologically, that occur in the interior of the eye. It is one without any external or objective symptoms, except under certain conditions to a well-practised observer; when generally in a young person with a fully dilated pupil, a bluish shred may be seen moving deep in the eye. Nor are there definite and unmistakable subjective symptoms for the several stages of the affec-

tion, although to express those which are most common, avoiding detail, they are hemiopia, or loss of a portion of the field of vision, corresponding in extent to that of the retina which is damaged; and in the case of limited eccentric detachment and good central vision, occasional interruption to sight by the detached piece floating, and more or less eclipsing the pupil. Yet it is only to ophthalmoscopic investigation that we can trust. In all cases of impaired vision, of which the pathology is not at once manifest, we ought to look into the eye for the cause, and there learn what may have happened as best we can. Even then a detached retina may not always be detected, because of haziness of the vitreous body.

The appearances of detached retinæ are not so well known to the general body of the Profession as to render some account of them unacceptable, and a short description will help me in handling my subject. Therefore I will tell them, and as concisely as possible.

Supposing, then, the eye under examination, should the separated portion be large enough and happen to cross the line of the pupil when the fundus is focussed, it might be supposed for the moment that cataract is present, but the first movement of the eyeball whisks the membrane aside, and then it is seen to undulate in fields or swell out in a tense form. The colour varies from a light bluish or grayish tint to a dead white, which is the last change. A retina detached, but not yet in folds, looks edematous and swollen. The recognition of the retinal vessels and their arrangement removes any doubt in the diagnosis. They are apparent or hidden, according as they are over the floating folds or between them, now appearing in high relief, now vanishing out of focus, and they even vary in colour. Then there is a sudden bending of the vessels at the line of the separation. This is one of the ophthalmoscopic objects that cannot be well delineated.

The displacement may be limited or the whole retina detached in a funnel-shaped form, in which case the optic nerve is more or less hidden by its folds. It is but of slight practical moment as to which part of the retina is most frequently or originally detached, but the extent to which the loss of connexion takes place is of the highest importance as regards vision. A fair amount of sight is retained as long as that around the macula lutea is sound, and this even when the optic disc is encroached on by any bulging part.

As any degree of detached retina is very likely to be followed by an amount of separation that will produce blindness, or inflame and so spoil the function of that undetached, and as it is seldom that we meet with a case in which the eye is not already spoiled, it is evident that a worse

class of cases does not occur. There is not, it would seem from the peculiarity of the lesion, any natural cure—no opportunity for the natural reparative power. When the seeing property of that which is separated is not quite lost, it is always very materially deadened, and in the end quite annihilated. At times, but very rarely indeed, by an accidental mechanical process, the tearing or bursting of the retina and the escape of the effused fluid into the viterous humour, there seems to be, according to some observers, an arrest of the process of separation. Notwithstanding this apparently hopeless state of things, it is my conviction that there is scope for treatment and opportunity for success. I entertain more hope of conferring benefit than others seem to possess who have been trying remedial measures. But then I employ general as well as local measures, and regard the former as perhaps the more powerful, but think the two should be combined.

I think, too, that the degree of success depends on the time the treatment is commenced; that except it be early and during the acuteness of the attack, nothing can be expected; yet I speak with diffidence on a subject beset with difficulties, and respecting which so much remains to be worked out. It is obvious, then, that I do not regard an example of this affection merely as a case for an operation that might be performed at any time, and that after the discharge of the fluid the work is done. I rather look into the pathology of the affection, and try to find the cause of the effusion, or, at any rate, seek to discovor what are the associated processes that occur in the eye, the order in which all the symptoms appear, their extent, severity, and duration; the conditions of the persons it occurs in, age, etc.

It cannot be that the effusion of serum is a disease per se—no. It is merely the consequence of other actions in which many tissues are involved, and, as I think, of an inflammatory nature, and when idiopathic mostly asthenic in form. It is not simple mechanical dropsy. I cannot see any objection to this hypothesis. The retina and the choroid have but the slightest connexion, and an exudation between them is an easy and likely morbid effect of inflammation in the eye. Then this slight mechanical resistance favours extravasation, and however small the source of the exudation, the fullest damage may accrue as to the detachment. The separation of the retina when it occurs after an external injury to the eye may, I think, be explained in the same way. First, the inflammation, however slight, then the effusion between the retina and the choroid. One cannot tell why this effusion occurs so rarely, when the eyeball is so often the subject of inflammation. Parallel puzzles are to be found in the diseases of other organs.

I will relate a case which, as far as it goes, appears to me to support my pathological remarks, and certainly strengthens what I have suggested about treatment.

A gentleman, about sixty years old, was led into my room, for he could not see his way. Two years before he lost one eye after about ten days of increasingly impaired sight. A fortnight before applying to me the other eye began to fail like the first, objects looked in a mist, then very large motes floated before him, vision became worse, and in a few days he could not see his way about. The eyes looked healthy enough externally, but an ophthalmoscopic examination showed these states. that which was quite blind the greater portion of the retina was detached. In the other, in which there was not any useful sight, for he could but just discern a hand when held six inches from his face, the vitreous humour was so hazy that there was but enough reflected light to enable exudation, in the form of floating patches and shreds, to be seen in it. Some, of course, only of them. Yet with all this internal disturbance there was no apparent disease of the outer parts. The iris seemed healthy, and the pupil was fully affected by atropine. This was just the kind of case I had been looking for, and as it possessed so much interest, I showed it to my colleague, Mr. Taylor, and others. In the one eye certain conditions had been developed that left as one at least of its effects a separated retina; in the other was to be seen that intensity of action which in all probability was the parallel of what took place in the other, and would more than likely leave the same result. I could not detect any evidence of bad general health. I operated on the eye with the detached retina, evacuating the serous fluid, all of which, a surpris-ingly large amount, escaped externally in the sub-conjunctival tissue, making a very large chemosis. It was rapidly absorbed. Afterwards I directed my treatment to the other eye for inflammation of the internal ocular tunics, relying chiefly on very small doses of hyd. c. creta and hyoscyamus, and pot. iodid. Amelioration quickly followed in the clearing of the vitreous humour and in the quality of sight. At last the fundus of the eye was seen, and then detachment of retina at its upper and front parts was clearly made out, and the accompanying disturbance to vision was accurately noted down. It was recently detached, as the slight haziness of it showed, and it bulged rather than waved. I now evacuated the fluid from this eye. Very marked result ensued: the retina fell back, the vitreous humour cleared still more, and the effect on sight was marked, for soon my patient could read several lines from an article in the Times. I avoid giving a minute and detailed account of the several tests I subjected the eye to. My method of operating, how-

ever, I ought to explain. Having satisfied myself of the exact position of the detachment, I punctured the eyeball from without with a straight cataract needle, broader than usual, at a point of the sclerotica corresponding to it, avoided the rectus muscle, and took care not to wound the I usually make a second puncture if the fluid does not run out quickly and sufficiently. It is my opinion that it is better to operate in this way than to endeavour to make an aperture in the retina, either by cutting or tearing, with the view of allowing an exit for the fluid into the vitreous humour, because the making of such aperture is a very uncertain proceeding at all times, and almost impossible when the retina is detached rather posteriorly. Then there is risk of increasing the separation in the attempt, and I certainly think that in a retina already so much damaged, the less the violence inflicted on it, and the less it is cut the better. Besides, an aperture so made is, I suspect, as likely to close as to remain open, and it is on its patentcy that the advocates of it rely for the advantage.

I still continue the general treatment. The vitreous humour cleared more, and but few of the floating particles were to be seen in it. My patient returned to me after the interval of a fortnight because he now saw something moving before his eye, and which interruped his sight. I found the retina again pushed forwards by fluid, but to a less extent than before, and now it moved more. The tapping was repeated. Two punctures were made, serum escaped externally. The retina, however, was unintentionally transfixed, and the vitreous humour immediately became too hazy for the eye to be illuminated, and it was a fortnight before it cleared. At this period, a month from the operation, the retina is apparently in contact with the choroid, and the power of seeing is as good as after the first operation. The pot. iodid. was ordered for a fortnight.

Although the full value of treatment can only be judged of by the lapse of time, I cannot doubt that it has dissipated the active disease, stayed the detachment of the retina, and therefere possibly saved the eye from destruction. I do not wish the case to be taken for more than it is worth; indeed, I regard it as yet imperfect, and only as encouragement for future treatment and observation in this class of disease, in which even an arrest of some portion of the retina from loss of its functions is worth working for.

The example, too, will induce me to regard with anxious watchfulness all those conditions of internal disease of the eye in which detachment of the retina is likely to occur. I shall therefore look with suspicion on all instances of inflammation of the vitreous humour. I mean those

changes in this humour apart from extravasations of blood from the retina, or the choroid, producing opacity with floating fibres and shreds. The time will not allow me to say more on this head.

The treatment, then, for detached retina, according to my views, must be chiefly and primarily of a general nature, and secondarily operative.

The tapping cannot be applied to all cases, simply because some cannot be reached by it, the affected part being too posterior. Besides, it is not always easy to make out the extent of the detachment. Indeed, to examine the several varieties of this lesion critically, to note well the defective state of sight, and afterwards to register correctly any improvement or disimprovement that may ensue, demands that amount of special knowledge and accuracy of observation that only careful study and much practice can give.

As I have treated many cases of detached retina according to the system I have advocated, I will make a general statement of the results. The mass of the patients have been seen by me many months and years after the eye disturbance had set in, when, in fact, the existing changes were only the traces of past disease, and in such I could not satisfy myself of having conferred benefit. Some were wont to think they had improved, but they were only deceiving themselves for a time. In two cases I believe the detachment was stayed and the eyes were so far saved. I will describe one of them:—

Three years ago I was called to the country to see an elderly gentleman with impaired sight. It was supposed that cataract was the diseaseso, indeed, he had been told by medical men. I soon discovered that a great mistake had been made, as revealed by the ophthalmoscope. the one eye the retina was detached on the upper and outer part. Sight was very defective, and the central vision was rather worse than the state of the eye accounted for. These subjective symptoms were increasing. In the other eye there were changes in the choroid, chiefly indicated in the condition of the pigment, which result from inflammation of that tissue, and the retina was highly injected. Here, too, vision was very defective, and was getting more impaired. There was reason to believe that the duration of the disease was not of longer standing than a few months. I tapped the worse eye and evacuated a large quantity of yellow serum from behind the retina, and then commenced the constitutional I resorted to a second tapping. I have occasionally seen my patient up to the date of my writing this; I saw him yesterday. Although I cannot find any decided improvement of vision in this eye, It is satisfactory not to discover any further deterioration. Detachment of the retina there still is, but there is not the separation of any more of It. That part of it not detached has not lost its functions.

The other eye is in an improved state, and type can be read that at first was almost invisible. The interior of the eye showed a signal improvement in the condition that admitted of it. I do not think it unreasonable to suppose that the treatment prevented detachment here, when the former state of the eye is considered, together with the known liability there is for the affection to be symmetrical. The sketchy style of my communication, and the brief and meagre manner in which many of the topics have been treated, were necessary, in a paper intended merely to be suggestive, to be short, and to provoke discussion.—Medical Times and Gazette.

CLINICAL REMARKS ON DIFFERENT MODES OF DEALING WITH THE PEDICLE IN OVARIOTOMY.

By T. SPENCER WELLS, F.R.C.S., Surgeon to Her Majesty's Household, etc.

(Delivered at the General Infirmary, Chester, August 10th, 1866.)

MR. PRESIDENT AND GENTLEMEN, -I am now about to perform ovariotomy before you in two very different cases. One patient is a young unmarried woman, who has a large non-adherent cyst which has never been tapped, and whom I saw yesterday for the first time, in consultation with Mr. Weaver. The other patient is a widow, and only one month less than 60 years of age. She has suffered between four and five years under her disease, has been tapped four times, and is much broken down in general health after suppuration of the cyst which followed the third tapping. When first I saw her, she was naturally anxious to avoid a dangerous operation, and preferred tapping, by which she gained some two years of tolerable comfort. But latterly she has suffered so much, that she eagerly accepted the offer of a bed here, kindly placed at my disposal by our President, Dr. Waters. In her case I know we shall find a suppurating and inflamed cyst, from the general symptoms, and from the fact that the fluid at the last tapping contained a great deal of pus. I am also pretty sure that there are extensive adhesions to the abdominal wall on the right side; and on the left side a coil of intestine, giving a distinctly circumscribed resonance on percussion, in all probability will have to be separated from the cyst. If I find more extensive attachments below the brim of the pelvis than I anticipate, I shall content myself with simply laying the cyst open and emptying it; doing little more, indeed, than tap, because an unusually serious proceeding in so old and emaciated a subject would be almost certainly fatal. But I trust that,

beyond the adhesions to the abdominal wall and to the intestine, there will be no great difficulty to contend with. In the case of the young woman, I have ventured to assure her, and so has Mr. Weaver, that the operation will be extremely simple—probably little, if at all, more dangerous than a first tapping—because I am very confident that an unattached cyst will be exposed, emptied, and drawn out of the abdomen through a very small opening.

[The patients were successively introduced, having been previously placed under the influence of chloroform in an adjoining ward by Dr. H. Simpson, of Manchester. The operations proved to be exactly what the operator had anticipated by the foregoing introductory observations. The cases have been fully detailed in our Hospital Reports. (See page 352.) After the termination of the second operation, Mr. Wells added the following remarks.

There are so many subjects, gentlemen, suggested by the two operations which you have just witnessed, and your time is so valuable, that I will only detain you by a few remarks upon the different modes of dealing with the pedicle. You saw that in both cases I used the clamp and fixed it, with the end of the pedicle it secured, outside the closed wound. might have tied the pedicle, or its vessels only. And in either case I might have cut off the ends of the ligatures short, and closed the wound entirely; or I might have left the ends of the ligatures hanging out through an unclosed portion of the wound. Or I might have compressed the pedicle by a needle or wire, or applied the écraseur, or used the actual cautery, or that combination of compression or crushing by a clamp and searing by the actual cautery, for which we are indebted to Mr. Clay of Birmingham, and which has been adopted of late with much success by Mr. Baker Brown. But I preferred the clamp, because it is the method which in my practice has been the most successful of any. I have tried the others, and have sometimes been well pleased with the result. But in other cases I have been grievously disappointed, and have felt pretty certain that if I had been able to use the clamp the result would have been different, If a pedicle be small enough to be securely held in a clamp of moderate size, and long enough to permit of the clamp being fixed cutside the closed wound without much pull on the uterus or broad ligament, I wish for no readier or more successful method. The objections to it are either groundless or trivial. It is said to be very Painful; but I have seen a good deal of pull with very little pain, and much more severe pain in cases where the ligature was used than I ever saw in clamp cases. So with sickness: I have seen as much, or more, after the ligature or cautery, as I ever saw after the clamp. It is said

to set up fætid discharge and poison the wound or the patient; and so it does if proper care be not taken. But if the strangulated part of the pedicle which projects beyond the clamp be well saturated with perchloride of iron, as you saw me use it just now, the slough is tanned; it becomes as hard and dry as a piece of leather, and there is an end to that objection. It is said to cause suppuration about the wound; but this again, I have seen quite as frequently, in proportion, after the ligature or cautery. I never saw more profuse suppuration of the stitches than in one case where I divided the pedicle with the écraseur, and closed the wound with platinum wire sutures. Then, after the wound is closed, it is said to lead to a re-opening each month, and an escape of some menstrual fluid. And this is true in some—perhaps in nearly a third—of the cases. But if the patient be prepared for it, it is not of the slightest consequence. The Fallopian tube contracts completely after a few months, and there is no further escape. The fact that it does escape sometimes is to my mind an argument in favour of the clamp; for if menstrual fluid can escape through the partially close Fallopian tube fixed in the cicatrised wound, so it may escape if the tube be left within the peritoneal cavity, and the result may be a fatal hæmatocele. I have known this to occur in cases where the ligature was used and cut off short; and I believe it to be one of the strongest objections to this method, or any intraperitoneal method of dealing with the pedicle. As to any fancied impediment to the increase of the uterus in pregnancy, and to its contraction during labour, from the adhesion of the tube to the cicatrix, I can only say that nine of my patients have had children after ovariotomy—two of them two children—and there was no such complaint in any one case. One real objection to the clamp is that it may possibly pull on intestine, or a tense pedicle may strangulate intestine (and I have seen one such case). But this objection is of little weight if the use of the clamp be restricted to cases where the pedicle is so long that there is not much drag on the clamp. In such cases, I repeat, I desire no better method. But where we have a broad, thick, short pedicle, or a broad connection between uterus and cyst rather than a distinct pedicle, we want something better than the clamp. And we have the choice between wire or needle pressure, the ligature, the écraseur, and the combination of crushing and cauterisation, to which I have before alluded as an improvement due to Mr. Clay, for which he has certainly not received due credit.

I say nothing about acupressure or the wire compress, because I have never tried them. Sir James Simpson was successful in one case, and the plan is certainly worthy of trial.

The ligature of the pedicle can always be effected by transfixing it, and tying in two or more portions, before the cyst is cut away. Or a clamp may first be applied, the cyst cut away, and the pedicle then transfixed and tied below the clamp. But, if this be done, the clamp must be loosened before the ligatures are tightened, or the compressed tissues are so held that the knot cannot be tied so tight that it will not slip off as soon as the clamp is removed. If it be desired only to tie the vessels, it may be done by feeling the arteries, and carrying a ligature round them through the pedicle before the cyst is cut away; or after the application of a clamp and removal of the cyst, holding the pedicle carefully with forceps as the clamp is loosened, and tying any vessel The great objection to this plan is, that there is which bleeds. often much loose cellular tissue, rich in small veins, which go on oozing after all the larger vessels have been tied. Whichever may be the plan preferred, the important question arises, Shall the ends of the ligatures be cut off, and the wound closed? or shall they be left hanging out through a part of the wound, purposely left open for their passage, and that of the slough they embrace when it separates? Dr. Clay, of Manchesta, still advocates this latter practice. I have tried it, and with success in about a fifth of the cases only; and I shall not willingly adopt it again. in its favour, it may be said, that it is a method applicable in all cases; that it secures an outlet for serum from the peritoneal cavity; and that, after the separation of the ligature and slough, no foreign body is left within the patient. But it seems to me better to have a choice of methods, and adopt each in its appropriate case, than to strive after one method applicable to all cases. I think the ligature-threads act as a sort of seton in the peritoneal cavity, set up inflammation, and excite the formation of the serum for which they are said to provide the outlet. Then, if the patient recover (and I have very great doubt whether very many subjected to this plan do really recover), there is a great liability to ventral hernia. The cicatrix remains weak at the spot where the ligatures passed out, and it yields before the pressure outwards of the viscera. I have seen this in nearly every case where I followed this plan; but I do not remember more than two cases where it followed the clamp. Therefore, if we use one or more ligatures, I am inclined to cut off the ends short, and close up the wound completely. Wire has been used for this purpose; but it seems an irrational practice. Silk, if pure, is an animal substance; and experiment proves that it may be absorbed. Wire cannot be absorbed, and must be more or less of a mechanical irritant. tied wire on one side and silk on the other side of a sheep on which Professor Gamgee operated for me at the Albert Veterinary College, and

the superiority of the silk was manifest. But what we have to look to is the effect on the tissues strangulated, rather than the material by which the strangulation is effected. If anything like what goes on outside the body when the clamp is used, or inside when the wound is left open for ligatures, were to go on when the wound is closed, it is difficult to understand how any patient could possibly survive the process. She would almost infallibly be poisoned by absorption of the feetid products

the decomposing stump. But a very different series of changes must go on when the wound is closed and access of air is shut off. At any rate, experience proves that patients do survive the process; and post niortem examination has shown that ligature and pedicle have been coated by a sort of capsule of lymph. In my own hands, this practice has been much less successful than the clamp; and, even when patients have recovered, some of them have long remained in a state of semi-invalidism, very different from the robust health which is the rule after successful clamp-cases. This plan is that always followed by Dr. Tyler Smith. It was originated in 1821, by Dr. Nathan Smith, of Baltimore, who used leather ligatures. Dr. Rogers, of New York, in 1830, also cut off his ligatures "close to the knot, and left them to absorption." If I used the ligature, I feel disposed to cut off the ends whenever the patient is in pretty good condition, and sthenic peritonitis with effusion of lymph may be expected; but if low diffuse peritonitis and effusion of serum may be feared, then I suspect it would be better to leave the ends of the ligatures, and secure a drain through the wound for the serum. But we should still search for a better method than the ligature.

The écraseur I used once, and successfully. But I have not ventured on it again; for, if it should prove untrustworthy, and internal bleeding occur in any case, one's self-reproach would be very painful.

The cautery alone would almost certainly fail to stop such large vessels are as frequently met with in a pedicle. So might the écraseur alone, or the crushing which precedes division by the écraseur. But the combination of crushing and the cautery is certainly efficacious in a considerable proportion of cases. Mr. Clay, of Birmingham, as I said just now, introduced the practice, and carried it out by his "adhesive clamp" and hot irons. I wrote to him at the time, that, if it answered for adhesions and omentum, it ought to answer for the pedicle. And I might have tried it; but my first trial on a piece of omentum was unsuccessful, and I did not reper a it. But latterly Mr. Baker Brown has published so many cases in which he has successfully secured the pedicle on Mr. Clay's principe of combining pressure with the cautery, that I have tried it in five cases. Three of the patients recovered, and two died. In three, the

cautery was alone sufficient to stop all bleeding. Two of these patients recovered, and one died. In two others, on opening the clamp, considerable vessels bled, and ligatures had to be applied. One of them recovered, and the other died. I shew you here Mr. Clay's "clam," and the instrument as modified by Mr. Brown. It will be for further experience to determine whether, in cases of short pedicle, the ligature with the ends cut off short, or the écraseur, or the combination of crushing and cauterisation, is the more successful practice. For a long pedicle, I still prefer the clamp. It has been used before you in two cases, and you will hear I feel very hopeful that it will be favourable in both cases; the result. for Dr. Waters, as well as the surgeons, Messrs. Brittain and Weaver, to whom you are indebted for the opportunity of witnessing this operation, still new in many of our hospitals, have done everything in their power to insure success-have placed separate rooms at the disposal of the house-surgeon, Mr. Karkeek, who will add his earnest and hearty endeavours in a good cause; and, with such pure air to assist us as we sadly want in smoky London, and which comes here direct from the Welsh hills which you see from the windows, I trust the attempt to save the lives of the two women will prove creditable to surgery .- British Medical Journal

THREE CASES OF COMPOUND DISLOCATION OF THE ASTRAGALUS, WITH REMOVAL OF THE BONES.

By T. T. GRIFFITH, Esq., Wrexham.

The chief interest and value of the following cases, is that they illustrate and confirm the clear practical rules laid down by Mr. Turner, in his valuable monograph on "Dislocations of the Astragalus" published in the eleventh volume of the Transactions of our Association. The rules of practice there recommended are logical deductions from a thorough consideration of the subject in its anatomical, physiological, and pathological relations, and have received the sanction of the principal surgical authorities which have subsequently treated of this branch of local injuries; and I consider myself most fortunate in having read Mr. Turner's paper before meeting with a case of serious accident to the astragalus.

One important fact is that in compound complete dislocations of the bone, reduction may be considered impracticable from the almost immediate contraction of the muscles acting upon the os calcis and foot generally, bringing the tibia, fibula, and calcaneum into more or less

close and firm contact, leaving no space for restoring the astragalus to its wedge-like position within the joint. Then follows, as a conclusion, the necessity for removing the bone at once, to prevent the constitutional disturbances so likely to arise from its presence as a foreign body, detached more or less from its vascular and vital connexions, and liable to a long process of caries and suppuration.

I. Case of Complete and Compound Dislocation of the Astragalus forwards and outwards; Removal of the Bone: Death from Tetanus. David Roberts, aged about 40, of spare habit and of nervous temperament, suddenly leaped from a horse which started. He alighted on his feet, stood for a moment, and then fell. On visiting him, I found the astragalus of the right foot completely dislocated forwards and partially outwards through an extensive wound reaching across the instep; it remained attached to the ankle only by a few ligamentous bands. Upon dividing these the bone was at once removed. There was neither fracture nor displacement of the tibia or fibula. It was at once apparent that reduction of the astragalus would have been impracticable, and here I felt the great value of the rules laid down by Mr. Turner, deduced from sound physiological and pathological principles, as to the treatment such cases required. On examining the astragalus, I found that a small portion had been broken from the posterior and inner angle, and doubtless restrained in the joint by ligamentous union. The same circumstance occurred in another case; but there the fracture was through its posterior and outer angle. In both cases I deemed it best to allow the broken off portion to remain, hoping that its connection with living parts might secure a continuance of its own vitality. The wound was closed, and the limb laid on its outer side on a leg splint with a foot-piece. As far as the foot and wound were concerned, all went on favourably, and the general constitution was less disturbed than might have been expected, but on the fifth day symptoms of tetanus appeared and continued rapidly to increase till they ended in the patient's death. think we may fairly exempt the mere removal of the astragalus from participation in causing the tetanus, but rather refer this untoward event to the laceration and contusion of the soft parts, and more particularly of those fibro-ligamentous structures through which the bone had been so violently forced.

II. Case of Compound Dislocation of Ankle-joint, with Complete Fracture of the Neck of the Astragalus, and Extension of the Bone. On August 14th, 1854, I was sent for to Wynnstay by Mr. Richard Roberts to see a patient, who had received a serious injury to his right foot. Edward Redington, aged 20, in perfect health, a helper in the stables.

had three hours before mounted a restive horse, which rearing, fell backwards and upon the boy, whose foot was under the horse. Upon examining the foot, I found a compound dislocation of the ancle-joint; the ends of the tibia and fibula were projecting, with a large portion of the astragalus, through a wound extending from the front of the internal malleolus across the instep to the posterior surface of the outer angle. Neither tibia nor fibula was fractured. The astragalus was entirely separated from the os calcis, and fractured through its entire neck; its articulation with the navicular bone was undisturbed; but a portion of bone lay loosely between the fractured portions, and this I removed. The foot was completely inverted to a right angle with the leg. There was free arterial hæmorrhage, but from no one branch of any size. would appear that the foot had been doubled inwardly on itself; and thus, probably, laceration of the soft parts and dislocation of the boneswere produced; but the direct fracture through the neck of the astragalus-a kind of amputation-and the detached portion between the body of the bone and the portion remaining attached to the navicular bone, must have resulted from a force directly applied across the neck of the bone, probably from the stirrup, or some hard, sharp inequality in the ground. The portion of the bone now exhibited will show this. The shock to the system was considerable, and the vital powers were much depressed. Amputation naturally suggested itself; but, bearing in mind the rules laid down by Mr. Turner, supported by cases, and seeing that the man was perfectly healthy, I decided upon making the attempt to save the limb. Having placed him on a suitable mattress with pillows, and put him fully under the influence of chloroform, I attempted the reduction of the bones. This I found so difficult (though I made a free division of whatever soft parts seemed to offer resistance), that I feared to continue the effort, lest I should inflict further injury. I then dissected the body of the astragalus from its tibio-fibular articulation; and the complete reduction of the tibia and fibula was very easily accomplished. Finding the portion of the neck of the astracalus, with its navicular articulation, undisturbed, I left it in situ. In removing the body of the bone, besides facilitating reduction of the bones of the leg, I felt that, with so much of its cancellated structure exposed, and the uncertainty of so large a lacerated wound uniting by adhesion, there would be a great probability of caries of the bone and other bad consequences likely to implicate seriously the whole of the ankle-joint. integuments were brought together, except at a depending point, from which some blood still flowed. The leg was placed on its inner side, and water-dressings applied. As the influence of the chloroform passed away,

the boy complained of pain, which was relieved by an opiate. I only saw the patient three or four times afterwards; but I learnt from Mr. Richard Roberts that the progress of the case was satisfactory. The wound partially united by first intention; some suppuration from the fibular side took place; and an abscess formed near the tendo Achillis, which required opening. But little disturbance of the constitution took place, and after a few weeks he moved about on crutches; and he eventually recovered, with a stiff ankle and a shortening of rather more than an inch in the leg, requiring a high-heeled shoe. But he was able to resume his duties as a helper in the stables.

III. Case of Complete Compound Dislocation of Astragalus outwards. complicated with Fracture of a small Portion of its Inner Posterior Angle: Removal of Bone: Recovery. William Brancker, Esq., aged 63, in perfect health, whilst galloping his pony, lost his seat from the stirrup-leather giving way, and leaped on the ground and fell, but, anxious to keep hold of the reins, attempted to stand, and then found that he had sustained some serious injury to his left foot. I found the left foot so inverted, that its inner side pressed against the internal malleolus, and produced an apparent hollow there; whilst the outer ankle formed an unnatural projection, opposite to which lay the astragalus, completely dislocated through a circular opening of the soft parts, and resting on the cuboid bone, its neck most firmly girt by the structures through which it had passed. There was neither fracture nor displacement of the malleoli: very little hæmorrhage. Efficiently assisted by Mr. Perkins, who first saw the patient, I freely divided the soft parts, and then attempted reduction of the astragalus; but the tibia and fibula were so firmly drawn to the os calcis, that I desisted from further attempts, and, with a little dissection, removed the astragalus, which had lost its articular connections with the calcaneum, ankle-joint, and navicular bone. On examining the depth of the wound, I found at its inner and posterior angle a small piece broken off; but, as this retained its vascular and ligamentous attachments, I hoped its vitality would be continued, and I did not disturb it, and it gave no further trouble. The wound was drawn together by sutures and plaster; the foot was placed on the heel, thus allowing the escape of fluids from the wound; a splint applied along the leg, with a footpiece. Everything progressed favourably, and without any interruption. The wound, in nearly its whole extent, united by adhesion. The general health suffered much less than could have been anticipated. Some gouty symtoms occurred, attended with spasm of the heart, threatening immediate death.

At the end of two years and a half, this gentleman is able to follow

the hounds; to walk with and without a stick; has some motion in the joint; and the shortening is so little, that a small addition to the thickness of the left shoe enables him to walk comfortably.—British Medical Journal.

ANEURISM OF EXTERNAL ILIAC ARTERY; LIGATURE OF VESSEL WITH SILVER WIRE; DEATH FROM BRONCHITIS.

(Under the care of Mr. Pollock.)

The plan adopted in the two following cases was new to this country, although it has been employed, we believe, in one case in America. Two objects were aimed at in the substitution of silver for silk or hemp in the ligature: 1st, to encourage healing of the wound by the first intention, never altogether practicable where the end of a ligature passes through it; 2nd, to lessen the risk of the occurrence of secondary hæmorrhage. The first of these objects was not attained in either of these cases, since inflammation took place in the track of the wound. As regards the other point, however, the condition of the artery after death in the fatal case must be considered favourable. The coats were not cut through; circulation had been stopped by lessening the calibre of the vessel. Mr. T. Pick, pathological registrar, has obliged us with notes of the first case.—

George H—, aged fifty-one, painter, admitted on the 11th of September, 1865. Six months ago he fancies he strained himself while opening some sheets of lead, for he felt pain in the groin at the time, and the following morning he noticed a pulsation in this situation. He has continued his work since "on and off," and a week ago he noticed a swelling at the seat of pain,

On admission there was a circumscribed, pyriform swelling in the right groin, about three inches long by two broad. It was situated under Poupart's ligament, and extended from about one inch above to two inches below it, in the course of the femoral artery, from which it could not be moved. There was a very distinct and forcible pulsation, consisting of a dilatation from above commards; there was no distinct bruit to be heard. Pressure on the external iliac above the tumour almost, but not entirely, stopped the pulsation. The tumour could be emptied by pressure, but speedily refilled. Pulsation was much stronger in the posterior tibial of the left side than the right. There was a slight acrtic murmur with the systole of the heart.

Sept. 14th.—The patient having been placed under the influence of chloroform, a semilunar incision was made just above Poupart's ligament, and the various layers of the abdominal wall having been cut through, the artery was exposed. It was then encircled by a loop of silver wire, which was tied; this completely commanded the circulation in the tumour. The ligature was cut off short, and the wound brought together with silver sutures.

15th.—Last evening he complained of pain in the belly; it however soon passed off, and he slept pretty well. He now complained of rheumatic pains in both knees and ankles, otherwise he was comfortable, Pulse was 120, full; skin warm; tongue white. The wound was perfectly quiet, and the leg, which had been swathed in cotton wool, was warm. About noon he began to complain much of cough, and his countenance began to assume an anxious expression. Mucous râles could be heard over both lungs.

16th.—His pulse was 136, thrilling; respirations 44 in a minute; mucous râles over both lungs. The wound looked quiet; no redness, but a little discharge. The tumour was consolidated. The foot felt extremely hot, and there was a discoloured visication on the top of the great toe.

17th.—He lay in a semi-conscious state, with extreme dyspnoca. Respirations 54 in a minute; pulse 128, running; mouth dry; tongue dry, brown, and furred; skin hot; face flushed. There was considerable diffused cellular inflammation around the wound, and a hard, brawny place in right flank; skin over it of a dusky red. The spot on the toe was rather less discoloured. An incision was made into the inflamed cellular tissue, and one of the sutures was removed from the wound. He was ordered brandy. His breathing became more and more oppressed and he died the same afternoon.

On examining the parts after death, there was found to be a tubular dilatation of the whole calibre of the external iliac artery just at the point where it becomes femoral. The aneurism was about the size of a peach, and on its lining wall was a very considerable deposit of laminated fibrin, whilst its centre was occupied by a clot. About an inch above the aneurism the vessel was tightly embraced by a silver ligature, which, however, had not in any way cut through or destroyed the coats of the artery. The vessel between the ligature and the aneurism, as well as above the ligature for some distance, was filled with decolorized clot, which was partially adherent to the lining membrane of the vessel. No other parts were examined.—Lancet.

# POPLITEAL ANEURISM; LIGATURE OF FEMORAL ARTERY WITH SILVER WIRE; RECOVERY.

(Under the care of Mr. HOLMES.)

For notes of the following case we are indebted to Mr. J. H. P. Wilson, acting surgical registrar.

J. W—, aged forty-three. In 1862, while carrying a piece of timber he fell with his leg under him, and strained his knee, for which he was laid up fourteen weeks. About a fortnight before admission he noticed a kind of jumping pain in the popliteal space of the right leg, which was relieved on his sitting down, but was greatly augmented in walking or moving the leg at all. The heart-sounds are natural, and he has never suffered from any illness except the accident above mentioned.

On admission, there was a large, egg-shaped, pulsating tumour, about the size of an ordinary fist (larger from above downwards than from side to side), situated in the popliteal space of the right leg. On applying the stethoscope, a distinct aneurismal bruit could be heard. The pulsation of the post-tibial artery was weaker than in the left leg.

On Nov. 2nd, Mr. Holmes first commenced flexion of the limb for two days; but on account of the severe pain it caused the patient it was discontinued, without any marked improvement having taken place.

Nov. 14th.—Digital pressure was tried for fourteen hours; but this again caused such severe cramping pains that it was discontinued. Some little deposit had, however, commenced in the sac, and the tumour was rather more circumscribed.

6th to 14th.—The tourniquet was applied for periods of three to six hours daily, with marked benefit, the tumour being much more circumscribed and consolidation evidently going on.

16th.—The tourniquet was discontinued on account of the parts of the thigh becoming so lax and the artery so movable that it was constantly becoming displaced.

Various forms of compression were tried in succession, but none were found applicable. The patient then learned to compress the artery himself, but it produced no visible effect. Then the aid of fellow-patients, assisted by the students, was called in to compress the artery for twenty minutes out of each half-hour during twelve hours per diem. At first this was thought to be producing coagulation rapidly; then the disease seemed stationary, but the bruit always continued as loud as ever. At length it became evident that the tumour was increasing in size along the popliteal space of the femur, and then it was determined to tie the vessel.

Accordingly, on Dec. 28th, Mr. Holmes cut down upon the femoral

artery at the apex of Scarpa's triangle, and ligatured it with silver wire. The wound was sewn up with three silver sutures, the leg wrapped in cotton wool, and a bandage of flannel bound round it.

29th.—Pulse 126, thready. Passed a bad night. Leg painful; wound healthy; no pulsation in tumour.

30th.—Pulse 116; tongue cleaner; foot quite warm; no pulsation in tumour, which is smaller; slight redness and tenderness at the upper and inner border of wound.

31st.—Pulse 96; wound red, but not so hard or tender; foot warm; tumour smaller and more consolidated,

Jan. 2nd.—Pulse 88; wound probed, and a large quantity of pus let out; linseed poultice to be applied.

4th.—Wound nearly healed; no more pus exuding; tumour consoli-

12th.—The wound is quite healed. The patient to get up. There is a good deal of thickening about the ligature, owing very likely to an effusion of lymph.

22nd.—The tumour is gradually decreasing in size, and he can walk with a stick. He is to go into the country for a month.

June 23rd.—He was seen by Mr. Wilson, who remarks:—"The thickening about the ligature has disappeared. There is a tumour, about the size of an egg, in the popliteal space, very hard. No articular arteries can be detected about the joint. He still keeps the leg wrapped up in a flannel bandage, as he says it always feels cold. He is able to walk a considerable distance without limping, and has been at work for the last three months, and is now doing very heavy work—viz., pulling down a house."—Lancet.

# SUPPRESSION OF URINE, COMBINED WITH OBSTINATE CONSTIPATION.

By N. W. J. Heath, Member of the Royal College of Surgeons in Ireland, etc.

Whilst making my usual morning visit to the steerage of the National Steam Navigation Company's steamship "Erin," outward bound to New York, with 700 passengers, my attention was directed to a female passenger, Mary Stines by name, aged 25 years. She had previously suffered from debility, superinduced by sea sickness, and for which, as on former occasions, having asked the usual hackneyed questions as regards bowels, stomach, head, etc., and having received satisfactory replies, I prescribed the usual remedies in such cases—nutriment and stimulants.

On this occasion such was not the case; it was a case pregnant with difficulty of diagnosis, requiring prompt and active measures to be immediately adopted.

I found her lying on her back clothed, nor do I believe she either undressed or went on deck twice in the passage so far fifteen days from land, being too weak to attempt such an exertion; she appeared semi-comatose. I immediately had her undressed and placed in hospital; and I shall now give briefly the result of my examination of her, which, although I believe true, is scarcely credible.

On examining the lungs, as well as the noise of engines would permit me, I could not detect any congestion, or inflammatory symptoms; the heart was weak, though regular.

The abdomen, I observed, was considerably enlarged for an unmarried woman; and with careful external manipulation and a vaginal examination, I could satisfy myself of her pregnancy. The colon in all its part could distinctly be traced; enlarged, nodulated, distended with scybala.

The bladder, containing fluid, could easily be mapped out. I asked her how long she had retained her urine, and with a good deal of apparent exertion to comprehend and difficulty to reply, completely astounded me when she said, to use her own words: "I have not made water since the day we left Liverpool, and my bowels have not been freed since the day before we left Liverpool." The other passengers (twenty-three) in the same room, attested the truth of this appalling statement. Be it true or not, I cannot say; but such a train of symptoms and subsequent facts incline me to the belief that she must have suffered from suppression of urine for a great length of time. The poor girl, evidently from modesty before so many people, would not attend to the calls of nature; and the parts becoming unnaturally distended, the condition I have described ensued.

I now immediately introduced the catheter without trouble, and drew off six ounces of horribly feetid urine, something like porter in color, though of greater consistence, blackening the silver catheter. It is needless to go through the different steps of the treatment; suffice it to say, stimulants, nutriment, enemata (laxative), and diuretics were assiduously administered. Cupping over the region of the kidneys, etc., was resorted to, but with no avail. With difficulty the various remedies were continued; and about four, A.M., the next day, the face assumed a strangely death-like appearance, of a leaden hue, cold, and covered with a clammy sweat; the lips drawn over the teeth, giving the face a ghastly grin; the alæ of the nose contracted, and up to this time only two and a half ounces of urine had been obtained by the catheter. The fæces passed involuntarily; abdomen very tympinitic; constant hiccough served to annoy

her, and she was incoherent. With difficulty the stimulants were continued. She gradually sank, and at 7.45 p.m. (thirty-four hours after my first visit) died.

I made a post-mortem examination sixteen hours after death, in conjunction with Dr. Lee, Sr., of Chicago, who kindly assisted me in the treatment of this strange case; and found, first, the brain, especially the cortical portion, extremely congested and of a strong urinous odor, as also was her whole body when cut; lungs and heart healthy, the stomach contracted and inflamed on the inside; the remainder of the alimentary canal filled with gas. The kidreys were very large indeed, hard, and congested with blood; the bladder, contracted and inflamed on the inside, not containing a single drachm of urine; the uterus contained a months' fectus.

I regret deeply that I had no means of testing the urine, or miscroscopically examining the kidneys at sea.

In conclusion, I will mention that at sea, from my experience, which has been quite extensive, I have frequently seen constipation for twelve, fifteen, and even twenty days, without any evil results, or even inconvenience; but never have I even read, heard of, or seen a case parallel to the one I have now described.—Medical Record.

## Medicine.

HYDATID OF THE LIVER, TREATED SUCCESSFULLY BY THE INJECTION OF THE EXTRACT OF MALE FERN INTO THE CYST.

Harriet V., a woman of pretty healthy appearance, aged twenty-one, admitted into Mary Ward, under the care of Dr. Pavy, October 4, 1865. When three years old she was squeezed against a wall by a cart wheel, which struck her somewhere on the right side of the chest. No rib was fractured, and she soon recovered from the accident. About six years ago the patient noticed a slight swelling in her right side, which has since continued gradually increasing in size. On examination, a large deep-seated tumour was to be noticed occupying the r ght hypochondriac region, and extending considerably beyond, both above and below. Its boundary could be clearly defined inferiorly. It caused a considerable bulging of the ribs on the right side, and the right mammary gland was raised about three-quarters of an inch above the level of the left. Fluctuation was apparent. Dulness extended as high as the lower

border of the second rib on the right side. The case was diagnosed to be one of hydatid tumour of the liver. The relationship that is agreed upon by helminthologists to exist between the hydatid and the tænia, and the known effect of the extract of male fern upon the latter, suggested to the author the treatment adopted. The extract is not miscible with alcohol or water, but it was ascertained that a liquid sufficiently thin for passing through a fine canula was to be obtained by admixture with a little potash. November 6th.—A fine trocar and canula were introduced into the tumour by Mr. Durham, and about four ounces of a limpid colourless fluid allowed to escape, in order to diminish the tension of the cyst. A liquid consisting of half a drachm (by measure) of the purified semi-fluid extract of male fern, half a drachm of liquor potassæ, and six drachms of water, was then injected into the sac, care being taken throughout to prevent the entrance of air. The fluid removed was examined, and found to be non-albuminous, charged with a large quantity of the chloride of sodium, and to contain hooklets of the echino-coccus. At the introduction of the trocar the patient complained of experiencing a considerable amount of pain, which she referred to the lower part of the abdomen. Some febrile excitement, vomiting, and purging followed, but there was no evidence of peritonitis. 10th.—On percussion, it was found that dulness did not extend so high in the chest on the right side by one rib as previous to the operation. 16th.—The patient was allowed to get up. 20th-The tumour was found to be much diminished in size. It was much softer, did not extend so low down in the abdomen, and was much less distinctly circumscribed. The chest was resonant on percussion as low as the space between the fourth and fifth ribs. 29th.—The circumference over the most projecting part of the tumour before the operation was 34½ inches; to-day it is 31¾ inches, showing a reduction of 23 inches. Tumour very soft, and its lower border not to be defined as formerly. The patient, being well, was allowed to leave the hospital. A fortnight and again a month afterwards she was seen, and found to be progressing satisfactorily. May 10, 1866. -Since she was last seen the patient had suffered from an attack of rheumatic fever, with heart complication and bronchitis. She had been in no way troubled with her side, and her circumference now was 30 inches. No swelling was perceptible to the eye, but a hardness remained in the hypochondriac region. The inference to be drawn from the result in this case is, that the injection of the extract of male fern caused an immediate destruction of the life of the hydatid without the production of suppuration, and that a rapid absorption of the fluid element of the cyst afterwards took place .- Medical Times and Gazette.

## Midwifery and Piseases of Women and Children.

NOTES OF A.CASE IN WHICH EVULSION OF THE UMBILICAL CORD OCCURRED AT BIRTH.

By G. De Gorrequer Griffith, Physician to the Hospital for Women and Children, Pimlico, &c.

On Sunday evening, July 8th, I was summoned to attend Mrs. ———, who was in labour with her first child. I attended almost immediately; and, on my arrival, I was told that my services would not be required just yet, as the pains had come on only within the last two hours. I forthwith entered her room. At the very moment I did so, she had a very strong bearing-down pain; and I told her that she had better lie down as soon as the pain was over. While yet in pain, she attempted to get on the bed; but, as she made the effort, she called out that the child was in the world; and, before I could endeavour to catch it, the little thing fell upon its head with some force, and rolled upon the floor.

I noticed that the child was quite livid; that the cord had been torn from the abdomen; and that the child was apparently lifeless. The blood spurted out from the umbilical aperture; and before I could render any assistance, some little quantity was lost. The child seemed to be in a state of syncope, very soon lost its livid hue, and became all ever deadly pale. As quickly as I could, I seized the integument surrounding the umbilical aperture—there was not a vestige of the cord—and tied it as tightly as I could, which I was enabled to do, owing to the state of the syncope of the child, by which it was prevented from feeling any pain. It was tied so effectually that the thread did not slip off, nor was disturbed when the child began to cry and move.

No ill effects obtained to the mother, and the placenta was easily removed.

As the case I have described is of extreme rarity, and as I do not know of even one similar to it being on record, I have thought it fit to bring it forward.

The treatment in this case was extremely simple: first, because of the syncope into which the child fell; and secondly, because of the lax condition of the abdominal integuments affording an opportunity of securing the ligature tightly.

I need not here dwell upon the difficulty usually attendant upon deligating the integuments surrounding the umbilical aperture in the

abdomen when the accident of which I speak has occurred, inasmuch as it must be impressed upon the mind of each of those practitioners who have been consulted in such circumstances.

Syncope in infants is a rare occurrence. I mean true syncope resulting from concussion of the brain, and not merely that imperfect state of animation which so often obtains at birth, and is manifested by feeble action of the heart, and an uncertain state of the entire system, which, as it were, oscillates between life and death. A condition of coma, or semi-coma, is by no means so infrequent. One case of complete coma occurring in the infant at birth, as the result of compression during labour, and lasting for two days, then terminating in death, has recently come under my notice.

"Only one instance," says Dr. Underwood, "have I seen anything at all resembling the true syncope after the living powers have once prevailed. In this case, the child was born at the instant its mother was moving from her chair into her bed, and, in consequence, fell with violence on the floor; it, however, very soon cried, and did not appear to be very materially injured, but, a day or two afterwards, fell into a strange languid state; it revived, but at intervals sank into its former languor, and breathed very faintly, and died about the sixth day."

Mr. Hey, of Leeds, communicated to Dr. Underwood the notes of a case of an infant which, born at full time, lay moaning and languid for four or five hours, and was then seized with a fainting fit, in which it continued for half an hour. It had ceased to breathe, except now and then giving a gasp or sob, and was as pale as a corpse. There was, however, a sensible pulsation of the heart, though feeble and slow; but whether the circulation had been kept up all the time previous to his (Mr. Hey's) visit, could not be ascertained. The child was revived by the use of stimulants, but had three other similar attacks in the course of the day, though it had slept composedly between whiles, and sucked at the breast. It had seven more fainting fits in the night. The infant became a very healthy child.

On the fourth day of the existence of my patient, that portion of the integrament outside the ligature showed signs of vitality having ceased in it; and on the fifth day it came away, leaving a round evenly cut wound in the skin of the abdomen, surrounded by a ring of inflammatory redness.

All the time of my attendance (nine days), the child did well; had no untoward symtoms; and the wound was healing rapidly when I took leave of my patients.—British Medical Journal.

#### PRECOCIOUS MENSTRUATION.

Dr. T. Parvin (Cincinnati Journal of Medicine, Aug., 1866,) refers to a case of premature menstruation in a girl 4½ years old, which function had been carried on a year. He says: "The mother of this child is under medium size, very delicate; menstruated first at twenty years of age; married at twenty-four, and two years after marriage gave birth to this her only child. The general appearance of the child is that of a stout healthy girl of ten or twelve years; her weight is seventy-five pounds; her height three feet eleven inches; her voice is rather coarse and harsh, at any rate it has not the softness and gentleness of infancy; her physiognomy is that of early childhood; she is timid and "babyish" -mentally and morally she presents none other than the characters which might be expected in one of her age. But her most marked physical chracteristics, as will be conceived, are those of the sexual sort. The mons veneris, though destitute of hair, and the labia, are well developed, and the mammary glands are quite large and well-formed; indeed in size they might answer very well for one of sixteen or eighteen years of age. The circumference of the chest, measuring over the mammary glands, is twenty-seven inches; a line encircling the lower part of the trunk, and fixed at either side at the middle of the crest of the ilium, measures thirty-one inches. The menstruation recurs regularly, and continues three days; she does not seem to have any special suffering at these times; the amount of catamenial discharge is about equal to the average observed in the adult during the same length of time."

### ETHER SPRAY IN MIDWIFERY.

In the Glasgow Lying in Hospital local anothesia by etherial corgelation has been tried experimentally on several occasions. The apparatus for producing the spray is a modification of that of Dr. Ricardson, and is found to answer remarkably well. It is worked by the foot, instead of the hand, as in the ordinary spray producer. The advantages which the pedal bellows has over the manual are, that the ether spray can not only be projected with greater force and regularity, but the instrument can be worked with little or no fatigue. The ether spray has been freely applied over the lumbo-sacral region with the view of mitigating the pains of parturition. It has also been applied over the hypogastric region in a case of hæmorrhage, with the view of producing uterine contraction after delivery. In one case of very severe postagartum hæmorrhage, with a relaxed state of the uterus, the frigorific effect of the ether spray was so great, as to induce immediate and per-

manent contraction. It is believed that in cases of lingering and tedious labour, the application of the spray may have the desirable effect of rousing the organs at fault into increased activity. This has not yet been tried, but an early opportunity will, undoubtedly, be taken to bring the matter to the test of experience.—North British Daily Mail, Aug. 1.

## Materia Medica and Chemistry.

DISCOVERY OF A QUININE-LIKE SUBSTANCE IN THE ANIMAL BODY.

Dr. Bence Jones has by a series of experiments made out the existence in the different animal tissues of a substance that is identical with quinine. This discovery was rather accidental. He started in his investigations with the desire to detect the presence of quinine in the animal For this purpose the test that he adopted was "that peculiar influence (fluorescene) of this alkaloid on the refraction of light, whereby it makes the dark part of the spectrum beyond the violet rays luminous." He administered quinine to a guinea-pig, and was able to detect its presence by means of the test "in the blood crystalline lens and other parts." But he found that every part of the "non-quinized" animal-heart, liver, kidney, and lens—when treated like bark in such a way as to dissolve out and purify any alkaloid that might be in them, gave the same spectral reactions as similar solutions did from the animal that had taken Continuing his investigations, he soon found that all the tissues of the body contained this quinine-like substance, and that its quantity was temporarily increased by administering the alkaloid. was shown by this means that quinine, in a very few minutes after its administration, passes into every tissue of the body; that its maximum effect is produced in two or three hours, and then decreases till it disappears in about seventy-two hours. "The demonstration of its presence in the crystalline lens gave ground for hope that substances might be found hereafter to remedy perverted nutrition of the non-vascular tissues as cataract, and even the deposits of gout in cartilages."—Med. Times and Gazette.

MAGNESIUM IN TOXICOLOGICAL EXPERIMENTS.—M. Roussin proposes the use of magnesium instead of zinc in toxicological examinations. It completely precipitates the poisonous metals without the danger of introducing them through the reagent. Arsenic and antimony are not precipitated, but will be found in the gas disengaged. Cobalt, nickel, tron, zinc, manganese, chromium, silver, gold, platinum, bismuth, tin, mercury, copper, lead, cadmium, and thallium are precipitated from their solutions.

### MEDICAL NEWS.

PREPARATION OF NITRITE OF POTASSIUM.—M. Erdmann gives the following process for the preparation of nitrite of potassium. He recommends the fusion of the nitrate of potash with several times its weight of iron filings or borings in a cast-iron crucible at a carefully regulated redheat. When a small portion taken from the crucible and tested shows a strong evolution of nitrous acid, the mass is poured from the crucible. When cold the mass is dissolved, and then the undecomposed nitrate is removed by crystallization; the liquid is then supersaturated with nitrous acid, and afterwards evaporated to dryness. The following process, which was published in the Chemical Nevs,\* the reader will no doubt see that the nitrite of potassium will be applicable to the purpose for which nitrite of sodium is used in the British Pharmacopæia—viz., sp. ether nitrosi. Nitrite of potassium is, we believe, more easily purified than the sodium salt.

NEW TEST FOR GLUCOSE IN DIABETIC URINE.—MM. Francqui and Vyvere prepare a test solution as follows:—Nitrate of bismuth is precipitated by a considerable excess of potash, and the mixture is moderately heated and tartaric acid added, until the precipitate at first formed is dissolved. The reagent is then ready. A few drops of this test boiled with diabetic urine gives a black deposit of metallic bismuth.—Chemical News.

<sup>\*</sup> Taken from a paper on the nitrous compounds of cobalt and nickel.—Jour. fur. Prakt. Chem., No. 7, 1866, p. 387.

# Canada Medical Journal.

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MONTREAL, OCTOBER, 1866.

### MEDICAL EDUCATION.

THE character of all educational institutions is based on the capability of the men they send forth to usefulness amongst the community. It is the character sustained by her graduates both at home and abroad that has given to McGill University the proud position of holding the first rank amongst Universities in Canada, if not in America. This position has been for years past accorded her, and the large attendance of students each year at her classes attests the opinion held of this University by the community. Hitherto the duties of instruction and examination have been performed by her faculties; and the consent is general that these duties are faithfully performed, inasmuch as the honours she offers are sought for, worked for, and obtained by worthy competitors.

In speaking of the Medical Faculty, we say, without fear of contradiction, that the sacred trust held by it has been in good keeping, and the duties of that faculty performed, in a manner which has augmented the value of the degree conferred by the University on their recommendation.

Within the past eighteen months the profession of Upper Canada sought and obtained an act of incorporation, under which act "The General Council of Medical Education and Registration" has been formed. The object of this act was not in any way to clash with, or abrogate any of the privileges held by established universities, more especially of institutions holding the position and rank of McGill College. At the last session of Parliament an amendment to this Act was sought, having the effect of depriving all Canadian Universities of the right of preliminary examination. Why these powers were sought seems obvious; it was not in the interest of the profession at large, not in the interest of the students, but simply and only in the interest of Upper Canada institutions, who, with diminished capabilities of instruction, are unable to compete with the older and more advanced system of education pursued by McGill College. The Medical Council deemed it advisable to insist on proof of a preliminary examination having been passed by the candidate for registration before their own nominee, prior to said

enregistration, and this to date from the first day of May, 1866. The Medical Council had no actual existence before the 4th May, 1866, because, although elected in January, they met for the purpose of constituting themselves an official body only on the 4th May of this year. And yet they sought powers from the Legislature to date back prior to their actual existence, and to take effect from the first of May of this year. Such was the amended Act sought for by the Medical Council, and its operation would have been a gross injustice to the Universities, inasmuch as it closed the door against all graduates, of whatever College, who commenced their studies during that year. We copy two clauses from the bill as introduced by the Honble. Mr. Campbell:

"Every person claiming to be registered under the said Act, as being qualified under the third paragraph of Schedule A, thereto appended, and who had not regularly attended lectures in some medical college or school, before the first day of May, one thousand eight hundred and sixty-six, must pass the matriculation examination, and complete the curriculum, prescribed by the general Council of Medical Education and Registration of Upper Canada, hereinafter referred to as "The Council," before he shall be registered under the said Act; and he shall pass such examination at the time and in the manner directed by the Council.

"Students who may commence regular attendance at lectures in any medical college in Canada, during the year one thousand eight hundred and sixty-six, may present themselves for matriculation examination, at any of the stated periods which the Council may appoint for holding such examinations, before the month of September, one thousand eight hundred and sixty-eight."

Now, we simply submit that the Medical Faculties of the various Universities of Canada are quite equal to examining their students on the various branches of preliminary education,; why should they be deprived of their right to examine students on preliminary subjects; surely, they are as capable of judging as any person to be nominated by the medical council. It is a time-honoured custom to submit all candidates to preliminary examination before entering on a College course; it is a custom pursued by all colleges and universities in Canada, and any alteration of this custom must be viewed with jealousy; it is but the beginning of further changes likely to be sought by the Medical Council, and in no way conducive to the elevation of the standard of the profession.

These remarks have been suggested by a somewhat unscemly attack by the President of the Medical Council on "a certain College" in Canada not in the Upper Province," of what he is pleased

" to style, factious opposition, not in the interests of the students, " not in the interest of science, but merely because the Professors of "that College dreaded that the regulations of the Council would have "thinned their classes by diminishing the number of students, and that "consequently the revenue which they derived from the manufacture "and sale of Degrees would be wonderfully curtailed." This is so grossly untrue that it needs no comment; it is a style of Lompous declamation which to any person of ordinary intellect will carry no weight. It can be passed over in silence, but with sincere regret that a person occupying the position of the utterer should so lower himself. that a College in Canada and one in Lower Canada, did " set itself in a hostile attitude to the Medical Council,"if the Medical Council were the promoters of the bill in question, and it is well that the profession in Upper Canada had men who were sufficiently independent to oppose a narrow minded policy, which would have been a gross injustice to many members of that profession in actual practice. We can with justice apply the words of the respected President of the Medical Council as to McGill University, " we do not dread honourable rivalry, we do not seek "extraneous aids" we do not wish to be judged otherwise than by our works, " we desire to stand or fall by our own merits," but we do not desire to see a flagrant act of injustice perpetrated on Lower Canadian institutions and students, however desirable it may be to elevate the status of preliminary examination. As the Act stands at present the object will be fully attained, and we expect to see the day when our young men will go forth from our halls of learning, capable of competing educationally with any class of men in any community, McGill College has a name amongst the people of Upper Canada a, name which is respected, and which carries weight;, we regret to see an attempt made to undervalue the position held by that University. It is a subject of remark that our students are capable of competing successfully with those from all the other colleges in the country, and this position is held in consequence of the careful discrimination in the award of her honours. The teaching in this school will favourably compare with that of any college or university in the world. This has been fully acknowledged by those most competent to judge. It is then much to be regretted that a gentleman occupying so high a Position as does the talented and learned president of the Medical Counall of Upper Canada, should speak so disparagingly of a rival institution. We are all engaged in the laudable effort of promoting the best interests of the science of medicine and surgery, and it is not by extraneous forts at depreciation-mere verbose assertion-that men will be hoodmiked into believing that there is no good thing outside of Kingston.

By the action of our Legislature three new colleges have been established in Upper Canada, so that the Upper Canadians have now eight licensing bodies all with separate and distinct interests; these colleges are under the supervision of the Medical Council, but as long as they comply with the regulations imposed by that body, so long will they be capable of examining their own students, and of passing as many men qualified or otherwise as they please. We regard with regret this additional number of licensing bodies, and hope and trust that it may not lead to a loose method of teaching and of examination; if so, much injury will be done to the profession at large, and the very character of Canadian medical institutions will deteriorate. It is this system of multiplying medical colleges in the United States which has injured the character of the profession there. This cannot altogether occur in Canada, while the law stands as at present, because the educational course is longer—six months' lectures on each branch constituting a full course, and two full courses, except in the case of Medical Jurisprudence, extending over four years, being requisite. Still, as we before said, we regard with regret this multiplying of medical schools, and cannot see that at present, with a population of under three millions, there is any necessity for additional medical schools. In saying this, let us not be misinterpreted: we held that so long as the teaching is conducted as at present in McGill University, so long will that institution maintain her position of being the first medical school in the Province of Canada. Let Kingston and other schools take the hint, and regulate their course of study in this particular with wisdom.

## DR. LOUIS BAUER, OF BROOKLYN, N.Y.

This gentleman recently visited our city on his own private business, and while in Montreal, he was induced to deliver two lectures in the University rooms on the subject of "Orthopedics," which were attentively listened to by some of the leading members of our profession, and a large class of students. In the evening, after the second lecture, the Doctor was entertained at supper, by his confrères, at the Montreal Club, presided over by the Dean of the Medical Faculty, McGill University, on which occasion there was an interchange of sentiment of regard and esteem most pleasurable to witness, and honourable to all concerned.

In the course of some remarks made by the Doctor, he said: "As physicians and surgeons, we belong to no particular race or country, owed no special allegiance to any sovereign or state; that we were the subjects of science; our calling was of a God-like nature, as it had for its chief object the alleviation of the misery and suffering of our fellow-

beings. He had been in many countries, and in all he felt proud in saying he had been met by men of science with that hearty will, which bears evidence of a liberal spirit of emulation and desire for knowledge, which is the guiding star of all true devotees of science."

Dr. Bauer is well known as a surgeon of eminence, in the specialty to which he more particularly confines himself. He possesses a truly logical mind, is an original and free thinker, not being bound down by any medical dogma; his great desire is truth. Although of foreign birth and education, his use of the English language is pure, and proclaims at once the scholar and the gentleman. His views and treatment he had ample opportunity of illustrating at the several hospitals in this city, as also on some private individuals, the results of some of the cases submitted to his knife were most satisfactory. The Doctor returned homeward on Tuesday, 23rd October, carrying with him the respect and esteem of all who had the pleasure of becoming acquainted with him, and the sincere nope that his life may be long spared to continue a career of usefulness, and of elevating the standard of that profession, of which he is a bright ornament and devoted follower.

Inspector-General Joseph Skey, M.D., on the half-pay list, and late physician to the forces, died at Baker Street, Fortigha Square, on the 18th September, in his 94th year. His commissions bore date as assistant-inspector or physician, July 18th, 1805; brevet deputy-inspector, December 11th, 1823; deputy-inspector-general, October 26th, 1826; and inspector-general, February 15th, 1839. He was for many years stationed at Quebec.

Insanity consequent on the American war.—Governor Humphrey, of Mississippi, reports officially that the insane asylums of that State are crowded with negroes, whose minds have become deranged in consequence of the excitement of the war and changes and privations consequent upon their sudden transfer to a condition of freedom and responsibility. There is much insanity also among white people throughout the South, caused by the excitement and afflictions of the war.

Dr. Ricord, Member of the Academy of Medicine, etc., has been nominated Officer of Public Instruction.

PROFESSOR MATTEUCCI.—The Academy of the Tcn, a scientific society existing in Italy since the last century, has unanimously elected Professor Matteucci to be its president.

DEATH OF A MEDICAL VETERAN.—The death is announced of M. Maria, said to be the last survivor of the French fleet at Trafalgar. He was then Surgeon of the Formidable.

# REPORT OF DISEASES AND ACCIDENTS TREATED IN THE MONTREAL GENERAL HOSPITAL, FOR THE YEAR ENDING 30th APRIL, 1866.

Diseases &c.	Discharged.	Died.	Discases, & c.	Discharged.	Died.
Abortio. Abscesus Abuminuria Amaurosis Ambustio. Ampuratio brachii "humeri. "cruris Amenorrhoea Anæmia Alasarca Alentriemus Anthrax Apoplexia Ascnes Balanitis Brurchitis Caron. Bubo. Bursitis Calculus Vesic Carcinoma. "Uteri."Ventriculi Caries Catarnhus Cerebritus Cataracta Catarnhus Cerebritus Ciron. Conussio Cerebri Coneussio Cerebri Consis Congestio Pulm "Cerebri Contiusio. Conjunctivitis Cysticele Cystitis Chron Dacryocistitis Debijintas Delijintas Delijintas Delijintum Tremens Diarrhoea Diarpepsia. Dyspepsia. Dyspepsia. Dyspepsia. Dyspepsia. Dyspepsia. Dyspepsia. Dyspepsia. Ecthyma	191318211152313 312321214113 327 11 11 2621117216415	1 1 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Febricula. Febris Intermitt. Typhoides. Typhoides. Typhoides. Fityhous. Fitula in Perineo. Recto-Vaginal Fractura Clavic. Costarum. Femoris. Fibulae. Humeri. Maxil. Inf. Metacarpi. Felvis. Phalangis. Radii and Uni comp. Radii and Uni comp. Radii and Uni comp. Unae. Vertebræ Furunculus. Gastritis Gelatio. Glaucoma Hæmoptysis. Hæmorrhoides. Hæmorrhoides. Hæmorrhoides. Hæmorrhoides. Hæmorrhoides. Hæmorrhoides. Hæmorrhoides. Highocele. High	0 2 3 3 4 1 4 1 3 3 1 2 3 2 1 1 1 1 2 5 8 2 2 1 4 4 4 3 1 6 7 4 1 0 2 1 1 6 2 1 8 1 3 1 1 2 4 1	(b)(d) 6 2
Eczema Emphysema Pulm Empysema. Enteritis Epilepsia Epithelioma Erythema Erysipelas. Favus	3 2 1 12 3 16 8	1	" Exedeus. Luxatio Ulnæ. " Humeri. " Tali. " Radii. Mania Acuta. Mactitis. Menorrhagia	1 1 1 3 2 2	1

# DISEASES AND ACCIDENTS .- Continued.

Diseases, &c.  Metritis Ch.	Discharged	Died.	Discases, &c.	Discharged.	Dled.
Cordis  Cordis  Vertebræ  Coxæ  Necrosis  Neuralgia  Onychia  Ophthalmia  Opthiamia  Opthis  Paronychia  Paronychia  Parolysis  Periosattis  Periosattis  Phthisis  Pleurodynia  Pleuritis Ac  Chron  Pneumonna  Olypus Auris  Olypus Auris  Soriasis  Topura Hæmorrh  Yæmia.	2 3 1 16 1 1 1 4	2	Variola 2	2	1 1 1 1 1 2

## TOTAL,..... Discharged, 1039; Died, 78

# OPERATIONS, &c., DUPING THE YEAR.

## Major Operations.

Removal metacarpal bones, 1. Excision of the knee joint, 1; ditto Superior Maxilla, 1; ditto portion of ditto, 1. Amputation of leg, 1; ditto of feet, 2; ditto of arm, 3; ditto of forearm, 3; ditto of breast, 1. Excision polypus of uterus, 1. For recto-vaginal fistula, 2. Extraction of cataract, 2. Perineal section, 3. Excision parotid tumour, 1; ditto mammary ditto, 1; ditto axillary ditto, 1; ditto perincal ditto, 1. Ligature posterior tibial arte. J. 1. Tenotomy, 3. Laryngotomy, 1. Lithotrity, 2. Tapping of chest, 1. Excision of eyeball, 1. Total 34

## Minor Operations.

Removal of foreign body from eye, 1; ditto of pterygium, 1; ditto of epithelioma, 3; ditto of hæmorrhoids, 5; ditto of nasal polypus, 1; ditto of venereal warts, 1; ditto of tonsils, 3; ditto of ganglion, 1; ditto of cystic tumours, 1; ditto of finger, 7; ditto of toe, 2; ditto of toenail, 1; ditto of metatarsal bones, 1; ditto of phalanx, 4; ditto of staphyloma, 2. Hydrocele tapped, 7. For strabismus, 8; ditto of harelip, 1; ditto of fistula in ano, 2. Puncture of cornea, 2. Plastic

operation on face, 1. Iridectomy, 4. Eye styles inserted, 5. Circumcision, 3. Teeth extracted, 262. Incisions, 116. Cuppings, 20. Catheterism, 175. Setons, 3. Venesections, 2. Wounds dressed, 210. Total, 855.

Dislocations reduced.—Of humerus in axilla, 1. Of elbow, 1. Of Lower jaw, 1. Total, 3.

Fractures treated.—In-door: simple, 36; compound, 4. Out-door: simple, 5. Total, 40.

### ATTENDING PHYSICIANS.

During first Quarter......Drs. Fraser and Reddy,

- " second " ...... " Scort and Wright,
- " third " ...... " MACCALLUM and FENWICK,
- " fourth " ...... " HOWARD and CRAIK.

## RESIDENT MEDICAL OFFICERS.

JOSEPH DRAKE, M.D., House Surgeon; HERBERT S. TEW, M.D., Apothecary.

A Scene.—On a recent market day, at the quiet town of Callington, an amusing scene occurred. It appears that one of the gentry who vends worm lozenges was expatiating on the virtues of his nostrums, and in relating instances of their curative powers, he mentioned with no small delight a case in which he had been the means of saving the life of a patient of the greatest physician in the West of England, Dr. --- who had dismissed the patient as incurable. Unfortunately for the quack; "the greatest physician in the West of England" was passing near his stall at the time, and hearing his name mentioned was naturally arrested at the sound, and listened. The doctor's temper was roused, and, just saying, "Let me get at him," he then and there administered sundry kicks on the nethermost person of the unfortunate quack, which had the effect of putting him hors de combat. Roars of laughter greeted the onset of the valiant doctor, in the midst of which the vendor beat a hasty retreat. The doctor enjoyed the scene as much as the bystanders, and related the circumstance with much gusto many times during the day (Western Mercury.)

From an interesting report of the committee on army and navy medical officers' affairs it appears that the total number of candidates examined for the Army Medical Service since 1856 is 922. Of these 713 were passed and 209 rejected. The total number of candidates examined for the Naval Medical Service since 1856 is 569, of whom only 389 were found qualified. During the past year there were only 17 candidates, of whom seven were rejected.