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Original Communications.

REMARKS ON OVARIOTOMY. WITH AN APPENDIX.

CONTAINING THE HISTORY OF SEVERAL TYPICAL
CASES MET WITH IN PRACTICE.*

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(Continued from page 232.)

CLEANSING THE PERITONEAL CAVITY.

Before closing the external incision the opposite ovary must be examined, and if cystic degeneration have commenced there, the ovary should be removed and the peritoneal cavity thoroughly cleansed; carelessness at this stage may jeopardize the result of the operation, as every drop of fluid or particle of *débris* remaining is liable to decompose. After the hemorrhage† has ceased and all coagula been removed, the abdominal parietes, the intestines, and particularly the pelvic cavity must be carefully and thoroughly sponged, with new, soft sponges frequently squeezed out of warm, slightly carbolized water.

DRAINAGE.

The propriety of inserting a drainage-tube into

*Read by title at the meeting of the Canada Medical Association held in Montreal, 12th and 13th Sept., 1877.

†“I have had two cases; one complicated with pregnancy, was attended with considerable hemorrhage. This I checked by the application of flannels dipped in hot water. In such cases I can recommend hot water.” Dr. Theophilus Parvin. See *Transactions of International Medical Congress, Philadelphia*.

“I have also seen the per-chloride of iron used to sponge bleeding points after the sundering of strong adhesions, and without any of those formidable results which some writers attribute to its passage through the Fallopian tubes after intra-uterine injections.” Dr. Robert Barnes. *Transactions of M. Congress, Phila.*

the pelvic cavity before closing the incision, in all cases where decomposition and septicæmia are apprehended, is a question still *sub judice*. By reference to the appendix it will be found that in several instances there recorded, the drainage-tube was thus inserted. In each of these cases during the first and second days, a large quantity of reddish serum escaped around the tube and pedicle, saturating the dressings and folded sheets underneath the patient; threatening symptoms also appeared, but so soon as a small quantity of pus and *débris* were withdrawn through the tube, the pulse and temperature immediately fell, and convalescence was progressive thereafter.

I was induced to make use of the drainage-tube from observing its beneficial operation in New York, while on a visit to that city, in 1873. By kind invitation of Prof. Thomas, I enjoyed the privilege of seeing that gentleman perform ovariectomy, and insert the glass drainage-tube; and subsequently by invitation of Dr. Marion Sims, I had the pleasure of visiting the wards of The Women's Hospital, and assisting him in washing out the pelvic cavity of one of his ovariectomy patients. In this case there was not only a tube through the abdominal wound, reaching down into Douglas's cul-de-sac, but also another tube passing up through the fornix vaginæ into the same pouch. Through the upper tube a disinfectant fluid was gently and slowly injected, which came away through the lower one, bringing a quantity of pus with it. The injection was thus continued until the fluid returned free from pus. The patient had the hectic-flush, and, to me appeared very low indeed. Regarding, at that time, such a condition hopeless, I remarked to Dr. Sims, as we left the ward, “that poor woman is near her end.” He placidly replied, “She! no indeed, that woman is now convalescing nicely.”

The importance of this step in the after-treatment of ovariectomy, justifies, even at the risk of being considered tedious, the following summary of Prof. Thomas's published views thereon:

“No one familiar with ovariectomy,” he remarks, “will to-day doubt the assertion that the two factors which prove most fatal after it, septicæmia and peritonitis, are both in great degree due to the retention of putrescent materials within the peritoneal cavity. These materials may have escaped from the cyst during or before the operation, or may consist of blood or serum oozing from vessels while the operation proceeds, or some hours after

it has ended, or may arise from the emptying of pus into the peritoneum from inflammatory action. The importance of not only preventing the entrance of such elements into the peritoneum, and of removing them before closing the abdominal opening; but also of giving them free vent during the period of convalescence, has attracted the attention of many ovariologists. It is my uniform habit to insert a glass drainage tube eight inches long, and varying in diameter from half to three-quarters of an inch, just above the pedicle and into the depths of Douglas's pouch, in every case except where there is absolutely no fluid left in the peritoneum. Should no fluid be left in the abdominal cavity, this tube should not be inserted, or if the operator be in doubt it should be placed in position and kept tightly corked. If fluid accumulation exist, or its occurrence be rendered probable by slight oozing from broken adhesions, the tube should be left uncorked, that serum and blood may drain away. If no increase of temperature mark the occurrence of septic absorption, nothing more is necessary than to keep this in place until all danger has passed away. Should septicæmia show itself, a gum-elastic catheter cut off near its end should be inserted as far as possible, the glass tube drawn up for an inch, and a stream of warm water containing one drachm of chloride of sodium and sixteen grains of the crystals of carbolic acid to the pint, gently injected by means of a Davidson's, or fountain syringe. No force whatever should be employed, but a free supply of water should be thrown in, until the return current come forth clear. When the temperature or pulse rises, and the other symptoms of septicæmia develop, such an injection should be practised once in eight hours. But without the tube is left from the time of the operation, it is difficult and sometimes impossible to reach the most dependent part of the peritoneum. In no instance have I seen evil result from this course, and hence I urge its employment."

"Septicæmia which I believe will in time be admitted to be the most frequent cause of death after ovariectomy, when once fully established, a most dangerous state. It is ushered in by dizziness; excessive muscular prostration; anorexia; great pallor; high temperature; small, rapid, and very weak pulse; sometimes a low delirium; dry tongue; and a sweetish odor of the breath. It is probably this condition which is so often alluded to as a 'typhoid state' after operations, and one cannot but suspect that many, if not most, of those cases quoted in Dr. Clay's tables as shock or collapse, occurring as late as the fifth, sixth, seventh, and tenth days, were really instances of this affection. The development of peritonitis and septicæmia should be carefully looked for. All the vital and physical signs which mark them should be constantly investigated, and their inception be met by appropriate therapeutic means. Septicæmia

being the result, first, of the decomposition, and second, of the absorption, of fluids in the peritoneum, is not likely to occur for several days, but it may take place in two or three weeks after the operation. If at any time the temperature should gradually or suddenly advance to 103°, 104°, or 105°, except just as the patient rallies from the immediate effects of anæsthesia and operation, fears should be entertained that peritonitis or septicæmia is developing. If it occur within four days after operation, it is likely to be the former. If after that time, the probabilities are greatly in favour of the latter. The pulse will usually become rapid at the same time whichever morbid condition is developing, and it must not be forgotten that the two are often combined. Let no one suppose that septicæmia once established becomes irremediable. Experience disproves this; it is the prolongation of exposure to absorption of septic elements that constitutes the great danger of the condition. This method of meeting in an efficient and satisfactory manner, the most fruitful source of danger after ovariectomy, I regard as second in importance to no other improvement which has been introduced since the discovery of the operation itself. It emanated from Dr. E. R. Peaslee, and has even now, I think, not assumed its legitimate position in the scale of importance."

This practice has not been very warmly accepted in Great Britain. English surgeons, proverbial for their slowness to adopt any new recommendation, have practised drainage only in cases regarded as desperate, or likely to prove such. On the Continent, however, it has been received with considerable enthusiasm, especially by the thoughtful German. But it is due to Prof. Carl Schröder, to say, that he doubts the utility of resorting to the use of the drainage-tube in many cases where it is now used. In a recent article upon this subject he remarks:

"Let me once more state my views precisely, that the exudation after ovariectomy is not in itself the cause of the septicæmia, but is on the contrary perfectly harmless unless it decompose; but that decomposition only occurs after infection, and that consequently the important point is not the removal of the exudation, but the avoidance of the infection. I should therefore decide upon drainage during the operation, only in case I believed—a state of things which of course should not happen—that the patient had become infected, or, in case decomposing masses from some suppurating cyst, e. g., had found their way into the abdominal cavity. Drainage of the abdominal cavity assumes a very different position as a therapeutic measure, against a septic peritonitis which already exists. For, although the exudation be neither the original

cause nor the only symptom of the septic condition, it must still be conceded that its removal is highly desirable. It is true, this is *then* difficult to accomplish."

CLOSING THE ABDOMINAL WOUND.

This is generally effected with both deep and superficial sutures. Almost every variety of suture material has been employed for this purpose. The result of the operation, however, does not appear to depend upon the kind chosen. Most operators prefer silver wire, but Spencer Wells, and some others, nearly always employ Chinese silk. As the deep sutures are placed about an inch apart, the number to be used will depend, of course, upon the length of the incision; when the drainage-tube is inserted, and the pedicle is brought outside, they should be placed between the last stitch, and the last but one. The threads should be about eighteen inches in length, with a long, straight needle affixed to either end. Each needle is passed from within outwards, including a narrow margin of the peritoneal membrane, through the entire thickness of the abdominal walls, emerging at a point about three-quarters of an inch from the edge. All the deep sutures should thus be inserted before any are tied. The wound is now examined and if any fresh oozing of blood have taken place, this must be sponged away. An assistant now, with one hand on either side of the wound, bulges up, as it were, the redundant walls, while the stitches are being tied or twisted. Then in order to secure a nicer coaptation of the edges of the wound, superficial sutures are placed between the deep ones, which include only the skin and areolar tissue. All experienced operators agree in the advisability of including the peritoneum within the stitch, as it is found when the two edges are thus brought together they unite quickly by first intention; and this is desiderated in order that if suppuration take place outside, pus and other septic fluid may be prevented entering the peritoneal cavity.

The wound should then be covered with dry lint, or lint soaked in carbolized oil; over this and the whole abdomen should be placed a thick pad of dry cotton-wool, and several folded napkins, while broad strips of adhesive plaster should be passed nearly around the body, to support the abdomen in case of vomiting. Lastly a wide flannel bandage should secure the whole. The patient

should now be placed in a comfortable bed, between blankets, and warmth for a time, even in hot weather, should be applied to her feet. The room is then darkened and the patient left quietly alone with her nurse.

THE AFTER-TREATMENT.

As this is a matter of the greatest importance, the operator must, himself, give particular attention to the minutest details of the after-treatment. He should secure the assistance of a medical friend to supervise the case in his temporary absence, and a competent nurse must be in constant attendance night and day. The patient must be kept quiet, at rest, and free from pain. To accomplish this, an opiate should be administered hypodermically, or per rectum. To prevent vomiting a little ice may be allowed, but no food or drink. If the powers of life seem to be flagging a little brandy and iced water must be given by the mouth, or an enema of milk and brandy. The room must be kept comfortably warm, at an even temperature, but well ventilated. This can be easily effected by a little fire in the grate—the best of all ventilators for a sick room,—or a gas jet can be kept burning in the fire place. The bladder must be emptied by a catheter every six or eight hours; the bowels should be kept constipated seven or eight days, but in case the intestines become distended with gas, they may be unloaded by a simple enema of warm water, as early as the fifth day.

Should vomiting persist after the effects of the anæsthetic have passed away neither food nor drink should be allowed by the mouth,—absolutely nothing, excepting ice to suck, and perhaps a deserts spoonful of lime-water and milk, in equal parts, at stated intervals. Life must be sustained by rectal alimentation.* Enemata of nutritive materials already prepared for assimilation, as beef-essence, beef-tea, mutton, oyster or chicken-broth, or egg beaten in milk, may be administered every

*That life can be sustained with nutritive injections, by the rectum, is proven in cases 4 and 5 of the appendix. It is only within the past few years that the importance of this means of sustaining nutrition has been recognized by the profession. Of late, recourse is more frequently had to this method of nourishing the patient, not only in persistent vomiting after ovariectomy, but also in the various diseases in which food cannot be swallowed, nor digested by the stomach; and recently cases have been reported in which life had been sustained, by this means, during periods varying from three months, to three, and even five years. The question remains to be determined: whether the nutritive material, thus administered, is digested, or merely absorbed,

three or four hours, in quantities of about four ounce sat a time. Brandy and medicines, when necessary, may be added to the injections. The nutritive material should be strained and warmed previous to being administered, after which, the anus must be supported for a time by firm pressure with a napkin. After three or four days, when all tendency to vomiting has ceased, or as soon as the stomach begins to crave food, small quantities of light nourishment may be tried. A spoonful of milk, beef tea, or oyster broth, may be given at frequent intervals, and if such nutriment agree with the stomach, other articles of similar diet, and small portions of solid food can be permitted.

If the patient appear to be doing well, as indicated by the general symptoms—pulse, temperature, respiration, and freedom from pain—the wound need not be examined until the third or fourth day, when it should be cleansed and dressed with fresh materials. Should suppuration be then commencing in any part of the wound, or around the pedicle, this must be carefully sponged twice or thrice a day, after which, the wound is each time dressed with lint soaked with carbolic oil. The upper part of the incision usually unites immediately by first intention, and the whole wound in four or five days; but the sutures are not removed until the seventh or eighth, unless some of them become a source of irritation. When the clamp has been employed, it is left undisturbed until it become loose and ready to be removed without any traction; the time varies with the thickness of the pedicle, but it usually falls off about the eighth day.

After the sutures and clamp have been removed, the abdomen must be supported by adhesive plaster, pads of cotton wool and an abdominal bandage. Even when the patient leaves for home, she should be enjoined to continue the support by the elastic bandage, corsets or some other abdominal supporter.

SHOCK.

Occasionally, however, ovariectomy cases do not get on so favorably as above indicated. It not unfrequently happens that the nervous prostration we are accustomed to speak of as exhaustion, shock, or collapse, continues after the usual time expected from the effects of anæsthesia and the operation. The patient does not rally, but gradually sinks in spite of our best endeavours to revive her failing powers. With this depression of

the vital forces most of us are familiar, as occurring after capital surgical operations, and railway and other severe accidents. In reference to this condition, Dr. Barnes makes the following original and pertinent observations: "A considerable proportion of all the deaths, I am convinced, occurs from *shock*. Recovery from this is greatly a question of individual power of endurance. We can hardly foretell what this power is in any particular case. Women recover from the severest operations attended by all the complications considered the most formidable; others sink after the easiest and simplest operations. Women comparatively robust, succumb, whilst the apparently fragile recover. In many cases the unexpected result is not due, at least appreciably, to difference in skill.

"It can only be referred to difference in innate power of resistance. This is an unknown quantity, and is the chief cause of the uncertainty which surrounds the operation. No doubt the shock can be lessened by care and skill during the operation, and the patient can be to some extent supported through it."

Vigilant supervision and good management by the operator, personally, at this critical time, may succeed in reviving the sinking powers. Warmth, even in hot weather, must be kept constantly to the feet, legs, axillæ and cardiac region. When the stomach will retain stimulants, iced brandy or iced champagne, can be given by the mouth. But, when obstinate vomiting persists, the stimulants must be administered per rectum; and if necessary, ammonia hypodermically. The patient must be kept quiet on her back, and free from pain by morphine subcutaneously, or laudanum added to the enemata. In other desperate cases, when the patient does not sink from exhaustion, we scarcely expect she will survive the secondary dangers of hemorrhage, peritonitis and septicæmia.

HEMORRHAGE.

Should internal hemorrhage occur, indicated by progressive faintness, and a feeble, frequent pulse, the wound must be re-opened, the bleeding vessel secured, and the peritoneal cavity again cleansed. This appears a desperate undertaking, but the condition is an extreme one, as the patient, if left alone, will bleed to death. The above procedure offers the only hope of arresting the hemorrhage. During all this time, the operator must be on the constant watch for symptoms of

PERITONITIS.

THOMAS says: "The evils which are chiefly to be feared as sequels of the operation are, within the first twenty-four hours, hemorrhage; from second to fourth day, peritonitis; from completion of operation to third or fourth day, nervous prostration; and from 4th to 14th day, septicæmia."

WELLS says: "After ovariectomy, the most frequent cause of death is peritonitis, or some form of fever or blood-poisoning, so often associated with peritonitis."

BARNES says: "A more serious form of peritonitis is one that seems analogous to the puerperal form. Here there is commonly septicæmia, or inflammation is propagated from the seat of the pedicle, in which some unhealthy action is going on. * * * Septicæmia may occur, although not commonly without much peritonitis. The symptoms then are very similar to those of septicæmic puerperal fever, and should be treated in a similar manner."

FEVER.

Very recently, Mr. J. Knowsley Thornton, of London, read a paper before the *Royal Medical and Chirurgical Society*, asserting that there is a fever following ovariectomy. For many of his data he was indebted to Mr. Wells, whom he had assisted in the greater number of his last 300 operations. He believed there was a simple fever distinct from that caused by peritonitis or septicæmia, but liable to lead to serious lesions in important organs, if not checked; attributed this form of fever chiefly to the sudden increase in the volume of blood circulating in the body after the removal of the large circulating area contained in the tumor; and indicated the various organs which might suffer, drawing special attention to the brain as receiving a large blood-supply. Mr. Wells, who was present, coincided with Mr. Thornton, and said he had noticed that the chief cause of death after ovariectomy, was not peritonitis so much as fever.

This new theory, sustained by the authority of Mr. Wells, must, I presume, be accepted; and fever—pyæmic fever—added to the catalogue of sequelæ following ovariectomy. This condition, separately, or in conjunction with peritonitis, would certainly make the symptoms, as suggested by Barnes, analogous to those heretofore known as "puerperal fever." But this makes "confusion worse confounded," as the great discussion of the Obstetrical Society, of London, in 1875, decided, if it decided anything, that there is no such dis-

ease as puerperal fever, *per se*. This opens a wide field for discussion which we cannot here enter. The practical question which concerns the ovariotomist, is: are the sequelæ following ovariectomy analogous to those following parturition, be they fever, peritonitis, pyæmia, septicæmia, or ichorrhæmia? We must, I fear, leave these questions to be settled by investigators having the opportunity of pursuing their enquiries on a large scale; and, in the meantime, treat the cases under our care according to the light and knowledge in our possession.

Since the symptoms of peritonitis, and the condition designated septicæmia, are so graphically described in recent works, it is unnecessary to detail them in this paper.

The operator must be constantly on the watch for untoward symptoms, and should, at any time, the temperature advance one or two degrees above the normal condition, while at the same time the pulse and respirations become more frequent, he must immediately take steps to control the circulation, and lower the temperature. The wound, and drainage-tube, if employed, must be examined and carefully cleansed. A full dose of fluid opium must be given at once, and repeated every three or four hours, or, as often as necessary to keep the patient free from pain. In addition I would give ten grains of quinine, in powder, mixed with two grains of aromatic powder, every two or three hours by the mouth, if the stomach will retain it, and if not, then in enemata with the brandy which must be now increased, as well as other sustaining nourishment. Local hot fomentations and turpentine stupes, or dry heat with soft flannels are useful and sometimes afford great comfort.

The head should be somewhat elevated, and kept cool by means of the iced-water cap, or with bladders partially filled with pounded ice constantly applied to every part of it and the nuchal region. I have seen this treatment arrest a violent attack of puerperal peritonitis, and also a pretty high fever following ovariectomy. Some resort to blood-letting, and the administration of aconite, and veratrum viride, as a means of reducing the febrile temperature, but I must confess that I have no faith in such therapeutics; indeed, in a disease of an asthenic type, I believe they do positive harm by unduly depressing the vital forces.

Dry cold applied to the head, however, by means of the ice-cap, or the coiled tubing conveying icedwater—as first practiced in Glasgow for injuries to the head, employed by Mr. Thornton to reduce febrile temperature following ovariectomy, and approved by Mr. Wells—I doubt not, will prove useful for that object, as I have observed its beneficial effects for injuries of the head in the Hamilton Hospital. Others have recourse to the use of the ice-collar to the neck, the ice-bag to the spine, or the icedbath for the same purpose, and with astonishing results.

SEPTICÆMIA.

The existing peritonitis, if not speedily checked, especially if the inflammation has been set up by decomposition and septic absorption, will quickly develop or result in that more formidable condition—septicæmia. Not unfrequently the two are combined, or run concurrently, at least it is impossible to define where the one ends and the other begins. Some assert that septicæmia may occur without any previous or perceptible peritonitis. Usually, however, septicæmia is the result of peritonitis, which has been started by septic absorption. The symptoms by which it is ushered in are well portrayed in the quotation from Thomas's work concerning this condition, and the use of the drainage-tube. The topical treatment of the peritoneal cavity by means of antiseptic injections through the drainage-tube, must be resorted to, and in case the tube has not been employed, the cavity must be boldly tapped, all turbid serum withdrawn, and then thoroughly cleansed by antiseptic injections through the canula.

CONCLUSION.

In conclusion, permit me to say that ovariectomy is an onerous undertaking. The conscientious surgeon finds, from the moment he takes the case in hand, that in addition to the anxiety he must feel, it makes a demand upon his time, thought nerve and skill, for which no merely financial remuneration can possibly recoup him. It is the conviction of the writer that no practitioner should undertake this formidable operation, who has not had considerable experience as a surgeon, and who has not a *penchant* for such practice; who cannot transfer his patients with contagious diseases to another; and surround himself with skillful and

cool-headed assistants; and who will not devote himself almost exclusively to the after-treatment, for, unquestionably, it is by strict attention to the preparation, and the totality of the little circumstances connected with the operation, as well as, and more particularly, the after-treatment, that success so much more frequently is now the result of the operation.

(To be continued.)

PRACTICAL OBSERVATIONS ON THE TREATMENT OF DIPHThERIA AND DIPHThERIC CROUP.

BY A. H. CHANDLER, M.D., DORCHESTER, N.E.

The rapid dissemination of diphtheria in town and country, and the frightful mortality in many localities, have induced me to offer the following observations on the treatment of this dread disease. It is with some diffidence the subject is approached, after the exhaustive manner in which the principles of treatment are laid down in the last issue of the LANCET. There were some points, however, scarcely touched, upon which, in this paper, I desire especially to dwell. In the article (Feb. LANCET) "Prognosis and Treatment of Diphtheria," Dr. Lewis Smith observes, "There is no known antidote for diphtheria, in the sense in which quinine is an antidote for malarial disease." From so high an authority, let me venture to differ, and to assert that alcohol in the form of whiskey or brandy, given in large and frequently repeated doses, at the very onset of the disease, is not only antidotal, but abortive and curative as well, in the more advanced stages, in all save a small minority of cases.

Like quinine in some few cases of ague, it may occasionally fail, but the exceptions are rare in adults, and in children from about seven years of age upward. Very young children, however, including, of course, infants, and those affected with diphtheritic croup, cannot bear alcohol in rapidly-repeated, and comparatively large doses; but those of more mature years, with adults of all ages, can take it freely from the first inception of the malady without its producing the usual inebriant effect.

The former will bear one half-ounce every hour or two hours, the latter from two to four ounces,

according to the rapidity and malignity of the disease. Should the attack not abort in twenty-four hours, the continuance of the stimulant will almost invariably hasten the exfoliation, so to speak, of the false membrane, in two or three days at most.

The only additional treatment, excluded however in cases seen early, is sulphur blown into the throat every two hours, freely and continuously, while a trace of false membrane forms or spreads—along with iced chlorate of potash as a drink *ad libitum*.* In cases seen later, quinine, or iron and quinine, are sometimes essential, with stimulants, according to degree of debility. In adults, when glandular engorgement is great, threatening even laryngeal obstruction from pressure inwards, ice, in bladders applied at night, the critical time, is of very great service.

It is, however, with the treatment of diphtheritic croup I wish more particularly to deal. In this form of the disease, prostration at first, at all events is comparatively rare, with but little extension of membrane about the tonsils and uvula. Indeed, the little sufferers often run about daily, with scarcely a febrile flush, appetite as usual, vivacious too, playful and happy: but alas! how flatteringly deceptive. At midnight, perhaps, or approaching early dawn, the child awakens with more or less croupy cough, which, with the usual domestic aids passes off by breakfast time. Slowly, but surely and stealthily, however, a false membrane has formed, and night by night the croupy coughings increase, gradually developing into the day hours. On looking, now, at the throat, the tonsils will be found engorged and purple, with little circular patches here and there; or it may be, a single strip of false membrane, and unless soon relieved, death is presently, the inevitable result.

In other cases, the membranous laryngitis is very acute and speedy in progress from the first, with great engorgement of gland and cellular tissue without, as well as tonsillar swelling within; and the patient chokes up in a very few hours, either

from pure mechanical obstruction, or the latter conjoined with acute congestion of the lungs, or it may be, capillary bronchitis.

In all croupy cases, it is essential to begin with the free application of heat in some form around the throat and neck, either in the shape of poultices, or folds of lint wrung out of vinegar and hot water, covered with thick flannel, and frequently repeated, night and day—the grand object to be kept in view being the continuous application of heat and moisture. As croupy symptoms develop, apply a fly blister across the front of the chest, and in severe cases, the back of the neck as well, or even on the thighs or legs. In children, however, young, keep the blister open, until out of danger, with any form of stimulating application or ointment. As such cases always bear depressing treatment, full doses of alum or antimony may be given for a few hours, followed up rapidly with diuretics, and if not decidedly relieved, the iodide and bromide of potassium in frequently repeated doses, along with the chlorate. Diet: milk and chicken broth liberally. As the graver symptoms decline, under the above measures, extreme weakness sets in, sometimes speedily, which is easily met with quinine and wine, according to the degree of prostration.

It may be here stated, an interesting feature will often be noticeable with regard to the counter-irritant, from the second or third day of application. The blistered surface instead of discharging ordinary pus, will often now be found to assume the precise appearance of diphtheritic false membrane, as indeed it is, flaking off, as in the throat, while convalescence advances. The following is a case, the gravest of three, recently treated (all diphtheritic) that convalesced last week.

CASE I. Albert W. æt 5.—*Feb. 7th, 1878.* Was called in, early in the morning; child had been sick during the night; great glandular engorgement; very uneasy; a small patch of diphtheritic membrane on right tonsil; face intensely flushed; anxious countenance; skin generally hot, and complains much of headache; mouth and breath foul. Treatment; hot applications to the throat, renewed frequently, antimony and alum in full doses every two hours until he vomits freely; afterwards every four hours.

Feb. 8th.—Child much relieved; still considerably croupy however, but fever and headache less. Blister applied over sternum, $3\frac{1}{2} \times 4\frac{1}{2}$.

*In rebellious children, infants, or in any case where the membrane threatens to spread rapidly, the following applied by means of a pliable and firm feather tip, every two hours, diluted with equal parts of water, for young children, will always be found useful.

R. Acid Carbolicæ..... $\bar{3}$ ss.
Tinct. Iodini..... $\bar{3}$ i.
Glycerinæ ad..... $\bar{3}$ ss.—M.

Feb. 9th.—Still easier; to have milk and broth liberally, and frequent doses of chlorate of potash. Sent for in the middle of the night; had been growing worse since evening; great dyspnoea; high fever and flushed cheeks. Found on examination, intense congestion of both lungs, pulse 145. A strong mustard plaster was applied over the blistered surface, mustard cataplasms to the back, and to have the following every two hours, in two teaspoonful doses.*

R. Ant: Tart. gr. i.
Tr. Colchici.
Tr. Digital, aa ʒ i.
Syr. Scillæ.
Spts: Eth: nit aa ʒ iii.
Syr. Aurantii ʒ i.
Pot: Chlor. grs. xx.
Aquæ ad. ʒ iv.—M.

Feb. 10th.—Much better; dyspnoea subsided; cough loose; blister shewing a closely-adherent false membrane; breath still offensive; small patch of false membrane yet clinging to tonsil. Sulphur to be blown into the throat frequently. To continue medicine every three hours, including a senega and ammonia carb. mixture, every two hours.

Feb. 11th.—Much better, but quite weak; pulse 95, feeble and compressible. To have strong broth and quinine every hour in full doses, but without stimulants. On examining the blister, the adherent cloth dragged up one corner of the false membrane which bled considerably; the whole blistered surface, being one thick yellowish white diphtheritic membrane, which separated piece-meal from day to day, under a weak carbolized dressing of acid and olive oil.

Feb. 13th.—Child much stronger; improving rapidly, with keen appetite; still some cough. To have a mixture of cherry bark, hypophosphites, and cod-liver oil emulsion.

In regard to the treatment of adults, the following are two recent typical cases:—

I. W. father of the above.—*Feb. 15th.*—Was seized during the night with pain and swelling in the throat; high fever; headache and bounding pulse; face much flushed; feels weak, and wants to lie down. It may here be stated that the father had been nursing the little child, who

was constantly in his arms, all through his illness. Tonsils on examination much swollen, dusky-red, and covered with false membrane. Ordered brandy, two ounces every hour, night and day; no other treatment.

Feb. 16th.—11 A.M.—Swelling in tonsils subsided; better in every way. To leave off stimulants to-day, and drink freely of beef-tea. False membrane separating.

Feb. 17th.—A little weak; to remain in the house for a couple of days. No further treatment.

CASE 3.—Charlotte P. æt. 13. Throat had been sore for the past two days, but she said nothing about it. On visiting, found her recumbent, with headache, pain in the back, and high fever. Had been delirious during the past night; pulse over 100; false membranes on both tonsils and completely enveloping uvula, which latter was greatly swollen and œdematous. To have an ounce of brandy every two hours, and sulphur blown into the throat, with iced chlorate of potash freely as a drink day and night.

Feb. 19th.—No decided change for the better; very weak; glands of the neck rather more swollen. Continued stimulants freely, from sixteen to twenty ounces in the twenty-four hours.

Feb. 20th.—Patient decidedly better, and false membrane rapidly separating. From this date the stimulant was gradually withdrawn, patient making a speedy convalescence.

The above illustrate a number of similar cases, that have occurred during the last three months, and that have been successfully treated under the above plan. With regard to the sudden failure of the heart's action often observable even after convalescence is fairly established, let me enjoin the immediate and free use of alcoholic stimulants, which may be given with the freedom of water, as long as the tendency to syncope lasts, without danger, and with the certainty of success. In these cases of great glandular engorgement in adults, before referred to, let me repeat the advantage to be derived from the continuous application, by night, of bladders of ice.

A word or two, in regard to the much vaunted chlorine mixture. It must be the experience of many who have used this preparation among children that while agreeing well with adults—in very young children it has caused so much irritability of the stomach, that it has to be abandoned altogether.

*This combination, without the antimony in the early stages is highly efficient in the case of infants, and very young children, labouring under acute congestions anywhere, acting sometimes on the skin, and sometimes on the kidneys.

As a gargle however, in those old enough to use it in that way, it is apparently as beneficial as sulphur in discussing the false membrane. With reference to irritable stomach, there are certain cases, occurring in delicate strumous children, where that organ gives out from the first. This is, of course, a very grave complication: many of them can bear neither stimulants, nor nourishment in its mildest form; while bismuth, and other sedatives seem to be of little avail. From want of aliment, they necessarily succumb rapidly under the toxæmic poisoning.

Since the above was written, I have had another case of diphtheritic croup which is perhaps worthy of record. The following are the notes.

CASE 4.—G. W., sister to the young boy whose case is already given, æt 3 years and 4 months.

Feb. 28th, 1878.—Had been seized suddenly; on arrival found her very hoarse, croupy, restless, and tonsils swollen, with dirty diphtheritic patches on both. Placed her at once on alum and antimony, with hot applications to throat and chest.

March 1st.—Patient a little easier, but still quite hoarse and feverish: had vomited freely during the night. Ordered diuretics, with chlorate of potash as a drink; very thirsty; to have iced milk and water; sulphur to be blown into the throat frequently; large fly-blister applied across the front of the chest.

March 2nd.—Still easier; to continue diuretics. Patches on tonsils apparently coming off, and throat looking paler within.

March 3rd.—Sent for early this morning; had been taken suddenly worse about midnight. Patient very croupy with stridulous breathing, tossing about and resting but a moment at a time in her mother's arms. On forcibly opening her mouth; found false membrane spreading over tonsils; skin very hot, and cheeks very bright. Replaced fly-blister over former seat of application; discontinued diuretics, as there were symptoms of increasing weakness. To have four ounces port wine twice daily, and strong chicken-broth every two hours. Prescribed one fifth gr. iodide of potassium, and $1\frac{1}{2}$ grs. of bromide of potassium every hour. Visited her in the evening; no better; applied in addition a fly-blister over the larynx 2 x 3. To continue broth and wine, and medicine every hour as before. Inspirations very wheezy and sibilant.

March 4th.—Child still very restless and croupy; had struggled violently all night long for breath,

but had taken the medicine, nourishment and stimulant regularly, though of course under great difficulties. 1 P. M. Condition apparently hopeless; increased wine to 8 oz. daily, in divided doses every hour; to continue iodide and bromide as often. Respirations 65; pulse very rapid, thready, and beats scarcely to be counted at all.

March 5th.—Called early to see child whose friends considered her dying; very restless; pallid and sweating over face and forehead; lips bluish, unable to speak or open the eyes.

11 A. M.—Called again; a very little easier, and pulse steadier. Had ejected a piece of false membrane in a desperate effort to catch her breath.

3 P. M.—Croupy cough slightly loose; blistered surface assuming membranous appearance; raised more fragments of false membrane after violent coughing.

Evening.—Breathing slightly easier, but respiration even more rapid, and diaphragm jerking violently with each inspiration. Placed under quinine in $\frac{1}{2}$ gr. doses every hour. To continue bromide and stimulants; latter increased to 12 oz. daily. 10 P. M.—Expectoration quite purulent, also shreddy at times. Voice very husky and speaks occasionally in the faintest whisper.

March 6th.—Child much easier, but had nearly choked to death during the night, probably from the sudden displacement of a small piece of membrane in larynx while coughing. A good deal of bronchial spasm after expectorating, for which was given along with the bromide (after stopping the iodide) 1 drop doses of tincture of belladonna every two hours. To continue wine, 12 ozs. daily.

March 7th.—A great change for the better; respirations 40; pulse 140, but steady. A good deal of muco-purulent expectoration. Voice still very husky, but whispers more audibly, and has smiled for the first time.

March 8th.—Still easier; discontinued belladonna and other medicine; wine 8 oz. daily. Placed under syrup of the hypophosphites, with minute doses of strychnia, also cherry bark and cod-liver oil emulsion, every four hours. Had been free from cough during the night but expectorated a good deal this morning. Wine 4 oz. daily. To continue medicine as before;

March 10th.—Patient still improving; sits up in her cot to-day, and although her voice is still husky, she is very smiling and cheerful.

The above was, certainly a bad case, and shews how continued, patient, and persevering effort, is sometimes rewarded with success, when least expected. The little sufferer had fortunately a good stomach, taking every thing offered, amid her breath-struggles, with great energy and pluck. On the two days her life was despaired of, the most enthusiastic tracheotomist would hardly have even hazarded an operation. It is perhaps unnecessary to add, in all cases of diphtheria occurring in families, that the unaffected should be rigidly quarantined in a separate apartment of the house, whenever practicable. Every room should be disinfected daily, or twice a day with sulphur or chlorine fumes. During convalescence, tonics should be administered with nourishing broths, etc.; the convalescent too, should be housed, especially in the winter season, for some little time, and cold draughts avoided with the same wariness, as after attacks of measles, or scarlet fever.

These observations are humbly submitted to my medical brethren as the result of fifteen years experience in the treatment of diphtheria. Many of the principles here advocated, are of course, not at all new, but have been long recognized by leading practitioners throughout the Dominion and the United States.

Dorchester, N.B., March 12th, 1878.

NOTES ON PUERPERAL CONVULSIONS.

BY E. G. KIDD, M. D., MANOTICK, ONT.

I am well aware that the following cases present nothing new, either in the pathology or treatment of puerperal convulsions, yet as the disease is comparatively rare, and must always be of interest to us, I beg to offer them as my share of experience.

CASE 1.—Mrs. H. æt 27; primipara. Labour commenced in the evening of 16th of May, 1871. I saw her about 9 o'clock that night; the limbs and face very œdematous, the œdema having commenced about the end of the sixth month. Urine albuminous; she had an anæmic and waxy appearance. During the last two months she has had intense headache. Labour was slow, and completed by the forceps. About an hour after delivery she complained of blindness, and in a few minutes convulsions came on; during that night and next day she had eight convulsions. Owing to the "age

and experience" of the gentlemen in consultation with me, there was no treatment until she had had four convulsions. I then tried to bleed her, but could not find a vein in her arm owing to the œdema; administered chloroform, gave a full dose of calomel and jalap, followed by pulv. jalap. co., Ice to the head, a hot air bath, and diluents *ad libitum*. She made a good recovery, became pregnant again in 1874, and about the sixth month, œdema, albuminuria, and headache returned. I ordered pulv. jalap. co. and diluents. She went to full time and had an easy labour, no complications.

CASE 2.—Mrs. R.; multipara; was attended by a midwife through a severe and tedious labour, Jan. 7th, 1874. About an hour after delivery convulsions came on. I was sent for, and saw her about an hour after the first convulsion; she had had three during that time; I found her plethoric, œdematous, urine albuminous. The pulse was full and the breathing stertorous, face livid; I bled her immediately, and she gradually became conscious, as the "blood" flowed from her arm; applied an ice bag to her head, and as soon as she was able to swallow, gave her a full dose of calomel and jalap, followed by pot. bromide, diluents, etc. There were no convulsions after the bleeding; made a good recovery.

CASE 3.—Mrs. W., æt 30; multipara; consulted me in March, 1874, for dropsy. Was in ninth month of second pregnancy; anasarca was general; urine albuminous. Gave pulv. jalapæ, and mild diuretics, and told her husband to send for me as soon as labour set in, or before, if convulsions came on. Convulsions came on three days after my first seeing her; labour had not commenced; I administered chloroform, and gave pot. bromide in full doses; in a few hours labour commenced, and convulsions ceased. When the os was dilated to about the size of a penny, she had a convulsion, and in a few seconds a dead child was born. She progressed favourably until the third day, when having eaten rather freely, the convulsions returned with great violence and frequency. I bled her freely; gave chloroform when I expected the convulsions, and a purgative. To continue the pot. bromide. She made a good recovery. During the three days interval between the birth of the child, and the second onset of the convulsions, the œdema and albumen decreased; both increased rapidly during the convulsions.

CASE 4.—Mrs. B. ; multipara ; consulted me in August, 1874. Is now in the sixth month of the seventh pregnancy ; limbs and face œdematous ; urine scanty and albuminous ; anæmic. Has had attacks of intense headache with vomiting and purging ; ordered mild tonics and diuretics. Was called to see her Oct. 2nd ; she was in a bewildered state ; recognized my voice but said she could not see me ; had been vomiting and purging all night ; complained of severe headache ; was perfectly blind. In a few minutes after my arrival convulsions came on ; labour had not commenced. I bled her freely, administered chloroform and waited for labour to begin. Dr. Leggo, of Ottawa, saw her in consultation with me ; labour commenced about two hours after the first convulsion, and as soon as the os uteri was sufficiently dilated, Dr. Leggo gave chloroform, while I turned the child and delivered ; the child lived a few minutes after birth. There were no convulsions after delivery, although she did not regain consciousness for eighteen hours.

CASE 5.—Mrs. W. ; primipara ; consulted me for dropsy in June 1874 ; œdema marked ; urine scanty and albuminous. Is now in 9th month of pregnancy ; has occasional attacks of headache with vomiting and purging ; is anæmic ; ordered mild tonics and diuretics. Convulsions came on during severe and tedious labour, about three weeks after my first seeing her. Administered chloroform, applied the forceps, and delivered as soon as possible ; she made a good recovery.

CASE 6.—Mrs. C. a stout plethoric primipara was attended by a midwife in July 1875. Convulsions came on previous to the birth of child ; I saw her shortly after onset. She was œdematous ; urine albuminous ; child was born before my arrival—still-born. She has had occasional attacks of vomiting and purging during the last three months. Bled her ; gave pulv. jalapæ, diluents and pot. bromide no convulsions after the bleeding.

CASE 7.—Mrs. H. a plethoric primipara ; œdematous, with albuminous urine ; was attended by a midwife in July 1875. Convulsions came on shortly after delivery ; saw her shortly after their onset. Bled freely ; and gave a purgative and pot. bromide. No return of convulsions.

CASE 8.—Mrs. Mc., primipara ; very large masculine-looking woman ; was in second stage of labour, when I saw her ; was œdematous. Legs very much swollen ; eyelids almost closed. Fear-

ing convulsions, I applied the forceps and delivered as soon as possible. Before applying the forceps, while in a pain she became unconscious. After delivery she rallied ; but a convulsion came on about half an hour after, and she died. I could not bleed, her arm was so much swollen ; in fact, she died so quickly that I had no time to do anything ; as soon as the spasms were over she was dead. I have attended two cases besides those given *her.*, but have no notes of them ; both recovered.

NEUROMATA OF THE STUMP AFTER AMPUTATION OF THE ARM.

BY JAS. M. SMITH, M.D., MORPETH, ONT.

Mr. T—, a well to do middle-aged farmer, had his right arm crushed in a threshing machine, on the 19th August, 1876. Being sent for immediately, I found, on arrival at the place, the injury of so serious a nature as to require amputation, and assisted by Dr. Richardson, of Chatham I took the arm off at the upper third. The stump healed kindly, and the case progressed so favorably that in four weeks from the day of the accident, he drilled in five acres of wheat. For a long time he complained of no trouble or disturbance, other than is common to such cases.

On the 22nd of October, 1877, he called at my office, much emaciated, and complaining of extreme sensitiveness and constant pain in and about the stump, attended with muscular weakness, tetanic movements of the muscles of the parts, stiffness of the muscles of the neck and jaw, difficult deglutition, and general derangement of the health. On examining the stump, I found several tumors of various sizes, the largest at the termination of the median nerve, and others in the neighborhood of the brachial artery. Slight pressure being applied to these bulbous enlargements, increased the tetanic movements, and produced most excruciating pain.

The opinion had been volunteered by some, that the median nerve had been incorporated in the original cicatrix. Indeed I should have inclined somewhat to this view myself, had I not taken especial care to avoid such a calamity at the time of amputation. Having tried palliatives to no pur-

pose, I advised the use of the knife, but requested him first to consult Dr. Murphy, of Chatham, who advised the removal of the tumors as the only sure means of giving permanent relief. A few days afterwards, the patient was brought under the influence of chloroform, and Esmarch's bandage applied from the point of the stump to the top of the shoulder. An incision being made three inches long, close and nearly parallel to the original cicatrix, and over the median nerve, I came down upon the first tumor, which was removed at once. Tracing up the incision, I came upon another of smaller size, about an inch from the first, which we removed in like manner. The tumors were bulbous enlargements, having a firm, dense consistence, and constituted a diseased, hypertrophied degeneration of the nerves, that of the median being three inches in length and two inches in diameter. In this case, the nerves were entirely free from the old cicatrix.

Where the tumors were multiple, as in this case, amputation was formerly resorted to for relief. Why degeneration of the nerves takes place after amputation of the arm, more frequently than of any other part is, in my opinion, owing to the way the section is made in performing the flap operation, as was necessary in this case. Unless the median nerve be well retrenched, similar results may frequently occur. Of course this condition of the nerves takes place, more or less, after all amputations, but only demand surgical interference, when extreme, as in the foregoing case. During the operation, not more than a table-spoonful of blood was lost. The distressing symptoms have entirely disappeared, and the patient is now able to sleep and work as usual. Dr. Murphy kindly and ably assisted me in the operation.

Selected Articles.

FRACTURES OF THE NECK OF THE FEMUR IN THE ADULT.

CLINIC BY FRANK H. HAMILTON, M.D.

* * *

We will now consider *fractures of the neck of the femur*, of which we have several examples before us. I shall confine myself to these fractures as they occur in adult life. Fractures of the neck in early life are exceedingly rare, and the few cases

which have been recognized clinically have all left a doubt as to their exact character.

I do not propose to speak particularly of the pathology of these accidents, or of their causes or signs. I shall assume that you have studied all these matters. My present purpose is to speak only of the treatment.

It is necessary to say, however, that a fracture may occur within the capsule or without the capsule, and that the latter are almost always impacted, the neck being driven into the shaft, and being there more or less firmly fixed. We have these two kinds of fractures in old people mostly, and although they differ considerably as to their causes, their symptoms and their results, the proper treatment in the two cases differs very little.

Let us see. If the fracture is within the capsule, it may not shorten at all at first; but inasmuch as in almost every such case, perhaps in every case, the neck will be in part or in whole absorbed, generally within a few days or weeks—for this process of absorption goes on very rapidly after the fracture has occurred, as I have proven by several operations upon the cadaver,—for this reason a shortening must soon occur, and in the end the upper end of the shaft will become attached by fibrous tissue, perhaps to the head of the bone, remaining in the socket, perhaps to the capsule and other parts about the joint—perhaps to both; and the shortening is apt to be very great, being probably greater in proportion as the upper end of the shaft and the portion of the neck attached to it is drawn farther from the head by the action of the great muscles of the thigh and hip. You see, therefore, that in this case it might be an object to hold the limb extended for a time with a weight and pulley, and thus to make the fibrous bond as short as possible; in other words, to secure for the limb as much length as possible. I do not speak of this as an ascertained fact, namely, that by permanent extension maintained for a few weeks, the limb, in case it has been broken within the capsule, will be in the end longer than if no such extension had been used. It is a theory only, which to me seems plausible, but which I have not proven. If, as some have thought, and perhaps some still think, a bony union is occasionally effected after this fracture, then certainly the extension would be useful for this purpose. I do not deny that such a thing has ever occurred, but I have never seen it, and I think its occurrence very improbable, even under the very unusual and most favorable circumstance, namely, when the *intracapsular fracture is at the same time an impacted fracture*. I do not discuss that now. All I wish to say is, that my treatment would be proper in any view of the case.

There is another reason for extension in this case, if it can be employed. In my experience it has given the patient great comfort. It has at-

rested the contraction of the muscles and the constant motion of the fragments; and if the fragments are already displaced, this contraction and motion causes great pain by pricking and goading the inflamed capsule and the adjacent soft parts. The patient is easier the moment extension is applied. This is not speculative, but actually proven. I have observed it so often that no doubt remains in my mind as to its value in this point of view.

Let us consider now for a moment the *extracapsular*, impacted fracture; and these are almost always impacted.

These all unite readily by bone, and being impacted, they unite very quickly. They are almost always found shortened from the moment of the accident. Sometimes very little and sometimes a good deal—the shortening varying in different cases from one-quarter of an inch to one inch, possibly more or less in exceptional cases. This shortening has very little tendency to increase; but sometimes, if left to itself, it does increase quite perceptibly. The continued action of the muscles push the neck farther and farther into the broken, comminuted, and softened trochanter; softened after a few days by the inflammation.

At the same time and for the same reason that there is a tendency to shorten, there is also a tendency in the fragments to incline outwards laterally and to cause a projection in that direction. In addition to all this the limb is apt to become everted, and this is partly owing to the action of certain muscles.

Now, with this brief explanation of certain peculiarities in these two forms of fractures of the neck of the femur, we will be able to understand what are the indications of treatment in each.

When speaking of fractures of the shaft of the femur in the adult, I said the first indication of treatment was to overcome the shortening caused by the contraction of the muscles, a shortening which we find present in these cases from the first. It is present immediately or very soon after the fracture has occurred, and it has to be overcome by energetic means. The second indication was to keep the fragments in line; and the third, and least important, or least difficult to accomplish, was to prevent eversion.

When speaking in my lecture on fractures of the shaft of the femur in children, I said the indications were in some sense reversed; the first or most difficult, being to keep the limb in line, and the second being to overcome the shortening, in case any existed.

Now, in both of the forms of fractures under consideration to-day, the first indication is not to "overcome," but to prevent shortening and incidentally to subdue or prevent pain; the second is to maintain the fragments in line, and the third is to overcome or prevent eversion. The greatest difference is found in the fact that now, shortening

is inevitable, but we have the means of making it less than it would be if left to itself. At least in the case of the extracapsular fracture we can keep it where we find it, while in the case of the intracapsular fracture, we can make the patient more comfortable, and may hope to make the limb longer than it would otherwise be.

The treatment is then essentially the same as for a fracture of the shaft in the adult, except that instead of eighteen or twenty pounds we use eight or ten—no coaptation splints are required—and the extension is seldom useful after about four weeks.

In the case of the patient before you, Catherine McCloud, the fracture is extracapsular. The patient is forty years old. She fell in the street, striking upon the left trochanter, and was on the same day brought to the hospital. Dr. Halsted, my chief house-surgeon, who is remarkably careful and accurate in his management of these cases, found the limb shortened and everted. The dressing was at once applied. Extension with a weight of eight pounds: the foot of the bed being slightly elevated, and the long side-splint being secured to the body and the left thigh. Now, at the end of four weeks, we permit this apparatus to be removed, and I find the limb shortened half an inch and slightly everted. The treatment is essentially completed, but she ought to remain in bed a week or two longer, and then go about upon crutches.

The tendency to eversion in this case was marked from the first, and has not been overcome. My own long splint has failed to accomplish this; but Dr. Monroe, house-surgeon, has employed also in this case two pulleys instead of one, with the two lateral adhesive strips separated below the foot widely. This evidently has some effect in preventing eversion, but it has failed here. In addition to all this, there has been added an apparel devised by Volkman, a German surgeon, and described by Billroth: but you see this has failed equally. In short, you may learn from this that, in a certain number of cases of extracapsular fractures, and for reasons which I cannot now stop to explain, it will be found impossible to prevent eversion, but you ought always to try to make it as little as possible, and we think we have done so in this case.

The second example is in a woman much older, sixty-five years old. For your convenience in recording your notes I will give you her name also—Mary Stafford. She has been under treatment three weeks, and we find the limb shortened three-quarters of an inch, but with less eversion than in the preceding case.

Here is a third case; Pat Nugent, forty years old, fell thirteen feet, striking upon his trochanter, December 1, 1877. He was admitted on the same or following day, and was examined by me. The left leg was found shortened three-quarters of an inch, but he then informed us that this limb was always just three-quarters of an inch shorter

than the other, and that his tailor always made this difference in the length of his pants. There being no eversion or other sign of fracture, I directed that no apparatus should be applied, but that the limb should be measured from time to time, and that he should be kept in bed. On the 10th day we found half an inch additional shortening, in all one and a quarter inches, and as this determined the question of fracture, extension was at once applied. The result is that we have prevented any further shortening. The limb being now one and a quarter inches shorter than the other, or one half inch shorter than natural. There is now the characteristic enlargement about the trochanter, showing that it is an extracapsular fracture.

I cannot say positively that this limb was not some shortened at first, as I have nothing but his statements to rely upon: but it certainly shortened after he was admitted, and this is a new and important point. I believe, from my later experience, that this happens pretty often when extension is not employed.

My fourth case is of unusual interest, because the same fracture has occurred in both thighs at different periods of time, and the treatment and the results have been different. In all, I am able to present you then with five cases of extracapsular fracture. This last case is as follows:

Dennis Kelly, then seventy-two years old, was admitted to Bellevue in November, 1873, with an extracapsular fracture of the left leg. On the ninth or tenth day after admission, and after fracture, the limb was done up in plaster-of-paris bandages, and soon after he walked about. The plaster remained on several weeks, being once renewed.

On the 30th of October last he fell upon the right side, breaking the neck of the femur on the right side, outside of the capsule, and was admitted at once to this hospital. On the following day, Dr. Halsted applied my dressings, with eight pounds of extension. The man says:—"From the moment the extension was applied I had no pain." This is the usual testimony. The apparatus was continued about five weeks, and we have now to note the results of the two fractures. The left leg—treated with plaster-of-paris—is half an inch shorter than the right—treated by extension. The left trochanter and upper part of the left femur is bowed out, causing an ugly projection; the right trochanter and shaft have their natural position. In short, the left limb is in the same situation it would have been if nothing had been done, perhaps worse. In the right leg the result is certainly better. I am going to have the patient photographed.

Intracapsular Fracture.—Finally, I wish to shew you, gentlemen, this old lady, Catherine Daly. She says she is seventy years old. This is an intracapsular fracture; the only intracapsular fracture

out of six fractures of the neck which I have shewn you to-day. In my Treatise on Fractures, fifth edition, I have spoken of the relative frequency of intra and extra-capsular fractures as still in dispute. In my experience, however, the extracapsular have been made the most frequent.

Observe now the points of difference. This patient is the oldest of them all, but none are younger than forty. The accident occurred, not from a fall on the trochanter, but from a slip of her foot while trying to drive flies from the room; there is no enlargement about the trochanter, although three or four months have elapsed since the accident; and this is more than in either of the other cases; the toes are turned out strongly.

During the first three weeks she was under the care of Dr. Mott, and extension was employed by my apparatus with eight pounds. Since then she has been encouraged to get up and use her crutches, which she now does to some extent daily. While the extension was on she was very comfortable, but a long confinement would have made her bed-ridden, and it was removed as soon as the stage of inflammation was passed.

This completes my analysis of these cases. The result is in no case perfect, but we have reason to believe that all of those have been benefitted, and their limbs rendered more useful, in whom moderate and continued extension has been employed for a period of from three to five weeks.—*M. d. Record.*

MEANS FOR PREVENTING ATTACKS OF EPILEPSY—EPILEPTIC AURA—IMPORTANCE OF ITS ARREST.

LECTURE BY DR. BROWN SEQUARD.

I pass now to another point. I said yesterday that there is very frequently an *aura* in disease of the brain causing convulsions. It is very important indeed to examine with reference to this point; for if you find an *aura*, it will lead to the use of a series of means which may stop an attack of epilepsy. If an attack of epilepsy can be arrested, we do more than simply arrest that attack; for during an attack of epilepsy, changes occur which prepare the brain for future attacks; so, if one attack can be arrested, you may perhaps stop a generation of attacks. It is important, therefore, to prevent an attack of epilepsy. Now, with reference to the means of preventing these attacks. Means for preventing the occurrence of attacks of epilepsy were resorted to centuries and centuries ago. Galen insisted particularly upon the importance of ligaturing the limbs for this purpose. Suppose, for instance, there is an *aura* starting from the finger—a peculiar sensation or muscular spasm; Galen, and a great many physicians since his day, and even in our own times, insisted upon the

application of a ligature to the arm, with a view of preventing the passage of some influence from the extremity to the brain. In reality, we succeed very frequently, by the application of a ligature to the extremity, when the aura is there, in arresting an epileptic attack; but it is not because we prevent something from going to the brain, but it is because we send something to the brain, and that something is an irritation already there, and which if undisturbed, would produce the convulsion. It is the same as that which occurs in diseases of the spinal cord, in which by taking hold of the big toe, you arrest completely, in most cases at least, convulsions occurring in the lower limbs. For example, in cases of spinal epilepsy, the convulsions may be most violent, may last all day, and may recur upon the least touch of any part of the skin of the lower extremities; in those cases it is not rare at all, especially in certain forms of the disease, that drawing upon the big toe brings about a relaxation of the muscles and ends the convulsions. An arrest of the morbid activity in the cells in the spinal cord is produced by irritation of the nerves which go to the big toe, and that arrest remains sometimes for hours, and sometimes for days; but you can reproduce the same phenomena in the sane patient. Whenever the convulsions exist, you can witness the influence exerted by this irritation.

As soon as I was possessed of the idea that it was through irritation exerted by the ligation, that an attack of epilepsy was cut short, I tried and found that other irritants applied to the skin produced the same effect; for example, such as extreme cold, great heat, pinching the part; in short, any irritation of the nerves in the region where the aura commences may be sufficient to arrest an attack. In fact, the patients themselves, if they have strength of will sufficient, when upon the point of having an epileptic seizure, can, by moving the limb rapidly, rotating the arm, etc., perhaps stop an attack. Any kind of irritation from the periphery may act upon the brain and arrest the morbid activity of the cells, and that irritation can succeed even when applied upon the other side where the aura exists.

As regards other forms, if the aura starts from the stomach, anything which irritates the stomach powerfully, as a violent emetic, will save the patient from an attack of epilepsy. Certain other means may also succeed, as acting upon the bowels by an enema that will produce a rapid and considerable action of the muscles. Pressure upon the bowels may bring about the same result, if the sensation starts from that region. A galvanic shock, on the contrary, will produce an attack in many cases. If the patient has simply a vague sensation of disturbance without any distinct place from which the aura arises, any means of producing irritation of the skin behind the ears, or between

the shoulder-blades, may be of some service, such as the application of ice, a sharp blow from the hand, galvanic shock, etc., Any medicine which acts with great power either upon the stomach or upon the bowels, or which acts with great power upon the nervous system, may be of service in these cases.

MEDICINAL AGENT FOR THE ARREST OF ATTACKS OF EPILEPSY.

A common remedy which is employed with some benefit consists of three or four grains of the sesquicarbonate of ammonia in a drachm or half-ounce of tincture of columbo, or gentian, or rhubarb; it is the alcohol chiefly that acts. Taken without dilution, it is rather strong, and therefore a trifling quantity of water may be added. It should be carried in the pocket, so that it can be used at the shortest warning. Running, jumping, anything and everything that produces a change in the circulation and respiration, may be of service for the arrest of an attack of epilepsy. You may not know what means will operate best upon a patient; but, recommending such means as have been mentioned, he may try one after another until he finds that which succeeds best in his individual case. In that manner, you can perhaps, save the patient from an attack.

COMBINATION OF THREE MEDICINES.

The combination of three medicines I have found has considerable more power in controlling epilepsy than the use of one alone or of two combined. If you employ the bromide of potassium, you must employ with it the bromide of ammonium and the iodide of potassium or ammonia. A combination of these three salts acts with far greater power than when either one is used alone. It is essential always to add the bromide of ammonium if the other bromides are employed. In these cases it is also essential to employ some means of counter-irritation at the base of the brain; or, in cases of distinct aura, some means of counter-irritation at the place where the aura starts. In those cases in which the aura starts in the finger, I have succeeded most wonderfully in controlling the attack by the application of a circular blister in the shape of a ligature to the finger itself. There is, therefore, a series of means which can prove successful in preventing attacks in these cases. As I said yesterday, if we can do so much in the way of controlling attacks of epilepsy, why should we not be able to do the same against paralysis, as epilepsy and paralysis are in many respects alike in their mode of production.

PARALYSIS AND CONVULSIONS.

Before speaking further of means of treatment, which may be of immense importance if modified

successfully, I will say a little more with reference to the doctrine regarding the production of paralysis and epilepsy, and also of what I have to substitute for the generally admitted theories.

As you well know, the facts mentioned in these lectures seem to be quite in opposition to the views held by most physicians, if not by all. When paralysis exists, for instance, in the right arm, and we find convulsions upon the right side of the brain destroyed, it is admitted that the centre of the will-power for the right arm has been destroyed, and that is very natural, therefore, that the right arm should be paralyzed. In the same manner, if we excite the convulsions of the brain, or any part of the voluntary motor apparatus—such, for instance, as arises from slight inflammation at the surface of the brain—and the patient is attacked with convulsions, it is quite natural, according to the theory generally admitted, to look upon the irritation there as having produced such convulsive movements—as having put into play the motor activity of the part where the disease exists. These two illustrative instances—the paralysis on the one hand, and on the other the convulsions—are apparently in perfect harmony with what is supposed to be established. But, as I have said many times, we find the same thing taking place, not only upon the opposite side, but upon the side corresponding with the seat of the disease. Certainly the theory cannot apply in these cases. Besides, we find the same thing occurring when the disease is in parts of the brain which are not able to produce the least movements when irritated by galvanism, and which we know, and we all agree, do not belong to the voluntary motor apparatus. For instance, disease in the posterior lobe of the brain, according to the theory admitted, should never produce paralysis or convulsions; but disease there often produces both convulsions and paralysis. We have then something taking place, and occurring very frequently, which is the reverse of what is generally admitted. What are the explanations given by physicians and physiologists of the fact which seem to be decidedly against their views? The explanations, I must say, have been very few and very timid; and, indeed, I think that I have myself, in fighting against the admitted theory, put forward these explanations very strongly. I believe that what I shall now say can at least certainly explain some of these cases. For instance, in a case of paralysis and convulsions upon one side of the body, we make an autopsy and find disease in the posterior lobe of the brain upon the opposite side. We know that disease exists at that point—we are absolutely certain of it; but, it is said, what evidence is there that there is no disease elsewhere? There may be undetected disease in the part belonging to the voluntary motor apparatus, when the brain is examined in the limited manner necessary at an autopsy; there may be disease in

some other part of the brain which cannot be recognized by the naked eye; so we cannot be certain that disease does not exist, unless further examination be made.

There are many cases which at once answer this objection. If we find, for instance, that a patient is stricken with symptoms of hemorrhage in the brain; he has all those symptoms which are manifested when hemorrhage in the brain occurs, and yet had no manifestation whatever of brain disorder previous to the attack, which comes on suddenly. Besides the symptoms belonging to hemorrhage in the brain, he has paralysis in the right arm, convulsions in the right arm and face, and he dies within a few hours, as he may when the hemorrhage is limited. An autopsy is made, and we find hemorrhage has taken place into the posterior lobe. Can we admit that there was disease elsewhere? What kind of disease could have been produced so rapidly? What kind of disease could have produced such paralysis as we find in the arm, occurring just at the time the symptoms of hemorrhage occur?

It is quite certain that in such we cannot say that paralysis and convulsions depended upon something else than the disease we see. Why should not the same thing be true when the paralysis and convulsions are upon the corresponding side of the body? A great many cases besides hemorrhage will shew the same thing. Embolism and softening may produce the same result. For instance, embolism occurs, and we have nothing except the fact that there is a plug in a blood-vessel, and the congestion and softening which surrounds the part. If that lesion exists in a part which does not belong to the voluntary motor apparatus, we must admit that the paralysis, as well as the convulsions, is due to the disease seen, and not to the disease imagined and which we do not see.

Other explanations and answers to these might be given; but as time presses, I will not indulge in them.

There is another source of explanation which is very good indeed. For instance, in those cases in which disease has destroyed the greater part of the voluntary motor apparatus in the region where it is located, and there is neither paralysis nor convulsions. How is the absence of paralysis and convulsions to be explained? It might be said—I do not say that it has been said—that paralysis does not appear because only a part of the voluntary motor apparatus has been destroyed. That may be, and that is the case sometimes when there is slight disease; but why is it that there is neither paralysis nor convulsions when a considerable part of the voluntary motor fibres are destroyed? Then it might be said, that though apparently diseased, yet the tissue remained able to act. This explanation is certainly very good, and may be true, but there is no proof of its truth. In those

cases, for instance, in which there is softening following embolism, it may be that the nervous tissue remains active, although it has undergone considerable alteration.

The same may be true also in cases of tumors pressing upon different parts of the brain; there may be simple atrophy of brain-tissue, but no loss of function, however altered the structure may be. Certainly, there is a passable explanation for a number of cases. It is quite certain that nerve-fibres, for instance, have one essential element—the axis cylinder—and it may be that that part remains active, although there is considerable pressure; what then of those cases in which the tissue has been so destroyed that there was no normal tissue left, and if the cylinder axis remained visible it had no cells which were not considerably altered? There are such cases, perhaps forty or fifty, in which disease has struck parts at the base of the brain; many more in which the convulsions were involved, and no tissue left which was unaffected.

There are two series of cases: those in which the brain-tissue is completely altered, and those in which tissue is missing. There has been, however, no marked paralysis in a number of those cases, and there has been also no convulsions. It is clear, therefore, that there are a great many facts which cannot be explained by, and which are in direct opposition to, the views generally admitted.

THE THEORY BROUGHT FORWARD AS A SUBSTITUTE FOR THAT GENERALLY ADMITTED REGARDING THE PRODUCTION OF PARALYSIS AND CONVULSIONS.

What then is the theory which we are to substitute for that generally admitted with reference to production of paralysis and convulsions?

I have many times said that paralysis and convulsions appear through the same mechanism, however different one symptom is from the other. If you admit, as I do, that the cells in the gray matter of the brain are endowed with the same function, the explanation of the production of paralysis and convulsions is very plain. For instance, the cells which are employed in moving the right arm are scattered in the brain, as well as are the cells which serve for any special function of the brain. These cells being so scattered, and belonging to one function, are connected one with the other by fibres, so that they may act with harmony.

Suppose that, the cells being so distributed, an irritation comes from the bowels; it is transmitted to certain parts, and instead of going to certain other parts, it meets, in the part to which the irritation is transmitted, cells which are then employed in the production of voluntary movements, or those which are able to produce movements by reflex action. These are two distinct kind of cells, as many facts shew. If that irritation reaches cells

which are employed in producing voluntary motor action of the arm, for instance, it produces the same effect as does irritation by galvanism of the nerve going to the arm at any point at which it can be reached in the neck—the cells are stopped in their action, their activity is suppressed, and paralysis occurs.

If, on the contrary, an irritation, starting from the bowels, acts upon those cells which are able to produce reflex movements—whether these cells are situated in the base of the brain or elsewhere—those cells are put into play and convulsions occur; that is, reflex movements of a convulsive character.

What takes place when irritation starts from the bowels is the same as that which occurs when disease in the brain exists. An irritation starts from the posterior lobes, for instance; it spreads into the brain, and if those cells, wherever they are, which serve for voluntary motor movements, are acted upon, they are exhibited in their power to produce motion, and there is paralysis as the ultimate result of the irritation. If, on the other hand, the irritation starts from the same place, and reaches cells which are connected with the production of reflex movements, convulsions will appear. In both instances we have the same elements; there is an irritation starting from some place, and travelling to some cells, and there either inhibits their activity or produces reflex movements—produces either paralysis or convulsions. The irritation may inhibit the action of the cells which serve in the expression of ideas in speech, and give rise to aphasia.

I have not time to dwell further upon the opinions which I hold, in order that you may understand them better; but I will say that paralysis or aphasia, or loss of function in any part of the brain, can occur by attack, as well as convulsive movements can occur in attacks.

You can now easily understand how an irritation operates to produce attacks of paralysis, aphasia, amaurosis, etc., and it can be easily seen that when the paralysis persists there is also something of the same kind of action. The objection to this would be: How is it such power can be kept absolutely inactive for so long a time as it exists in paralysis which is persistent? We know already that, in many cases of paralysis produced by organic disease of the brain, there has been sudden change for the better; and there are cases in which rapid cure has occurred, although the organic cause which has produced the paralysis has persisted. In fact, fluctuations, in the loss of function in any part of the brain are frequently observed, and these fluctuations may go on to such an extent that the patient may be cured very rapidly, and in certain cases very suddenly. If there was paralysis or loss of function because of the existence of the organic disease, the lesion persisting, the effect would per-

sist. But it is not so. It must be that something exists which ceases to exist at the place where the effect is produced.

We know that in animals we can arrest the activity of those cells which serve for the production of sight, and the activity of cells serving to all the mental faculties and the will. The activity of the cells employed in any of the functions of the brain can be suddenly arrested by certain irritations. In cases, for instance, of hemorrhage into the upper part of the spinal cord, without possible pressure upon the brain, there may be immediate loss of consciousness. There are two such cases upon record. Certainly there was loss of activity of all the functions of the brain as regards power of motion and sensation, all will-power, and that from an irritation which started at a distance from the brain. Certainly, also, there was no pressure upon the brain in these cases. In these cases, also, consciousness was restored after a time.

Sometimes we produce death rapidly, and destroy, therefore, all the activity of the brain, by a mere prick.

We can also produce a persistent amaurosis by a mere prick of the restiform bodies, and the amaurosis appears instantaneous. There is no direct connection between these bodies and the eye, yet the amaurosis persists while the animal lives; and I have had an animal that lived more than two years after the production of such a disorder of vision.

All will-power and all sensibility also may be destroyed by a mere prick in certain parts. If for instance, the spinal cord in animals be pricked in the dorsal region, it is found that sometimes there is produced a cessation of the activity of cells there, and we have anæsthesia upon the opposite side and loss of will-power upon the corresponding side.

We find in cases of disease of the brain that the pulse is weakened and is exceedingly irregular as long as the patient lives; it is an arrest of the action of the heart while the disease exists in the brain. If the action of the walls of the heart can be so modified, and persistently modified for months and months, the same thing may exist for different parts of the brain.

In the same manner, reflex activity may be arrested for months and months, as, for instance, the cell activity which controls the contraction of the sphincters of the bladder and rectum, and the loss of control over the action of these parts may be permanent. The same thing may take place for the cells which control voluntary movements.—*Med. Record.*

SICKNESS OF PREGNANCY.—Dr. J. Marion Sims, in the *London Lancet*, commends in the highest terms cauterization with nitrate of silver of the os uteri for this trouble. He has found it most successful, one to three applications curing. Dr. Jones, of Chicago, originated this treatment.—*Clinic.*

UNUNITED FRACTURE OF THE HUMERUS IN AN OLD MAN, SUCCESSFULLY TREATED BY RESECTION OF THE ENDS OF THE BONE AND THE APPLICATION OF SILVER SUTURES.

BY MR. HENRY SMITH, KING'S COLLEGE HOSPITAL.

The value of resecting the ends of the bones in ununited fracture was very well illustrated in the following case. The patient was an old man in feeble health, and therefore not a good subject for any serious operative interference; but, on the other hand, with an ununited fracture of the humerus he was unable to follow his employment of hairdresser. It was this last consideration that chiefly influenced Mr. Smith in deciding to attempt reunion. The case was not immediately successful, but it is not less interesting on that account, as it shows the importance of the element of time in such cases. When the patient was discharged from the hospital, four months after the operation, there was no sign of osseous union, although the ends of the fragments had been kept immovable and in close apposition by means of silver sutures and a splint. Two months later some callus could be felt; and one month later still, or seven months after the operation, there was firm bony union.

Michael N—, aged sixty-one, a hairdresser, was admitted under the care of the late Sir William Fergusson on march 6th, 1876, with a fracture of the middle third of the left humerus, and a Colles' fracture on the same side, which he had sustained by falling down stairs.

He was discharged on March 23rd, with the Colles' fracture united, but the humerus still ununited.

He remained in St. Giles's Workhouse till Jan. 15th, 1877, when he was admitted into the hospital under Mr. Henry Smith. The fracture at the junction of the upper and middle third of the humerus was still ununited. He was in a very feeble condition of health altogether, and looked like a man who had been badly nourished. The arm was placed in splints, and, as on March 17th no union had taken place, Mr. Smith performed the following operation. A longitudinal incision of two inches was made down to the bone over the seat of fracture; the broken ends were then cleared and the fibrous tissue about the ends removed; the broken ends were then sawn off, and a silver wire passed through each end and twisted up, thus bringing the cut surfaces into apposition. The arm was put up on an angular inside splint.

On June 26th the fracture was still ununited, and it was in the same condition on July 10th, when he was discharged with the wires left in.

On Sept. 25th he was readmitted. The wires were still in, and some callus could be felt around them. On Oct. 4th, on removing the splint, union

was found to have taken place. On Nov. 2nd the protruding ends of the wire were cut off, the remainder being left in; and the splint was reapplied. On Dec. 5th the splint was discontinued; the fracture was united, and the health was fairly good; there was a small depression in the skin at the site of operation.—*The Lancet.*

OPHTHALMIA NEONATORUM.

In the LANCET AND OBSERVER for January, 1876, I reported one hundred cases of ophthalmia neonatorum, observed in private practice and an equal number treated in the Cincinnati Hospital. I have now to add to that number fifty cases, from private and seventy-seven cases from Hospital practice.

Of the former, five cases (ten per cent.) were blind in *bot.* eyes when first seen, and eight cases (sixteen per cent.) were blind in *one* eye. Of these eight cases, six had good vision in one eye, and two had leucoma adherens. In both of the latter cases an iridectomy was successfully made, giving the patients a moderate amount of vision. The cornea was slightly infiltrated and hazy in three cases (six per cent.) but all of these did well and the cornea cleared up under treatment.

Ulceration of both corneæ is noted in three cases (six per cent.) and one of cornea in two cases (four per cent.) but all of these made a fair recovery. Macular cornea more or less pronounced remained, but there was a reasonable prospect of the corneæ becoming so clear, as to give the patients useful vision.

Leucoma adherens affecting one eye (the other one remaining sound), occurred in two cases (four per cent.), and in these there was a chance for an iridectomy in the future. In twenty-seven cases (fifty-four per cent.), the corneæ were clear and intact when first seen, and these all made a good recovery, no corneal complication arising during the course of treatment.

These fifty cases taken with the one hundred previously reported, show a total of 7.3 per cent. blind in both eyes, and 9.3 per cent. blind in one when first seen. Only 56.6 per cent. of the total number were free from corneal complication when first presented for treatment, but *all* of these recovered with good eyes. If this should not be sufficiently satisfactory, I will refer again to the results in the Cincinnati Hospital, where seventy-seven were treated during two years ending last March. Of the total one-hundred and seventy cases treated during the past six years, by Dr. Aub and myself, not a single one was lost, nor did ulceration of the cornea occur in any. With regard to the Hospital cases, I will say, that they presented all the ordinary symptoms of such cases, as they are seen in private practice, if observed at the same period. The difference in development and ter-

mination of the disease, depended entirely on the treatment to which they were subjected. In the hospital the treatment was commenced immediately without the loss of a single day, while those treated in private practice, were either in the hands of ignorant midwives and nurses, and not treated at all, or were subjected to irrational and inefficient treatment at the hands of the family physician.

In order to test the efficiency of the treatment in the hospital, experiments were made in this manner. Two cases of ophthalmia neonatorum, as nearly alike as possible were chosen. In one the ordinary treatment was carried out, while the other was allowed to take its course for a while. The result was, that while the former improved, the later became gradually worse every day that treatment was neglected.

The result of these cases in hospital and private practice, goes to show quite conclusively, that if a proper treatment is instituted early, before any corneal complications have arisen, that the termination is invariably favorable. Are we not therefore compelled to blame either the midwife, or the nurse, or the physician for the unfortunate results, which we have recorded?

I append the treatment which was given in the former article.

The treatment of these cases, which is carried out almost entirely by the internes under the supervision of the attending oculist on duty, is with little variation as follows:

The eyes are cleansed every hour or half hour, or even oftener in cases where the discharge is very profuse, by gently separating the eyelids with the fingers and removing the accumulated pus with a soft rag or camel's hair brush. A solution of alum gr. ij. ad. aqua ꝑss. or of argent. nitrat. grs. ij. ad. aqua ꝑj. was dropped into the eye every hour or two.

Cold compresses are used in many cases. They are generally well borne and are grateful to the little patients. They must be changed frequently in order to accomplish any good, but care must be taken in delicate children not to abstract too much heat.

Every morning the eyelids are everted and brushed with a solution of argent. nitrat. grs. v. ad. xx ad. aq. dest. ꝑj. according to the severity of the case, and the lids washed off with tepid water. Unless the swelling of the lids mechanically prevents it, the cornea is inspected *daily* in each case. As the case improves the interval between the instillations of alum and argent. nitrat. is continued in a weaker or stronger solution, until every trace of the disease has disappeared.

The greatest stress is laid upon the thorough cleansing of the eye in the acute stages of the disease, and this is attended to, not only by day but by night.

To this part of the treatment, do we owe the immunity of the cornea from ulceration. The pus

is neutralized or coagulated by the action of the nitrate of silver and alum, and its corroding effects thus prevented.

Another important point in hospital treatment is that the cases receive attention *immediately* the slightest swelling of the lids is noticed, and the severity of the disease is probably thus diminished.

When the lids are very much swollen their eversion is an easy matter. Slight pressure with the tip of the index finger, upon the lid near the edge of the orbit, will generally suffice, or a probe or the handle of a camels hair brush may be used instead of the finger. As the lids get thinner their eversion is much more difficult. Then it is better to seize the cilia between the index finger and thumb, or, the loose skin near the margin of the lid, and draw it a little down and out from the ball, and at the same time make pressure upon the upper edge of the tarsus, which if properly directed easily everts it.

The best plan is for the operator to lay the child across the nurse's lap and takes its head between his knees, after first protecting them with a towel. In this way he can control the motion of the child's head most easily, and make the applications most effectually.—*Lancet and Observer Cin. Dr. Agres.*

LITHOTOMY BY THE RECTANGULAR STAFF.

By GEORGE H. B. MACLEOD, Esq., F.R.S.E., Regius Professor of Surgery, University of Glasgow.

[In the year 1848, Dr. Buchanan, of Glasgow, published his paper explanatory of the operation by means of the rectangular staff (*Retrospect*, vol. xvii., Jan. to June, 1848, p. 214, Eng. ed.) This operation has, however, never come into use in other places, notwithstanding its obvious advantages.]

In Glasgow the rectangular staff is almost exclusively employed, and confidence in it has steadily increased from year to year, while I do not think it has ever been fairly tried elsewhere, unless I except its occasional use by Mr. Hutchinson in London. I cannot but hope that if its merits were better known it would be adopted by the profession in general throughout the country.

In the original paper the author tells us how he was led by a perusal of Dupuytren's "Memoir or Lithotomy" to institute experiments, and how gradually he came to fashion his new staff, and adopt the improved method of penetrating into the bladder and dividing the more external parts." The staff used by Dr. Buchanan is bent at right angles three inches from the point, and is hence "rectangular." It has a lateral groove along the horizontal part, and the end of this groove is closed. When the instrument is introduced, the angle lies

in the membranous part of the urethra, close in front of the prostate gland, and can be felt by the finger placed in the rectum, or by a little pressure on the perineum, to occupy a point a little in front of the anus. The horizontal part lies parallel to the rectum, and extends into the bladder.

In operating, the staff is so held as to occupy an intermediate position between being hooked up under the pubis and being pressed down on the perineum, and the operator keeps it steady and distinguishes its correct position by placing his left forefinger in the rectum under its horizontal part. The thumb of the left hand is at the same time pressed gently in front of the anus, so as to mark the site of the angle and to keep it steady. The exact position of the angle is very easily determined, as there are only the skin, superficial fascia, and some fibres of the sphincter between it and the thumb. The knife used is a straight-backed one, whose blade exceeds in length the grooved portion of the staff by about one-fourth of an inch. The point is sharp, and it should have a cutting edge on its back for about half its length, by which the tissues along the groove are more surely divided towards the middle line of the perineum. The shoulder of the knife is low, and the breadth of the blade equal from shoulder to hilt.

When the patient has been tied in the usual position, and the staff placed as above described, and fixed by the operator's left hand the knife, (held short and above the hand, palm upwards) is slowly inserted just above the anus "just where the mucous membrane shades into skin," and close to the raphé. The edge is turned to the left side of the perineum, or to the operator's right. The blade is not introduced parallel to the horizontal part of the staff (which would greatly increase the risk of its escaping from the groove as it passed on into the bladder), but obliquely, so as to impinge on the groove at an angle; and as it is afterwards pushed on towards the bladder, a *slight* obliquity is still maintained, so as to assure the operator that the point is in the groove, and to ensure its non-escape therefrom. In this way the whole length of the groove is traversed, and the point of the blade finally arrested by the closed end of the staff. It is then best slightly to withdraw the blade and to complete the division of the soft parts as it is brought out, the knife being "lateralised" and made to cut in a semi-circular direction between the anus and the tuberosity to a point rather behind the level of the anus. The whole cut may measure from $1\frac{3}{8}$ to $1\frac{1}{2}$ in., according to the development of the parts. "It approaches," says Dr. Buchanan, "very nearly to one-half of Dupuytren's incision, only it lies much nearer the rectum, and though little different in size, involves a large portion of the circumference of the intestine." Nothing now remains but to insert the left forefinger, following the horizontal portion of the staff into the bladder, and

dilate the very limited wound found in the prostate, while the staff is withdrawn and the stone extracted in the usual way.

It will be observed that no incision is made over the angle of the staff before it is penetrated. To make such a preliminary cut only complicates matters. No aid is got from it, and the parallelism of the two cuts is difficult to ensure. The staff is opened at one thrust, and if the precautions above described are taken there is no danger in this step. The knife should never be pushed on till the operator feels confident that it is in the groove. This the grating of the point of the knife on the groove makes very evident to him, and the assistant holding the staff also plainly perceives it.

From the above description it will be apparent—(1) That in this method of operating, only one incision or cut is, as a rule, required, and no dissection called for. (2) That the incision lies lower down (*i.e.*, nearer the anus) than in Cheselden's operation. (3) That the urethra is opened considerably nearer the bladder than it is in the lateral operation. (4) That a straight, short, and direct road is followed to the bladder; the prostate gland being reached at the point where it most nearly approaches the surface of the perineum. (5) That less injury is done to the soft parts of the perineum and the urethra than in the ordinary operation, the incision, though all that is necessary for the purpose in view; being much shorter and more limited. (6) That there is much less danger of wounding important blood-vessels, as the incision does not go near them. (7) That the rectum is, by the action of the horizontal portion of the staff, rendered straight, and is therefore not in the least danger of being wounded, as at first might be supposed it would be. (8) From the near neighbourhood of the anus to the incision the wound is easily stretched or dilated, so that it does not require to be of great size. (9) A more limited incision is made in the neck of the bladder than is usually inflicted in the lateral operation, and the wound lies in the longest axis of the prostate. (10) If the one is very large and much room needed, the right side of the prostate is easily reached, and can be incised with a probe pointed bistoury.

In short, I hold that this mode of operating most perfectly fulfils all the requirements of an easy, rapid, and safe access into the bladder; that the surgeon cannot go wrong who exercises the most trifling care; that there is the least injury to structures and the minimum risk of complications; that it provides the shortest road for the stone to travel as it is extracted, and that the most direct and efficient drain for the urine is established.

In speaking to hospital surgeons elsewhere of this operation, I have always found that their objections to use it were either, (1) their supposed difficulty of introducing (especially in children) a staff of the rectangular form; (2) "the stab in the

dark," as the passing of the knife into the angle was occasionally termed; (3) the risk of the knife escaping from the groove; and, lastly, the supposed danger of wounding the rectum.

There is no doubt but that the first objection is well founded. It requires care to pass the heel of the staff especially through the meatus, even though the operator catches the staff short (as he should do), and exercises every care. So, too, in watching the heel, beginners are apt to get the point caught at the subpubic curve, and it was to overcome this difficulty that I had the staff changed as afterwards described. The second objection has not much practical force. The heel is so easily defined by the forefinger and thumb of the left hand applied in the way above indicated, that it is readily entered. Yet some operators hesitate to attempt this by one movement of the knife, and make a preliminary incision to that by which the point of the blade is placed in the groove. This should, however, be avoided, as was before explained. The third objection is groundless if the rule I give is followed—*viz.*, to insert the knife at an angle into the groove, and to keep it at a slight angle to the horizontal portion of the staff all the way into the bladder. In this way the groove is "felt" all the way by the point of the knife. The fourth objection is quite untenable. It is suggested by experience of the curved staff, which, from its shape and the way it is held in lithotomy, exaggerates the curvature of the bowel. The rectangular staff, on the contrary, renders the upper surface of the rectum straight, and no injury whatever to the bowel attends an operation performed with it. There is a tradition in the school that it was once wounded, but I have never known it happen in my day.

It was, however, to overcome the force of the first and second objections that I was led to alter the construction of the rectangular staff. After trying various experiments, I have finally had the staff hinged by a very simple and effective mechanism, ably executed by Mr. Hilliard, of this city, so that when being introduced it can be placed in the most favourable position for being passed along the canal, and when it is in place, by turning a screw in the handle, it is firmly fixed in a rectangular position. The pressure of the left forefinger in the rectum brings it to its right-angled position (and that it cannot pass), and then two turns of the screw fixes it there. By this simple plan much is gained. First, all difficulties of introducing it is overcome. Secondly, the heel of the staff (which is the point we seek for, and which there may be a difficulty in finding if the staff is a small one), may be greatly enlarged (widened and made more easily detected), and so more surely entered. And, thirdly, the removal of the staff from the urethra is also facilitated, as by reversing the screw the horizontal portion is allowed to fall, and so the angular shape of the staff is done away with. So long as

the staff was rigid at the angle the heel had to be kept small, as it was in passing it through the meatus, and in conducting it and the point along the canal that the difficulty lay, but with the hinge at the angle a large wide heel can be easily passed, and so made available. I have used this new instrument four times on the living with great satisfaction and the hearty approbation of those who have seen its simplicity of action.—*The Lancet*.

FRacture OF THE FEMUR IN CHILDREN.—

In a clinical lecture delivered at the Bellevue Hospital (*New York Medical Record*, January 5), Prof. Frank Hamilton observed that the pathology of fracture of the shaft of the femur differs as it occurs in children as compared with adults. In adults the fractures are almost always oblique—very oblique; the line of fracture is relatively smooth, and the fragments overlap very much; while in children the fractures are often nearly transverse, denticulated, and not unfrequently, especially in very young children, only partially separated, and not at all overlapped—in short, they are apt to partake more or less of the character of the “green stick” fracture. If overlapping occurs, it is usually to a limited extent, because the muscles have so much less power to cause displacement in this direction. The fragments are bent or thrown out of line easily, but there is little or no displacement in the line of the axis of the bone.

Prof. Hamilton believes that these differences have not been sufficiently borne in mind by surgical writers when directing the treatment of these fractures in children. They seem to consider the same procedures applicable to them as to adults, while, in fact, the indications are reversed. Thus, in the adult the first and most difficult indication is to overcome the shortening caused by the obliquity of the fracture and the powerful action of the fully developed muscles, and the second is to keep the limb in line. But in children the first and most difficult indication is to keep the limb in line, and the second is to overcome the action of the muscles, or this second indication may not be present at all. The double inclined plane is totally unsuited for the treatment of these fractures in children. “I have tried these machines often in my earlier experience, and they gave me infinite trouble and disgust. They had to be readjusted daily, and if I got a good result it was a mere matter of accident.” The plaster-of-Paris bandage, in which the limb is placed in a straight position, is a dangerous appliance for children, and that in proportion as the child is younger—the danger of strangulating the tissues and producing gangrene being greater. Bandages of any kind, indeed, applied with sufficient tightness to support the bones which lie deep in the soft and yielding tissues, are liable to cut off the venous or arterial circulation. Moreover, they soon get loose and became fouled

by the urine and feces, which also, whatever care or ingenuity be employed, excoriate the delicate skin of these little patients. The straight position—with short side pulleys and weights, which constitute the best apparatus for adults—fails in the case of children, owing to the restlessness of such young subjects constantly disturbing the fragments, and leading to vicious union.

To meet these difficulties, Prof. Hamilton devised an apparatus which he has now employed with most satisfactory results for twenty years. This consists in a double thigh splint, connected below by a cross-bar, and which is figured in the last edition of Erichsen’s “System of Surgery.” Each splint is about four inches wide and half an inch thick, and extends from within two or three inches of the axillæ, to four or five inches beyond the bottom of the feet. These splints are so united by the cross-bar that they are separated from each other farther at their lower than at their upper extremities by two or three inches—thus, by keeping the legs a little more asunder, preventing the child in some measure from wetting the dressings. The splints must be well padded to fit all the inequalities of the sides of the body and the limbs. So prepared, the double splint is laid on the bed enclosing the body and legs of the child. The sound limb is first secured to the splint by successive strips of roller from the foot to the groin, and, after extension, the injured limb is treated in a similar manner. The short or coaptation splints (consisting of thin wood, cloth, felts or binder’s board, etc., and lined with some lint or woollen cloth somewhat larger than the splint) are now applied, or may, if there be contusion or swelling, be delayed for a few days. The front or top one must extend from the groin to half an inch from the patella, which it should never touch. The outside splint extends from the top of the trochanter major to the external condyle, or lower if the fracture (usually at the middle) is low down, and the inside one from the groin to the internal condyle. The back splint must be firmer, wider, and longer than the others, and should be made of heavy sole-leather or wood. The limb is to rest on this as a sort of bed, and it ought to extend from just below the tuber ischii to three or four inches below the knee. It should be carefully padded for the inequalities, and covered with cotton cloth to keep the padding in place, and fasten the circular bands to. Three or four inches or more of the upper end may be covered with oiled silk. The centres of five or six strips of cotton-cloth, each about one inch wide, are to be stitched to the back of this fourth splint, and, the splints all being in their proper places, the strips are to be brought around them, and tied in bows over the front splint. The long splint is not to be included as there would be danger, when the body sinks upon the bed, that the thigh might bend at the

point of fracture. A broad band is now passed around the body near the top of (and including) the long splints, and another broad band under the nates, leaving a hole for defecation. The upper band keeps the child in the recumbent position, and supports his back when he is taken up; and the lower one supports the nates and thigh when he is taken up, and may be stitched on each side to the long splint. In most cases a soft and flat perineal band may also be applied with advantage; and it is of importance to look at the back splint daily, and maintain it in its place.

In this way the broken limb may be kept straight and quiet, and the patient can be removed at any moment, have his bed changed, or even be carried out of doors. In children of five or six, or older, extension by means of a pulley can be added if required—using about three pounds for a child of four, and one additional pound for each additional year. Fortunately these bones unite quickly (generally in three or four weeks); but it is prudent to keep on the apparatus five or six weeks, and not even then allow the child to walk. "If you follow my directions carefully, and take the proper pains, looking after your patient daily, you will always get straight legs, and in most cases there will be no perceptible shortening, what little that may occur never causing the slightest halt in the gait. This has been my uniform experience since I began to use this dressing, and I have used it now for more than twenty years."—*Med. Times and Gazette.*

PUERPERAL SCARLATINA.—C. M., AGED 28, primipara, was delivered of a living female child of ordinary dimensions on October 21st. The labour was tedious, lasting about thirty-six hours. The head presented; the placenta and membranes came away entire in twenty minutes, the uterus remaining firmly contracted. The mother did uninterruptedly well until 10 P.M. on the night of October 26th, when she complained of sore-throat and slight shivering, and vomited repeatedly. On October 27th, she was feverish, restless, delirious during the night; the vomiting continued; the lochia were very scanty and extremely offensive; there was total suppression of milk. Light-coloured offensive stools were passed two or three times during the day. Her mother, at 10 A.M., noticed her face and hands to be of bright scarlet colour, but omitted to examine her body. On October 28th, she had been very delirious the preceding night. Her medical attendant saw her at 11 A.M., for the first time after the morning of October 26th, and found her covered all over a well marked scarlatina rash. Temperature 103.2 deg.; pulse 128. At 7 P.M., the temperature was 104.6 deg. On October 29th, she was very restless and delirious in the night until 2 A.M., when she became quiet.

I saw her for the first time at 9.30 A.M., and found her lying on her back, with dilated pupils,

face pinched, lips bluish, the tongue was dry and brown; the throat dusky red; the whole of her body, with the exception of the face, was covered with a scarlatinal rash of a dusky scarlet colour; there were purpuric spots about the extremities; the hands and legs were of a bluish colour; the muscles were very soft and flabby. There was no tenderness or distension of the abdomen. She was pulseless. Temperature 105.2 deg.; respirations 48, shallow, laboured, and sighing. She was unconscious, and, when asked if she felt any pain, answered in the negative. At 11.45, she was unconscious, the whole of her body assuming a livid colour. Temperature 107.4 deg. She died at 12.20. No *post mortem* examination was allowed.

REMARKS.—It is an interesting case, inasmuch as the woman lived long enough for the scarlatina to fully develop itself. It bears out the opinions of Drs. Snow, Beck, Meadows, and others, "that scarlatina does not change and produce only 'malignant puerperal fever,' but it retains its specific characters in the parturient woman." (W. T. Haines, M.R.C.S., *London Lancet.*)

[A case almost exactly similar to the above occurred in this city a short time ago. The rash appeared on the first day after confinement and the patient died on the 7th day ———.]—ED. L.

DIAGNOSIS OF THROMBOTIC OCCLUSION OF ONE OF THE CORONARY ARTERIES.—Dr. A. Hammer, Professor of Surgery at St. Louis, at present at Vienna, publishes in the *Wiener Medizinische Wochenschrift* (February 2) an account of a case in which the above condition was diagnosed and verified by *post mortem* examination. The man, 34 years old, strongly built, had for the past year suffered from slight attacks of articular rheumatism, but no valvular affection of the heart had occurred. For four weeks previously to his being seen by Dr. Hammer, a very sharp attack of acute rheumatism had existed, but had gradually improved, and convalescence was proceeding. One day he got out of bed, and sat in an easy chair. In about an hour he suddenly collapsed, his pulse was 40, his lips pale and a little cyanotic; there was slight dyspnoea, but no pain. Five hours later his pulse beat only 23 to the minute, four hours later 16 to the minute; and when Dr. Hammer arrived (the previous observations having been made by the family medical attendant) the pulse was only 8 to the minute, a cardiac contraction occurring every eight seconds. There were no symptoms or signs of disease in the nervous or respiratory systems; percussion of the precordia showed no abnormal dulness. On auscultating the heart, the sounds were not accompanied or replaced by any murmur, but following them there was a tremor of the heart perceptible to the ear, conveying the idea of a clonic spasm, which lasted five seconds, the cardiac

sounds occupying one second, and the spasm being followed by two seconds of absolute rest. These phenomena were followed for twenty minutes, and were quite regular and without variation. Examination of the abdominal viscera and of the cervical region gave negative results. In arriving at his diagnosis Dr. Hammer was able to exclude fatty degeneration and enfeeblement of the heart by the physical signs, although perhaps at present we are not in a position to define exactly the signs of these affections. Alterations of innervation, he says, were contra-indicated by the absence of all evidence of change in the central nervous organs, or in the cervical nerves; of an acute infectious disease there was no evidence; the percussion of the heart and the examination of the thorax generally negated the idea of any altered relations of pressure or of any organic affection of the heart such as myocarditis, endocarditis, hypertrophy, atrophy, or valvular disease. The striking feature in the case was the suddenness of the collapse, which pointed to a sudden interference with the nutrition of the heart, possibly to thrombotic occlusion of the coronary arteries; further consideration convinced him that, though this was probable, only one artery could have been occluded, or the heart would have come to a stop altogether, while the regular tumultuous heart-spasm of five seconds' duration pointed to a one-sided affection. The affected side acted as a dead weight to the organ, and impeded the movements of the sound half, but whether the affected side was right or left no conjecture seemed possible. Dr. Hammer accordingly made his diagnosis, much to the astonishment of his colleague. The patient died nineteen hours afterwards; and, leave to make a partial examination of the body having with difficulty been obtained, the thorax was opened. The lungs were engorged and œdematous; the pericardium contained half an ounce of clear serum; the heart was of normal size and appearance, and lay in its proper position, fully distended. Its surface was smooth and shining, and, except a layer of fat in the coronary sulci, there was no trace of fatty or other infiltration. On removing the heart, they found the right auricle and ventricle full of clot, the cavities and valves normal; the muscular wall and endocardium were also normal. The left side of the heart was equally so, except the aortic valves. In these latter the most striking appearance was the distention of the right cusp by a mass which nearly filled the right sinus of Valsalva, and was of a hemispherical shape. The superficial layer of this mass, followed into the coronary artery, were recent coagulated, yellowish white blood-clot, but downwards from the coronary artery the clot became darker, drier, and finally of a grey-reddish colour. From the lowest layer a fine thread about an inch long passed, to become connected with the new growths about to be described. The aortic

valves were not thickened, but the hinder cusp was united to the right and left cusps at their commissures for a short distance. Involving these attachments and the three-cornered part of the wall of the aorta immediately subjacent, were fresh, soft, whitish excrescences, which, with the slight adhesion of the valves, caused a partial stenosis of the aortic orifice. From the apex of one of these vegetations situated between the posterior and right cusps there was a slender prolongation, which was continuous with the fine thread-like process from the clot in the sinus of Valsalva.

Dr. Hammer says he has not been able to meet with an account of such a case in literature, nor has he found that the great clinicians, Bamberger and Kussmaul, with whom he has discussed the case have had any similar experience.—*Lon. Med. Record.*

A NEW TREATMENT FOR LUMBAR ABSCESS.—Osman Vincent has treated eighteen cases of lumbar abscess by the injection (after evacuation) of sulphurous acid. He selects two cases as examples. The first was cured in two months and ten days, the second in twenty days. The other cases were similarly successful, the only difference being in the amount of pain caused by the injection, which was sometimes severe, but often altogether absent, and in the character of the constitutional disturbance, which was either slight or totally wanting. There was one point upon which he asked the opinion of the meeting; this was, that as a rule, the injection went in colorless and came out black; this was most marked in the cases that succeeded best. He concludes as follows: "The sulphurous acid acts on the pyogenic membrane in such a manner as to prevent the formation of pus, and if strict recumbency is made an essential part of the treatment, there is no reason to fear that this dreaded, but, if taken in time, avoidable complication of angular disease, may, by this treatment, be shorn of much, if not all, its previous destructiveness."—*The Medical Press and Circular*, December 26, 1877.—*Medical Record.*

USE OF THE ACTUAL CAUTERY IN SCIATICA.—We learn from *The Lancet* that M. Michel Peter, of La Pitié, prefers the employment of the actual cautery to any other means of treating sciatica. A case is related in which, wet cupping having afforded but slight relief, a number of superficial cauterizations were made by an olive-headed cautery along the course of the sciatic nerve and its divisions, from the trochanteric region to the outer malleolus. About twelve of these cauterizations were made. M. Peter considers this treatment preferable to blistering, because of being enabled by it to follow the whole course of the nerve, whilst it does not produce suppuration or lead to any vesical trouble. It may also be repeated, if necessary, with impunity.—*Med. and Surg. Reporter.*

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TORONTO, MAY 1, 1878.

HYDROBROMIC ACID IN CEREBRO-SPINAL MENINGITIS.

The many excellent qualities of this acid which render it so useful a member of our therapeutical armamentarium, especially in fevers accompanied with considerable disturbance, makes it incumbent upon us to refer to it briefly in this issue. There has been considerable desultory writing in the journals concerning it during the past few months, all pointing to its excellent qualities as a cerebral sedative, and tranquilizer of the nervous system. It possesses all the beneficial action of the bromide of potassium, without the relaxing effects of the potash, and does not superinduce boils. It does not stimulate as does bromide of ammonium, and may be readily combined with quinine, to produce the hydrobromate of quinine, a most valuable tonic to the nervous system in low forms of fever, etc.

To Dr. Fothergill of London, Eng., belongs the credit of first having separated this acid for use, since which time it has excited considerable interest in medical circles. He gives the following formula for its production in quantities of two quarts: dissolve ʒij of bromide of potassium in four pints of water, then add ʒxiiij of tartaric acid. A precipitate of bitartrate of potash falls down as a sediment, and the hydrobromic acid remains in a clear, bright, almost colorless fluid, possessing an acid taste and the ordinary acid properties, and is possessed of the peculiar therapeutical properties of bromide of potassium, as distinguished from those of any other salt of potash. The dose of this acid, thus prepared, is from half a drachm to a drachm. The smaller dose is usually that employed, except in severe cases. It is the form of bromine best suited for use in medicine. It is

commending itself in the South as a remedy in fever, combined with large anti-pyretic doses of quinine. In the *Perinsular Journal of Medicine*, Dr. Wade recommends its use in the treatment of fevers and says "it would seem the acid *par excellence* when there is much cerebral excitement, in pyretic affections."

In cerebro-spinal meningitis, we have a specific contagious virus of a typhous nature attacking with especial virulence the great nerve centres. To treat this successfully requires the highest skill, and the greatest promptitude and aptitude in the selection of remedies. Briefly, we may here summarize the most recent conclusions of the ablest men in the profession as to its treatment, as in this we may best shew the place and power of this acid, as an agent in the treatment of this formidable affection.

First; the hyperæmia of the brain and spinal cord should be relieved by the prompt and repeated application of leeches, until the pulse has fallen to below 100 or within a point at which it ceases to be alarming. Second; hot applications (not cold) are to be applied to the head and spine, with mustard pediluvia. Third; the bowels should be unloaded with an active cathartic. Fourth; to relieve the hyperpyrexia (the temperature being sometimes as high as 104° or even 106°) sedative doses of quinine (say 2 to 5 or even 10 grs.) with ʒj doses of the hydrobromic acid should be administered frequently, and continued until the petechial spots have disappeared from the skin, in doses of course, commensurate only with the hyperpyrexia or excess of heat.

Some prefer a solution of quinine in hydrobromic acid which may be administered in doses of from ½ to 1 drachm of the acid, and ʒ to 2 grs. of quinine hourly. The surface of the body should be regularly sponged as in other fevers. It is claimed that this mode of treatment will save over 75 per cent. of such cases, and prevent the distressing sequelæ which sometimes follow, shewing defective nerve power. The leeching is indispensable to relieve the violent head symptoms at the outset, and the antipyretic properties of the quinine are needful; but without the acid neither of these remedies would prove of more than temporary benefit.

The use of calomel has been much lauded by some, but is rapidly falling into disuse as unnecessary. Opium in moderate doses is of great service in the later stages of the disease and assists materially in promoting convalescence.

CONTAGIOUSNESS OF PHTHISIS.

The following notice of a paper by Dr. Tappener, read at a meeting of German naturalists and physicians, at Monaco is translated from "*Lo Sperimentale*," of Jan., 1878.—All physicians have observed cases of phthisis rapidly developed in individuals who had for a long time attended on patients in this disease, even when such attendants had not presented any predisposition, either individual or hereditary. Dr. Tappener believes that the explanation of the fact is to be found in the inhalation of the expectorated matter, scattered in the air by the coughing of patients. In order to test this opinion, he made experiments, by intimately mixing a certain quantity of the sputa in a little water; he pulverized this emulsion by an appropriate process, and subjected some animals to the inhalation of the substance during one or two hours every day. These experiments were made in the Anatomico-Pathological Institute of Prof. Buhl of Monaco. Dogs were selected, as animals presenting the least predisposition to contraction of the disease. Three perfectly sound dogs were put into the pen of the institute; the pen is situated near a window, and is closed in all parts, excepting above, where it receives the external air, through a door which is furnished with a fastening. Some sputa was obtained from a patient in phthisis, a spoonful of which was mixed in a quantity of water sufficient to make of it, a liquid similar to almond milk, and every day pulverization of this was made in the pen during an hour, or an hour and half. At the same time, for the purpose of studying absorption, by the digestive system, of the tuberculous matter, two of the dogs were made to swallow a certain quantity of it, from the same patient.

The whole five dogs had apparently a good appetite, and presented neither cough nor diarrhoea they ate freely, and were cheerful and nimble, without any symptoms of illness, unless a slight wasting and arrest of development. At first view, therefore, the experiments gave a negative result. But the day preceding the first autopsy, a little finely powdered carmine was mixed with the tuberculous liquid, in order to discover how far it had penetrated into the respiratory passages. Two of the dogs subjected to inhalation, and the two which had swallowed the tuberculous mixture, were killed

six weeks after the commencement of the experiment. The autopsy of the fifth had been made at the end of three weeks.

The results of the autopsies were surprising. The five dogs presented a general miliary tuberculosis of both lungs, of the liver, the kidneys, and (at least in the two that had swallowed the tuberculous matter,) of the digestive apparatus. The numerous stains of carmine which were seen on the pulmonary surface, showed that the inhaled liquid had penetrated into the pulmonary cells. The microscopic examination made by Professor Buhl established, in the clearest manner, the reality of the lesions.

It has therefore been established experimentally that in the dog a general miliary tuberculosis can be induced from the inhalation, or the ingestion, of the matter expectorated by a phthisical patient. The possibility of contagion of phthisis through the natural channels, may therefore be concluded.

The hygienic and clinical consequences of the experiment are of high importance. And first of all it is to be noted that those dogs continued in apparent sound health, despite the existence of general miliary tuberculosis. It is therefore possible in man a miliary tuberculosis may rest latent during a certain time, and may not become a real and declared phthisis, before the development of foci of inflammation. But that which is of chief importance is the possibility of transmission of tuberculosis from man to man.

In ordinary conditions,—that is to say, —in fresh and frequently renewed air, the matters expectorated, and suspended in the air, may not become sufficiently concentrated to have the power of inducing tuberculous infection. But when a certain number of phthisical patients reside together, and through fear of cold, or of drafts, the place is but little, or not at all ventilated, may we not fear that the expectorated matter will accumulate sufficiently to become dangerous to healthy persons, living in the same quarters? Ought we not therefore, in this regard to take precautions, sometimes neglected, particularly in the wards of hospitals? It is not perhaps prudent to recommend to consumptives, never to swallow the matter brought up from cavities, which may have a deleterious influence on the digestive canal? Finally may not these experiments, in some degree, explain the transmission of phthisis, from husband to wife, or

vice versa, and, consequently the advisability of avoiding conjugal intercourse?

The facts stated by Dr. Tappenier are of great interest, and may explain many points of the important question of the contagion of phthisis."

BRITISH MEDICAL BILL.

A Bill to amend the British Medical Act, is now before the House of Lords in Great Britain, having been introduced by the Duke of Richmond. We have not time to go through the Bill in detail, but we notice the following provisions. We observe in the first place, that the much desired scheme of a conjoint examining board for the three kingdoms is practically abandoned in the present Bill, for the reason it appears that "there is a difficulty in Scotland." Instead of the conjoint board, the Bill presents a scheme for enforcing, or endeavouring to enforce, uniform examinations by each body, by rules to be laid down by the General Medical Council.

It is also provided that every person desiring to be registered under this act shall be possessed of a double qualification, *i. e.* a qualification to practice both medicine and surgery, except in the case of Colonial or Foreign practitioners entitled to be registered under the act, without examination, in the United Kingdom. The conjoint scheme for England, except so far as it applies to the admission of women to degrees and diplomas, seems to meet with approval. The College of Physicians has, at a late meeting, indicated its intention to resist any such bestowal of its titles on women, and the College of Surgeons is likely to do the same thing. The right which the Bill proposes to give to women, to claim examination at the conjoint board is, therefore, likely to thwart the carrying out of this object. The clauses giving greater protection to the profession and the public were much needed, and will be warmly approved. The Bill also has some well considered clauses for the registration of dentists and midwives, which are likely to be acceptable to all.

The clauses which more immediately affect Canadian graduates are those relating to the registration of Colonial degrees. It is provided that the General Medical Council shall admit to registration, upon payment of the registration fee, without examination, such holders of recognized

Colonial degrees or diplomas as shall have passed an examination equal to or greater than, that required at the time in the United Kingdom, to entitle to registration. Such Colonial practitioners as are registered under this act shall be entered in a separate alphabetical list; but they have equal rights and privileges with those registered as belonging to the United Kingdom. This is a provision which if it become law, we trust our Medical Council will heartily reciprocate. The provisions of the bill also permit Colonial graduates to practice on lines of steamers sailing to or from British ports, without registration.

Machinery is also provided by certain clauses of the act for striking from the register the names of members guilty of felony, misdemeanor, or "infamous," or "disgraceful conduct in a professional respect." We hope soon to have similar provisions incorporated in our Ontario Medical Act.

THE BILIOUS ATTACKS OF SPRING.

The spring time is upon us, and with it comes the usual number of complaints of bilious derangements, with lassitude and weakness. It must needs be so, for the body, fortified to endure the excessive rigors of a Canadian winter, has been stuffed with carbon-bearing fats, coddled, pampered and calorified in every way; swathed, of necessity, in winter flannels and heavy garments, which, being still worn, tend to make the perspiration excessive, and also to confine it, causing the body to absorb and re-absorb it, to the great detriment of the system. It is not to be wondered at, therefore, that under these favouring conditions, many diseases are fostered.

By want of proper judgment in the transition from the rigors of winter to the warmth of spring, the machinery becomes clogged, the individual suffers from headache, dyspepsia, irritability of the nervous system, biliousness, depression of spirits, lassitude, &c. And so people go to their daily avocations without zest or spirit, but like the veriest slave driven by the thongs of necessity—filled with morbid feelings of various sorts, and labouring under a peculiar phase of depression of spirits, attributed to the bad weather, and in Canada familiarly called "*the blues*." As an offset to this condition of things, many people resort to

"patent medicines," *ad nauseum*. A little resolution and a few dietary precautions, would preserve health at this time, as well as at others. First with the change from cold weather, there should be the rigorous adoption of moderation in eating. Hearty meals, largely made up of meat diet, tend to surfeit the system and produce bile. The diet should be largely vegetable or fruit, and sparingly of meat. Oatmeal and milk will suit well, but above all, regular attention to the skin is absolutely needful. Alcoholic beverages should be carefully avoided. A few simple rules for the management of the body in spring, judiciously carried out, would in a great measure, prevent the occurrence of these bilious attacks, so common at this season of the year.

ACTION FOR SLANDER.—A case was lately tried at Owen Sound in which Dr. More of Thornbury brought an action against Mr. McKenny, chemist and druggist of the same place, for slander. The slander consisted in the statement, openly and repeatedly made, that the death of a patient under the care of Dr. More was caused by improper treatment, and that he could prove it in a court of law. The doctor requested him on two different occasions to retract and apologize; this he refused to do, and insisted that the case should go to court, and stated that he was prepared to prove the charge.

The doctor had therefore no alternative but to go on with the case. There was not the slightest foundation for the statements made by McKenny, and when the case came up for trial, the plea of justification was dropped, and the defendant pleaded "not guilty." The evidence, however, went to show that he had repeatedly made the statements charged against him. The judge charged very strongly against the defendant, and the jury brought in a verdict for plaintiff with nominal damages, the plaintiff having stated in his evidence that he did not seek damages. The judge granted a certificate for full costs.

It would have a most beneficial effect, if a few more such individuals were brought to book for their reckless and wanton assertions, regarding medical men in the treatment of their patients.

TRINITY MEDICAL SCHOOL—ANNUAL EXAMINATIONS.—The examinations were held at the close

of the winter session, and resulted as follows:—W. A. Dafoe, Trinity gold medal; J. D. Bonnar, Trinity silver medal; Chas. Sheard, Medical Faculty gold medal; D. H. Wilson, Medical Faculty silver medal. In the final branches, the following gentlemen obtained certificates of honour:—Messrs. J. M. Groves, J. P. Rankin, A. M. Stanley and J. Dunfield. The following gentlemen also obtained a standing sufficiently high to entitle them to the diploma and fellowship of the School:—Messrs. H. A. DeLom, T. H. Ashby, and A. M. Baines. In the primary branches, A. McDiarmid obtained the second year's scholarship, value \$60, and Messrs. Chappell, Welford, Duck, Thurison and Park, certificates of honour. In the first year's examination, Mr. Hatton took the first year's scholarship, value \$50, and Mr. Beatty the second year's scholarship, value \$30. Mr. Shore also passed this examination.

TORONTO MEDICAL SOCIETY.—A meeting of the medical profession in this city and vicinity was held in the Canadian Institute on the 18th ult., for the purpose of organizing a medical society. Dr. Workman was appointed chairman, and Dr. Graham secretary. After considerable discussion as to the name of the society, and whether it should be a society for Toronto and vicinity, or a Territorial Division Association, it was decided to adopt the former, and a committee was appointed to draft a constitution and by-laws, and to report at an early date.

DIALYZED IRON HYPODERMICALLY.—A correspondent in the *Med. & Surg. Reporter*, Philadelphia, has been using with great success dialyzed iron hypodermically, in cases of profound anemia with irritability of the stomach. He used Wyeth & Bro's preparation in eight minim doses, gradually increasing to sixteen, three or four times a week. The iron produced very little irritation of the skin, and in no case did inflammation or abscess supervene. In some cases he also saturated a pledget of cotton with about thirty minims of the iron, and introduced it into the vagina where the mucous membrane offers a large surface for its absorption.

PHOSPHOZONE.—This new preparation of the elixir of the hypophosphites which has been named *phosphozone*, is fast gaining favor with the profession.

It was unfortunate that the manufacturers (Evans Mercer & Co.,) chose for it the above name, as it gave it the appearance of a patent nostrum, which it is not. It is a combination of the hypophosphites of iron, soda and lime, with calisaya and other tonics, in the form of an elixir, and is a most excellent nerve tonic. It is easily administered, agreeable to the taste, and very efficacious in the treatment of debilitated conditions of the system. It has proved a most valuable remedy in the treatment of infantile debility, and chronic wasting.

ONTARIO VETERINARY COLLEGE.—The closing examination of the students of this College took place on Thursday, April 4th,—the most successful session that the institution has had.

The following gentlemen received diplomas:—S. G. Anderson, L. P. Chase, J. R. Deacon, F. W. Derr, G. Falls, T. Hagyard, C. Hand, H. Heckenberger, G. P. Hinman, J. Humphries, W. Jex, A. Moore, J. McKerracher, J. V. Newton, S. P. Palmer, B. A. Pierce, H. Sutterby, A. N. Smeall, E. P. Smithers, A. R. Stephenson, J. Waddel, L. E. Wheat, G. Theobald. The following gentlemen passed the primary examination:—F. W. Matthews, S. Ottewell.

THE MEDICAL PROFESSION.—In the United States, with a population of 44,874,814, there are 62,383 doctors, being one doctor to every 600 persons. In France the population is 36,100,000; the physicians 19,902, being one doctor to every 1,814 persons. Great Britain, with a population of 32,412,010, has 19,385 doctors, or one physician to every 1,672 persons. In the German Empire there are 13,686 doctors for a population of 41,060,695—one doctor to every 3,000. Austro-Hungarian Empire, population 35,904,435, and 14,361 doctors, being one physician to every 2,500 persons. In Canada, with a population of 3,575,577, there are 2,998 doctors, or one to every 1193 persons.

MCGILL COLLEGE CONVOCATION.—The following gentlemen received the degrees of M.D. and C.M.:—M. Beckstead, R. Bell, J. D. Cameron, A. Chisholm, R. Collinson, D. W. Faulkner, L. A. Fortier, J. R. Frazer, H. C. Gardner, W. B. Gibson, F. S. Greenwood, J. F. Guerin, J. A. Hutchinson, W. H. Howey, J. J. B. A. McCann, J. McCrimmon, M. McCrimmon, J. K. McKinley, E. McNeill, T. W. Mills, M.A., W. J. Neilson, E. W. Setree, D. F.

Smith, F. J. Stafford, H. F. Vineburgh, A. D. Webster, J. W. Wright, B.A.

Prizemen.—Holmes Gold Medalist H. F. Vineburgh; best final examination T. W. Mills, M.A.; best primary examination W. R. Sutherland Sutherland Gold Medalist, J. M. Lefevre. Honorable Mention in Primary.—Lawford, J. L. Brown, Imrie, Shaw, Stevenson, Smith, J. Sutherland, Guerd, and J. L. Brown. Junior Class, prize W. L. Gray; Hon. mention, Beer, Joseph, Moore, Harvie, Cormack, Ross, B. E. Mackenzie, Rogers, Heyd, McLain, Struthers and Laurin. Practical chemistry, prize, A. D. Webster.

BISHOP'S COLLEGE MEDICAL SCHOOL, MONTREAL.—The following gentlemen passed the final examination, and received the degree of M.D., C.M., in this University: H. E. Mitchell, "Wood" gold medallist; W. Young, prizeman; A. Ansell, J. W. McDuffie, E. Sabourin, C. R. Bell, J. Sheridan, J. W. D. McDonald, A. Kerry and H. C. Fuller. Primary Examination:—D. Gaherty, prizeman; J. L. Foley, prizeman in Practical Chemistry; R. E. Leprohon, prizeman in Practical Anatomy; H. B. Chandler, F. J. Tetrault, D. W. Houston and A. F. Lalonde, Honorable mention.

MONTREAL MEDICAL LICENSE CASE.—This celebrated case has at last received its *quietus*, the Grand Jury of the Court of Queen's Bench, Montreal, having ignored the bill. It is much to be regretted, that this case, being one of irregularity, not wilful forgery, was not settled long since by the authorities of the college, rather than have it dragged through the law courts, to the disgrace of the profession. We trust it may be a long time, before any charge of a similar character can be laid at the door of any officer of the College, or member of the medical profession in Canada.

LEAVE OF ABSENCE.—Dr. T. S. Covernton, Assistant Superintendent of the Hamilton Asylum for the Insane, has been granted three months leave of absence by the Government, for the purpose of visiting the asylums and hospitals of Europe.‡

QUEEN'S UNIVERSITY CONVOCATION.—The following gentlemen received the degree of M. D., on the 20th ult.: T. W. Beeman, H. Bennett, Geo. Clinton, H. A. Craig, H. Evans, Wm. B. Kennedy, P. E. Kidd, W. F. Lewis, D. C. Lynch, and Jas. McArthur, B. A.

ATROPINE IN NIGHT SWEATS.—The use of atropine in small doses, has been highly extolled of late in the treatment of night sweats of phthisis, and other exhausting diseases. It is frequently combined with morphine, as in the following :

R Atropinegr. i.
 Morph. Sulph.....grs. viii.
 Acid Sulph. Aromat..... $\frac{5}{5}$ ij.
 Aquæ ad..... $\frac{5}{5}$ j.—M.

Sig. Five to ten drops at bedtime. It has been used in both the Montreal and Toronto General Hospitals in this way, with marked benefit.

PRESENTATION.—Dr. J. C. Mitchell of Clarke, who is about to remove to Enniskillen, was presented with a silver service accompanied with an address by the good people of Clarke. The Dr. made a suitable reply, thanking the friends on behalf of himself and Mrs. Mitchell for the kindness they had received during their residence in Clarke.

WRITER'S CRAMP.—We have just received a circular and blank from Dr. G. M. Beard, of New York, asking for facts relating to the symptoms and history of the disease known as "Writer's Cramp." He would be obliged, if those who are victims of this or analogous conditions would communicate with him, by sending any facts of interest in such cases. Blanks will be supplied on application.

DR. McINNIS, the new Member of Parliament for Westminster, B.C., has taken his seat in the House of Commons, Ottawa.

BRAITHWAITE'S RETROSPECT FOR 1878.—Any subscriber to the CANADA LANCET who has paid his subscription up to January 1878, can have Braithwaite's Retrospect for the current year, January and July, on remitting \$2 to this office.

APPOINTMENT.—Dr. E. W. Spragge of Toronto has been appointed as the representative of the University of Trinity College in the Ontario Medical Council.

CORONERS.—J. T. Moore, M.D., of Tilsonburg, to be an Associate Coroner for the County of Oxford.

S. P. Emes, M.D., of Drayton, to be an Associate Coroner for the Co. of Wellington.

New Instruments.

AN OPEN EYED NEEDLE.—The accompanying cut represents a new open eyed needle devised by Dr. Shrady, of New York, for use in surgical operations. As will be seen the eye is open, in such a peculiar way as to admit a loop of thread being easily inserted, and at the same time there is scarcely any danger of its slipping out. The projecting shoulder in front of the eye effectually prevents the hook-like portion of the eye from catching or tearing the tissues as the needle is pulled through. One of the most troublesome things in a protracted surgical operation is the frequent threading of needles. The above mentioned form of needle will be found therefore, a great desideratum, and seems also well adapted for general use.



Books and Pamphlets.

REPORT ON HEATING AND VENTILATION OF THE JOHN HOPKIN'S HOSPITAL, BALTIMORE. By John S. Billings M. D., Surgeon U. S. Army.

The subject of ventilation of buildings, whether large or small, public or private, is one on which very vague or unsettled ideas seem to prevail, not merely among the community at large, including alike the proprietors and tenants of houses, but, what is still more lamentable, a very considerable proportion of architects and builders, who are regarded as duly qualified to make every requisite constructional provision for the convenience, comfort, and good health, of the future occupants of their erections.

Dr. Billings has very properly discussed the subject of ventilation in strict affinity with the other, in this country indispensable provision for comfort, and health,—*heating*. All who have had any experience in the superintendence of public institutions, in which large numbers of residents are congregated, whether in a healthful or a diseased condition, know very well that the perplexing problem of heating and ventilation is, so to combine the two processes that they shall work harmoniously, and that the one may not be impaired by the

other. It is a very easy matter in any house, to introduce a free supply, from the outside, of fresh air, even in calm days, through open windows and doors; and in mild or warm weather, this plan is both the cheapest and the most effective means of ventilation; but whatever the advocates for sleeping, in all weathers, in rooms with all windows open, may declare to the contrary, it is a very undesirable indulgence in Canada, where the thermometer comes down to nigh zero, and a fresh wind is blowing. For our part we can see very little difference between being killed by foul air, or shivered to death by too much cold air.

In ordinary dwelling houses, no better means of ventilation can be provided than the old-fashioned cheerful *grate* fires. These vacuum creators never fail to do their work thoroughly, despite the closest fitting doors and windows; unfortunately, however, they are regarded by many proprietors and tenants with disfavour, because of the expense of keeping them in operation—all heat expended in producing chimney draft, is held by such persons, as waste of fuel, and their great study is not to carry off the heated foul air, but to retain it—as the question here lies between the cost of a little extra fuel, and doctors' bills, and our profession is much overstocked, our readers may pardon us for avoiding enlargement on this subject.

We are pleased to see that Dr. Billings has given, deservedly in *italics*, a *coup de grace* to a delusion which has long obfuscated the brains of quack ventilators. He thus writes:—"I must also insist upon the fact, well known to all physicists and chemists, but usually unknown to pseudo-scientific writers on ventilation, that carbonic acid is equally diffused throughout the room; it does not collect near the floor, and the fact that its specific gravity is greater than that of air at the same temperature, has nothing what ever to do with questions of ventilation in a hospital."

Every medical tyro, who has been taught the law of diffusion of gases, thoroughly understands this fact; and yet it has fallen to our lot to be sometimes pestered with the inane deliverances of stilt-walking officials, pitch-forked into positions of supervision for which their chief, if not sole, qualification, has been,—well, let that pass; everybody now-a-days knows that knowledge is *not* power, and that the possession of it, dissociated from political toadyism, or sycophantic subservi-

ency is about the most hopeless recommendation to executive approval which any candidate can offer. Dr. Billings has sufficiently discussed the relative merits of the several modes of ventilation which are now availed of in hospitals and other institutions. We should be very glad to be able to give an extended resumé of his valuable experiments and observations, but this would be impossible in an article so necessarily brief as a journalistic notice.

Before, however, closing this notice, we feel called upon to express our demurral to one passage, which, we fear, may be, by governors or trustees of large public institutions, wrested from the context, and most dangerously misapplied. It relates to the numerical occupancy of sick wards, or other apartments. The words are:

"Whether a man has 250 or 2500 cubic feet (of space) the amount of fresh air required for dilution to a certain standard, will be the same after a very short time."

Now if we felt assured that in an overcrowded hospital ward, this *requirement* would be always secured, or that it *could* be secured without imminent peril to the occupants, we might not deprecate even the dislocation of the above passage; but who does not know that overcrowded wards are always *defectively ventilated*, and that it is little short of murderous to drop the most casual phrase on the harmlessness of overcrowding, in the hearing of public officials, whose main study is to exhibit their own efficiency by displaying in figures of dollars and cents, their high economic merits.

PATHOLOGICAL REPORT OF CASES IN THE MONTREAL GENERAL HOSPITAL FOR THE YEAR ENDING MAY 1st., 1877. By Wm. Osler, M. D. Prof. of Physiology, McGill College. Montreal: Dawson Bros. Toronto: Willing & Williamson. Price 75c.

The author states in his preface that one hundred autopsies have been entered in the post-mortem book of the Hospital, for the year ending May 1st 1877. In the report, brief summaries are given of the cases of practical and scientific interest, together with a synopsis of the clinical features. The cases are grouped under the various organs affected, as the osseous system, circulatory system, respiratory system, gastro-intestinal system, genito-urinary system, etc. Some of the autopsies are of exceeding interest, and we must congratulate the author upon

the care and painstaking labor bestowed on his work, and trust that he will continue to give to the profession annually a report of his labors in the autopsy room. Many of the post-mortem appearances have been carefully examined by the microscope, and a full report is given where the cases were of sufficient importance. The work is dedicated to Dr. Bovell, Emeritus Professor of Pathology in Trinity Medical School.

A COMPEND OF DIAGNOSIS IN PATHOLOGICAL ANATOMY, WITH DIRECTIONS FOR MAKING POST MORTEM EXAMINATIONS by Dr. J. Orth, Berlin. Boston: H. O. Houghton & Co. Toronto: Willing & Williamson.

The above work is one which was very greatly needed, for although much information may be obtained from the existing works on pathological anatomy, yet they are all too diffuse for general use. The author gives practical details and comprehensive directions for making *post mortem* examinations, and for recognizing pathological changes and establishing the diagnosis. In the directions for the performance of autopsies, the new Prussian regulations for forensic physicians have been closely adhered to. In the matter of diagnosis both the gross and microscopic appearances are described. The work represents to a large extent the teachings of Virchow, whose assistant the author was for several years. We can confidently recommend this work to those who require a guide in the performance of *post mortem* examinations.

THE PHYSICIAN'S DAY-BOOK AND LEDGER. Published by Hart & Rawlinson, Toronto.

This is a most convenient system of book-keeping for medical men. The day-book is ruled for convenient entry from day to day. The ledger is ruled for the entry of accounts for seven years, and is so arranged that one can see at a glance what the amount of indebtedness is, and the amounts paid from time to time. It is without doubt, the most convenient system of book-keeping we have yet seen.

REVELATIONS OF QUACKS AND QUACKERY. A series of letters by "Detector," published in the Medical Circular by F. B. Courtenay: Seventh edition, London: Balliere, Tindall & Co. Toronto: Clougher Bros.

PNEUMO-DYNAMICS. By G. M. Garland, M. D. Harvard University. Boston: H. O. Houghton and Company.

A SACHEL GUIDE FOR THE VACATION TOURIST IN EUROPE. A compact itinerary of the British Isles, Germany, Holland, The Rhine, Switzerland, France, Austria, and Italy, with maps. Seventh Edition. Boston: Houghton Osgood & Co.

This is a very neat and comprehensive little work, and an admirable tourist's guide. To those who intend visiting places of interest in Europe during the coming summer we heartily recommend this book. Price \$2.00.

ON HEMATURIA AS A SYMPTOM OF DISEASE OF THE GENITO-URINARY ORGANS. By O. Hoff, M.D., San Francisco. Philadelphia: Lindsay and Blakiston.

BEITRAGE ZUR PATHOLOGISCHEN ANATOMIE DES AUGES. By Dr. Adolf Alt, Trinity Medical School Toronto.

THE RELATIONS EXISTING BETWEEN ECZEMA AND PSORIASIS. By Robert Campbell, M. D., Demilt Dispensary, New York. New York: G. P. Putman's Sons.

ON THE RECOGNITION AND MANAGEMENT OF THE GOUTY STATE IN DISEASES OF THE SKIN. By L. Duncan Bulkley, A. M., M. D., Demilt Dispensary, New York. New York, G. P. Putman's Sons.

PARACENTESIS, ASPIRATION, AND TRANSFUSION. By S. Hitch, A. M., M. D. Edin., Halifax N. S. From the Transactions of the International Medical Congress, Philadelphia, 1877.

COPAIBA AS A DIURETIC.—In the case of Mme. Titiens, Drs. Spencer Wells and Howell failing to produce diuresis by the ordinary means, found copaiba, in ten-grain doses to succeed remarkably well.—*Lancet*.

Births, Marriages, Deaths.

At Bryanston, on the 23rd of March, the wife of J. L. McDiarmid, of a son.

In Brantford on the 23rd ult., Levi Secord, M.D. of Bright, Ont., to Emily C., second daughter of Wesley Morrell, Esq., of Brantford.

In London, Ont., on the 27th March, G. H. Case, M.D., to Lella Edith, youngest daughter of John Blackburn, Esq.

At Hamilton, on the 29th of March, of pneumonia, John Bell, Esq. A.M., M.D., of Montreal, aged 33 years.