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CANADA
MEDICAL & SURGICAL JOURNAL
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Original Communications.

A CASE OF AMMONIA POISONING.

By A. A. BROWNE, M.A., M.D., Montreal.

R. W., aged 54 years, had been drinking heavily for two weeks, and on Sunday evening, Feb. 5th, 1882, he took, by mistake, a draught of strong liquor ammoniæ. He had left the tea-table and gone up-stairs, when, in a few minutes, he returned very much agitated, and stated to his brother that he had, by mistake, swallowed strong liquor ammoniæ instead of a bromide of potassium mixture which he had been in the habit of taking. He had, in the dark, taken the wrong bottle, and, raising it to his lips, swallowed the ammonia before he was aware of the difference. The two bottles were similar in size and shape, and were standing side by side on a shelf. The liquor ammoniæ had been put into an ordinary medicine bottle, on which the original label still remained, and there were no marks on the bottle by which it could be distinguished from any other ordinary medicine bottle. When he returned to the dining-room and told his brother that he had taken ammonia, he fell insensible on the floor. His brother hastened to help him, and managed to make him swallow some milk with considerable difficulty. Previous to the accident, R. W. had taken two plates of strong soup.

Drs. Ross and Proulx were summoned, and after free emesis he appeared rather better. The vomited matter smelt very strongly of ammonia, and contained some blood. The voice was husky, but there was no dyspnœa. I saw him at 10 P.M., about three hours after the accident. He was then very weak; pulse

130, and weak. He vomited about every 15 or 20 minutes, and the vomited matter was almost pure blood. The blood was partly in clots and partly fluid. The pain of which he complained at the epigastrium was relieved for a few minutes by vomiting, but it soon returned. The features were pinched and the surface generally cool, and covered by a clammy sweat. Urine not suppressed. He constantly hawked and endeavoured to clear his throat, but the voice, though husky, was not lost. Respiration not impeded. He remained in this condition until about 7 A.M., Feb. 6th, when the hemorrhage ceased, and the vomiting became less frequent. During the day he remained in much the same condition, constantly hawking and unable to retain fluids, the smallest mouthful of water bringing on vomiting almost immediately. He complained of pain on the right side of the chest, and constantly struck his right breast with his hand. Pulse very weak and rapid. Towards evening he became delirious, and was so all night. On the 7th, his condition remained much the same. Some delirium, but less noisy. Had morphia, gr. ss., and liquor atropiæ, ♏ ii, hypodermically, which gave him a good night's rest, comparatively: that is to say, the pain was very much relieved, and he dozed almost all night, only speaking at intervals, Next morning (Wednesday, Feb. 8th) he seemed easier and more comfortable. Pulse still very weak; it has never been less than 130 since Sunday evening. Is quite rational. He cannot keep anything on his stomach; hawks and spits a great deal, and occasionally, but rarely, vomits. In the evening, Dr. Ross saw him with me for the third time since his illness. He was then much weaker, but sensible, and spoke intelligently of his case, expressing the conviction that he should not recover, and that the mucous membrane of his œsophagus and stomach were sloughing. His opinion seemed to be justified by the odour of what he hawked up, which was exceedingly offensive. The abdomen was very much swollen and tympanitic, but there was not much tenderness, if any. Bowels move involuntarily. His condition remained much the same until he died of exhaustion at 4.30 P.M. on Thursday, Feb. 9th, about 94 hours after taking his fatal dose. He was quite sensible until about a quarter of an hour before his death.

QUARTERLY REPORT ON THERAPEUTICS AND PHARMACOLOGY.

By JAS. STEWART, M.D., L.R.C.P. & S., Ed., Brucefield, Ont.

Carbolic Acid and its Substitutes.

For many years carbolic acid has been almost the sole antiseptic used for surgical purposes. Lately, however, there has been accumulating a mass of evidence which has had the effect of throwing doubt, not on its antiseptic properties, which are still recognized as second to none, but on its harmlessness. There are several authentic cases now on record where carbolic acid, used in the form of spray or gauze dressing, has been the direct means of causing death.

There are two distinct forms of carbolic acid poisoning—one, where the symptoms set in with a very extraordinary rapidity; the other, where its injurious effects are later (a few hours) in manifesting themselves. Cases of the very acute form of poisoning have not, as yet, been described as resulting from the practice of Listerism, but have followed the injection of the acid into the rectum and the local application of the pure acid or highly concentrated solutions of it to the skin. The prominent symptoms of this form of poisoning are vertigo, weakness, condition resembling intoxication, then loss of consciousness, small, weak pulse, frequently cyanosis, and contracted pupils. Müller reports the case of a man who applied the pure acid to two-thirds of his shaven scalp. Immediately he complained of pain in the head, and vertigo. In a few minutes he was unconscious and cyanotic, and died shortly afterwards. Müller also reports the case of a woman troubled with diarrhœa who received an injection per rectum of not more than six ounces of a half per cent. solution. Almost immediately she complained of vertigo, noises in the ears, great weakness and faintness. She recovered. A three-year-old child, for the treatment of thread-worms, received an injection of a half per cent. solution; scarcely the half of a medium-sized syringe was injected when the child became pale, limpid and insensible. It was fifty minutes before the child was considered out of danger.

It appears that the rectum, especially its lower part, is more

sensitive than even the stomach to the action of the acid. The male urethra can withstand injections of from $\frac{1}{2}$ to $\frac{3}{4}$ per cent. solutions with apparent impunity. The writer has had considerable experience with Ultzmann's method of treating spermatorrhœa by carrying injections of the above strength down to the prostatic portion of the urethra, and has never seen any alarming symptoms set in either during or after the procedure. According to Müller, no cases of poisoning have as yet been recorded from the hypodermic use of carbolic acid, although solutions of the strength of 5 per cent. have been used in this way, neither has any dangerous symptoms arisen from the inhalation of the acid.

All animals, except mice and rats, can live for an indefinite time in an atmosphere of carbolic acid.

There are several cases now recorded where death has followed and was clearly due to carbolic acid used in the form of spray and gauze dressing. Mr. Pearce Gould reported a case of antiseptic osteotomy of the tibia to the Clinical Society during the last year where death was clearly attributable to the acid. A fatal case has also been reported by the late Prof. Busch of Bonn, in a child of five years of age who had undergone a knee resection. Several cases of ovariotomy have been said to have ended fatally from the use of carbolic acid. Nearly all the fatal cases, and those where dangerous symptoms have arisen, have been in bone operations and abdominal incisions. Puky, of Buda-Pesth ascribes two cases of sudden death occurring soon after severe operations to carbolic acid poisoning, but where, according to Muller, the chloroform was the real agent in bringing about the fatal event. A case reported by Lawson Tait is better explained in this way also. The symptoms of carbolic poisoning induced in this way are different from those attending the terribly acute form already described. The most prominent symptom is a very low temperature; the general state being very like that attending a diffuse peritonitis. The mind remains clear until about the end. It is not the intention to refer here to those cases of subacute or chronic intoxication by carbolic acid, as they never assume an alarming character; at least, their appearance is so gradual, that the surgeon is well aware of their nature before they can possibly take on a serious aspect.

Many substitutes have been proposed for carbolic acid, prominent among which are Iodoform, Eucalyptus, Resorcin, Chinolin, etc.

Iodoform.

The following is a summary of the actions of this drug, as determined by Högyes from a series of very complete experimental investigations :—

1. Iodoform, in suitable doses for dogs, cats and rabbits, is a poison, and causes, in a few days, emaciation, with slow death, without convulsions. It is both a heart and respiratory poison.

2. Fatty degeneration of the liver, kidneys, heart and voluntary muscles is found after death.

3. In cats and dogs it induces sleep, but not in rabbits ; reflex action is not diminished during the deepest narcosis.

4. If applied in an undissolved condition to the skin, or under it, in the intestinal canal or to serous membranes, it dissolves in the fats of the part and free iodine is liberated, which unites with the albumen, and as such it is absorbed.

6. A similar formation of the albuminate of iodine takes place when iodoform is injected as an oil solution under the skin or into the serous cavities.

Iodoform has a very powerful effect on the heart, its influence in this way being much stronger than chloroform. Ringer has shown that one-fifth of a grain is quite sufficient to arrest the ventricle of the frog's heart, while it takes from 1 to 2 minims of chloroform to bring about a like result. For a number of years iodoform has been extensively used in the treatment of ulcers, chancres, &c., but it is only lately that its use has been extended so as to include the treatment of all forms of wounds. It is now the fashion among some German surgeons to treat both recent and old wounds with it. Mikulicz publishes an account of 18 cases of major operations on bone and joints where the use of iodoform gauze was attended by complete antiseptic results ; five cases of extirpation of the thyroid, four of them taking antiseptic courses, the fifth case becoming septic from the proximity of a tracheotomy wound. In all, he reports 53 major operations treated by iodoform. In 49 of these the wound was antiseptic throughout ; in the remaining four cases, the wound became

septic in two from erysipelas, and in two from local conditions. Mikulicz believes that (1) iodoform gauze is much preferable to carbolic acid gauze; (2) that in already infected wounds or ulcers, iodoform acts quicker than any other antiseptic, and is free from any irritating qualities; (3) that it has a special action on syphilitic, tuberculous, scrofulous and lupoid infiltrations. Leisrink, Mosetig-Morrhaf and many others have published results very favourable to iodoform as an antiseptic.

There have already been reported several deaths caused by the free application of iodoform to wounded surfaces. "In one instance, after an extended resection of the elbow on account of fungous synovitis, with intra-muscular abscesses, in a man 57 years of age, the cavity was packed with about 2,000 grains of iodoform. The patient died on the fifth evening in deep coma, with symptoms of pulmonary œdema. The only abnormalities of consequence revealed by the *post-mortem* were fatty degeneration of the heart, kidneys and liver. A second case died under similar circumstances, with the same symptoms and lesions."—(*Phila. Med. Times Editorial.*)

It is not surprising to see 2,000 grains kill a man, when the 1-10 thousandth part of it is sufficient to arrest a frog's ventricle. Whether there is any danger or not attending the use of iodoform in legitimate quantities remains to be seen. Judging from the present state of the subject this drug is not at all likely to fill the place of carbolic acid. There are some few cases reported where, when used even in small quantities, it brought about a temporary albuminuria and considerable increase in the body temperature.

Resorcin.

Although this agent has not as yet been extensively used, the little that is known about it tends to show that it possesses many desirable qualities both as an antiseptic and as an antipyretic. The following are the conclusions reached by Dujardin-Beaumetz and Hippocrate Callias from an extended experimental investigation into its action:—

1. Resorcin has the same properties as carbolic acid, salicylic acid, and the other substances of the aromatic series.

2. It possesses a toxic influence inferior to carbolic acid.

(*a*) 30 to 60 centigrammes per kilogramme of the weight of the animal produces trembling, clonic convulsions, acceleration of the pulse and respiration. All symptoms disappear within an hour. Sensibility and consciousness remained intact.

(*b*) Doses of 60 to 90 centigrammes per kilogramme causes intense vertigo and loss of consciousness. Sensibility is blunted. Clonic convulsions are violent and frequent, and are especially localized in the anterior extremities. The temperature is little influenced. The normal state is regained in from one to two hours.

(*c*) In doses of 90 centigrammes to 1 gramme per kilogramme, it causes death in about 30 minutes. The temperature rises gradually, and without exception, until it reaches about 41° (C.) at the moment of death.

Resorcin is therefore an excitant of the central nervous system.

3. Resorcin has no influence on the morphological state of the blood, except when it is brought into direct and prolonged contact with it.

4. It can be used both internally and externally for all those diseases due to contagious germs, or in those which favour their development. Its antirheumatic, febrifuge, and antithermic properties are not as yet well defined.

5. Owing to its extreme solubility, slight odour, and its feeble toxic and caustic properties, it should be experimented with for surgical purposes, for it does not possess any of the grave inconveniences of carbolic acid.

A one per cent. solution of resorcin arrests all forms of fermentation. Blood, urine and other substances which tend to rapidly putrefy can be kept for an indefinite length of time by the addition of a few grains of this new antiseptic. Even when decomposition has already set in, it is speedily arrested by resorcin. Dujardin-Beaumetz has administered it in a large number of cases of typhoid fever, in doses of from 30 to 45 grains. It appeared to have no favorable action on the course of the disease. The temperature, which was carefully noted, did not

appear to be modified. This result is in contradiction to the results obtained in Germany. Lichtheim says that he has obtained a notable diminution in the temperature, often as much as 3° (C), especially in intermittent and typhoid fevers. The reduction of temperature does not last over an hour or two. Lichtheim says that in order to obtain the anti-febrile action of resorcin it is necessary to give it in large single doses (30 to 60 grains). These large doses are inconvenient to the patient on account of the irritant action of the drug. That resorcin is not destitute of toxic properties is proven by a case reported by Dr. Murrell. The patient was a young woman who suffered severely from asthma. Resorcin was given in gradually increasing doses until two drachms was reached. A dose of one drachm caused giddiness and drowsiness. The attacks of dyspnœa were relieved and in a quarter of an hour she was fast asleep. This was tried on four different occasions, and always with the same result. On increasing the dose to two drachms, decided effects were produced. The patient complained that it flew to her head, and she felt giddy, and had "pins and needles" all over. In a few minutes she became insensible, and was found on her side faintly moaning, her eyes closed, and her hands clenched. She was in a profuse perspiration from head to foot; there was complete loss of voluntary power and reflex action, the pulse at the radials was weak and thready, and the temperature in the axilla was only 94° Fah. The stomach pump and emetics were used, and she was made to inhale nitrite of amyl. She recovered in the course of a few hours. The urine first passed had an olive green colour. It is stated that the resorcin first used in this case was impure, being contaminated with carbolic acid; but the specimen from which the 2 drachm dose was taken had been specially prepared, and contained not more than two or three per cent. of impurity.

Dujardin-Beaumetz has treated six cases of acute rheumatism with resorcin. The average duration from the commencement of treatment until convalescence was nine days, and the average duration of the disease in the six cases was thirteen days. Andeer considers that it is of great value in affections of the stomach, and especially recommends its administration in gastric ulcer,

from its peculiar action on mucous membranes, which heal without the formation of a cicatrix after cauterization with resorcin. For the disinfecting of large putrid abscess cavities, and for the treatment of common and syphilitic ulcers, he says there is no remedy equal to it. In the treatment of ulcers he recommends an ointment of resorcin, glycerine and vaseline. Incised and punctured wounds are said to heal always by first intention when treated with a one per cent. solution. As an inhalation, it is recommended in diphtheria and diphtheritic affections of the throat.

Resorcin is almost completely eliminated by the urine, and that elimination is excessively rapid. In about an hour after its introduction into the circulation, it is found that the urine is changed in colour to an olive green, and on the addition of the perchloride of iron it turns black. The average adult dose is from 15 to 30 grains. It may be taken dissolved in water and flavoured with a little glycerine and syrup of oranges.

Chinoline.

This is a transparent, colourless, oily fluid, having a penetrating odour resembling bitter almonds and a hot, pungent taste like peppermint. It is procured from cinchonin, and also from nitro-benzol; from the latter, a purer and cheaper article is obtained than from the former. It is a very powerful bacteria poison; a one-fifth per cent solution arrests fermentation in cultivating fluids. In the same proportion it prevents lactic acid fermentation and decomposition of urine. It is therefore a stronger antiseptic than salicylic acid, carbolic acid, boracic acid, quinine, sulphate of copper and alcohol. In a two-fifth per cent. solution, it completely prevents decomposition taking place in blood and retards the coagulation of milk. In a one per cent. solution, it prevents entirely the coagulation of the blood. Although superior to quinine in the above respects, it is inferior to it in its action on yeast-cells, but this is practically due, as Binz says, to the yeast being exposed to a too favourable temperature.

Biach and Loimann have performed twelve experiments with it on rabbits, and found that it reduced the temperature in every

case. The fall took place from its internal administration, as well as from its hypodermic use. The greatest fall noticed was 1.1° (C.), and the least 0·3° (C.) The temperature reached its lowest generally within an hour, and began gradually to ascend, often reaching a higher point than before the commencement of the experiment. It appears to have an influence in reducing the respiration, but this is not constant.

It possesses anti-periodic powers of the highest order, according to Donnetti and Salkowski. It has been used by the latter in typhus and malarial fevers with excellent results. Dr. Lowey records forty cases of intermittent fever successfully treated with it, besides many cases of neuralgia. The tartrate is the salt which is generally used; it occurs in small, colourless, acicular crystals. It can be given in doses of from 5 to 15 grains. It does not cause any unpleasant head symptoms, like quinine and salicyic acid.

Eucalyptus Globulus.

Of all the substitutes for carbolic acid in the treatment of wounds the above is likely to prove the most trustworthy. It is entirely free from toxic or locally irritant effects, while its antiseptic powers are undoubted. The oil of eucalyptus has, however, the disadvantage of being insoluble in water, and of evaporating very quickly from an oily solution. Prof. Lister has found that gum dammac holds it exceedingly well, and the mixture remains soft and strongly odorous of the oil even at the end of several weeks. He has had a gauze prepared with a mixture of one part of the oil, three of dammac, and three of paraffine. It is Lister's opinion that a gauze prepared in this manner can be thoroughly trusted as an antiseptic where carbolic acid was inadvisable.

In some of the Australian hospitals the eucalyptus tree is grown in large boxes in the wards and court-yards. It is claimed that these experiments have proven highly beneficial in rendering the wards free from malarial and other septic influences.

It is as yet too early to say to what extent eucalyptus will replace carbolic acid in the surgical treatment of wounds. That it will entirely supersede it is very unlikely. When we know more

about so-called "idiosyncrasies" we will be in a better position to give a definite place to each of our different antiseptics.

The Action of Calomel on Fermentation Processes and the Life of Micro-organisms.

Wassilieff of St. Petersburg has quite recently performed a very valuable series of experiments in Hoppe-Seyler's laboratory on the action of calomel in artificial digestion and on its action in preventing the formation of low forms of life in fluids prone to undergo decomposition. Calomel has, from time almost immemorial, been used with alleged success in disorders of the stomach and alimentary canal, especially in children. Its use is also greatly commended in the early stages of typhoid fever (Liebermeister.) It has also an undoubted good influence in cholera, infantile cholera, etc. With the exception of a passing notice in one or two hand-books, there is no attempt to explain the method by which these results are produced.

Köbler, in his compendium, attributes the beneficial action of calomel in typhoid fever, cholera, dysentery, etc., to its power of destroying fermentation. Voit, in 1857, observed that the white of egg and blood mixed with calomel would remain for a day without putrefaction. Hoppe-Seyler, in his work, mentions the anti-putrefactive property of calomel, and explains in this way the appearance of green stools after its administration. The first set of experiments conducted by Wassilieff was to ascertain what, if any, influence was exerted on the artificial digestion of fibrine by the addition of calomel. The result was that this agent was found to possess no influence in either furthering or retarding the albuminoid gastric digestion. It was also found that calomel had no influence on albuminoid pancreatic digestion. Besides the formation of peptones, leucin and tyrosin, pancreatic digestion is attended by the formation of other substances, as Indol, Phenol, Scotol, Kresol, &c. These have been supposed to arise from putrefactive changes taking taking place in the albuminoids in the intestinal canal. In proof of this, we have it demonstrated by Wassilieff that calomel has the power of preventing their formation, while it exerts no influence on the manufacture of peptones, leucin, or tyrosin. It has been shown by

Hufner that not all gases which are found in the intestinal tract are the consequence of the unorganized ferments of the natural secretions on the food, but gases such as hydrogen and sulphuretted hydrogen, which are constantly present, are due rather to fermentation and putrefaction, brought about by active, low organisms. If artificial digestion of pancreas extract is carried on with the precaution of avoiding the introduction of organisms, with the exception of carbonic acid, no other gases are formed. In many experiments Wassilieff did not once find either hydrogen or sulphuretted hydrogen present in a digestive pancreatic mixture, to which calomel had been previously added, thus showing that calomel acts in the same manner as does the procedure which prevents the introduction of organisms. It was also noticed that carbonic acid appeared in much smaller quantities when calomel was added to the digestive mixture than in the control experiment.

The next problem that Wassilieff undertook to decide was the cause of the saponification of fat. Is this change owing to a special ferment in the pancreas, or is it due to the decomposition of the albuminoids? Wassilieff concludes that the pancreas possesses a special ferment for the saponification of fats, on account of the fat undergoing this change in the absence of putrefaction, as it does when calomel is added. From another series of experiments, it is concluded that calomel behaves itself in the same way towards the *amylolytic* ferment of the pancreas as it does towards the *albuminoid* and *fat* ferments of the glands. Calomel acts therefore in the same manner as does salicylic acid (Kuhne) and arsenic (Scheffer and Böhm). In short, calomel in artificial digestion prevents the formation of those products which result from decomposition, and exercises no influence on the normal ferments. Calomel also possesses the power of preventing butyric acid fermentation. As regards the influence of calomel on micro-organisms, Wassilieff concludes (1) that it prevents the development of organisms in a cultivating fluid [Bucholtz-Wernich]; (2) the activity of already developed bacteria and micrococci is destroyed. According to Wernich's nomenclature, calomel is both antiseptic and aseptic.

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QUARTERLY RETROSPECT OF SURGERY.

PREPARED BY FRANCIS J. SHEPHERD, M.D., C.M., M.R.C.S., ENG.
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Recent Operations for the Cure of Club-foot.—In ordinary cases of this affection in children, tenotomy with proper after-treatment by apparatus or plaster of paris, &c., is nearly always found to be successful, if sufficient care is given by the surgeon

to the after manipulation. When failure occurs it is usually because, after the tenotomy and the placing of the foot in proper position, the patient is not seen again, or if seen, at long intervals. There are some cases of club-foot, however, which are but little benefited by dividing the tendons and replacing the foot in position. In these intractable and relapsing cases some surgeons, especially Mr. Davy, of Westminster Hospital, London, advocate excision of part of the tarsal arch. The general opinion is that this is rather too severe an operation to be resorted to in children. Mr. Davy thinks otherwise, and has operated successfully in these cases. In seventeen operations on fourteen patients he has lost one case, from septicæmia. All his cases were treated without antiseptics, and in fact without dressing of any kind. The majority recovered with bony union, but he states fibrous union would answer well. He has had no case of relapse. Mr. Davy commenced by excising the cuboid bone, but now removes a wedge-shaped block of the tarsal arch. He at first insisted strongly that the foot should be firmly fixed in a vice to render it sufficiently steady for the chiselling to be done during the operation. (Davy's Surgical Lectures.) Now he uses a fine saw, instead of the chisel, to remove the wedge-shaped piece of bone. (*Brit. Med. Jour.*, Oct. 31, 1881.) The position of the wedge-shaped piece of the tarsal arch to be removed depends on the kind of talipes to be operated on. For instance, in talipes equinus, a wedge, having its base upwards, is taken from the arch ; in talipes varus, the base of the wedge would be more inwards to overcome the deformity. A portion of the skin is first removed, then the soft parts are raised away from the dorsum by a blunt periosteal knife and a grooved director passed between the soft structures and the bone, a probe-pointed saw is then slid along the groove on the under surface of the director and an accurate wedge of bone sliced out. The wedge generally includes slices of the astragalus, os calcis, scaphoid, and cuboid bones. The gap is then approximated, and the foot is placed in proper position by means of a back splint, with a foot-piece, and the leg put up in gum and chalk bandages over a flannel roller. The wound is left open and swung, so that it is dependent.

Mr. Bennett exhibited a man, aged 47, at the Clinical Society in London on Dec. 9th last, who had been the subject of severe talipes equino-varus, and on whom he had performed excision of the tarsal arch. (*Lancet* Report, Dec. 17, 1881.) He had previously been treated by tenotomy with only partial success. The operation of excision was performed on June 30th, 1881, antiseptically, and drainage tube and antiseptic dressings applied. By July 8th the whole wound had healed except a small sinus. The antiseptic dressing had now to be discontinued on account of severe carbolic irritation of the skin, and a few days later erysipelas attacked the wound, which had to be opened up. The union of the bones all broke down. By Sept. 8th the wound had again healed, and by Nov. 8th he was allowed to walk with boot and iron support. When exhibited the union of the bones was firm but not bony. The patient had a useful foot.

It is plain that this is a most formidable operation, and should not be undertaken except for the most intractable cases which have not been benefited by other treatment. In Mr. Davy's cases the average duration of treatment was about two months. The short time taken in effecting a cure is an important consideration in patients of the poorer classes, especially when they are unable to purchase suitable apparatus. Mr. Davy has lost one case out of seventeen operations, and König, one out of three. Both patients died of septicæmia. It seems to be a more scientific and conservative operation than Chopart's, which is sometimes resorted to.

Dr. A. M. Phelps, of Chateaugay, N. Y., has lately introduced a new operation for club-foot. The number of cases operated on are too few to, as yet, pass a definite opinion upon it. The cases reported so far have been wonderfully successful, the patients being able to walk about at the end of six weeks to two months. As a detailed description has been given in the November number of this Journal of Dr. Phelps' method of operating, I shall only state that that operation is performed by making an incision across the sole of the foot and dividing all the resisting structures down to the bones. The foot is then brought into normal position on a special splint

and the wound left open. By drawing a pointed stick of nitrate of silver through the bottom of the wound the granulations are prevented from springing up too rapidly, and the wound is induced to heal from the sides "by the skin gradually crawling downward into the wound." In making the incision the arteries and nerves should if possible be avoided. Esmarch's bandage should be used. Dr. Hingston, of this city, a short time ago exhibited to the Medico-Chirurgical Society a patient who had been operated on in this manner. The result seemed to be satisfactory, the patient having a useful foot and being able to walk on the sole.

Extirpation of the Lung.—The latest attempt to extend the domain of surgery, at any rate, as regards the lower animals, is the removal of the lung. Gluck appears to have first conceived the idea that so tremendous an operation might be endured, and after some experiments on dead bodies, he performed the operation on dogs, and found that it was fairly well borne, and that the animal might recover perfectly. When death occurred it was due to pericarditis or to pleurisy on the remaining side. He believes that in man diseases of the lungs are not so far removed from surgical interference as is commonly believed, and that the excision of a diseased lung or part of a lung, would, under certain circumstances, be a justifiable operation. Analogous experiments have been made by Schmid. On eight dogs operated on, five died from two to three days after the operation; three of the animals recovered. Schmid concludes that the lung can be operated on without special mechanical difficulties and without important hemorrhages. He has practised a similar operation on the human (dead) body, and found that after resection of two or three ribs there was no special difficulty. M. Marcus in France has been unsuccessful in his attempts to excise the whole lung in dogs, as the animals quickly died, but a rabbit survived the operation. These experiments may encourage the minor applications of surgery to the lung; but it may be doubted whether the excision of a part would ever be justifiable, since the diagnosis of malignant disease can rarely be made with such certainty and sufficiently early to permit its excision; and the applicability of the opera-

tion to the cases for which it is suggested by Schmid, tubercular disease of the apex, is manifestly absurd.—*London Lancet*, Dec. 24, 1881.

Treatment of Gonorrhœa.—There is perhaps no affection for which there is such a variety of treatment and such a number of specific cures. Its treatment is not confined to medical men; every druggist thinks he has a heaven-born genius for managing this disease, and the number of powerful caustic and astringent remedies patented for the cure of gonorrhœa and gleet exceeds the wonderful pills sold for the cure of all uterine diseases. Both internal and local remedies are in great variety, and fashion rules in this as in many other things. Every new remedy is, of course, highly recommended, and is better than any that has preceded it.

Zeissl, in *Wiener Med. Woch.*, advises for acute gonorrhœa three or four injections daily, feebly astringent, viz., 1 to 3 grs. of hypermanganate of potash in eight ounces of water. If the patient is no better in eight days the strength is increased. Later on gr. v. of sulphate of zinc in eight ounces of water are given. If this fails he advises solutions of subnitrate of bismuth or pure powdered kaolin, seventy-five grains in eight ounces of water, or sulphate of zinc and acetate of lead, each half a drahm to eight ounces of water. If the affection becomes chronic, he introduces bougies into the urethra, allowing them to remain five to ten minutes. He is opposed to strong injections at the commencement of the disease, and even later he says they should only be employed with great prudence. In regard to internal treatment, he uses matico, cubebs, copaiba and perchloride of iron. Prof. Zeissl insists on the known fact of the co-existence of prostatic hypertrophy and chronic urethritis.—(*St. Louis Med. and Surg. Jour.*)

In gleet, Mr. Reginald Harrison advises frequent irrigation of the deeper portions of urethra by means of a soft catheter and slightly astringent solutions. By thus washing away the discharge which collects in the bulbous portion of the urethra the liability to stricture is lessened.

Dr. Wilson (*London Lancet*, 1881), has treated sixteen cases of gonorrhœa with the greatest success, his patients being

at work in an average of six days. His method is placing the patient on low diet and administering injections of sulphurous acid diluted in water (one to fifteen) three times a day. The injections to be effectual should be kept in the urethra three to five minutes. At the end of three days the purulent discharge will be replaced by a gleety one, and then only one injection should be used daily. The first injection often causes pain, which is not complained of afterwards.

Dr. R. Park, in an article on "Therapeutics of Ol. Sant. Flav." in *London Practitioner*, of December, 1881, says oil of sandalwood has been employed largely for the last twenty years in the treatment of gonorrhœa and urethral and vaginal discharge generally. He says there is no use prescribing it for the purpose of *curing* a gonorrhœa, if by that term is meant urethritis or other pathological condition causing discharges. For the discharge, however, he asserts the Ol. Sant. Flav. is distinctly the most specific drug he is acquainted with. It restrains the "running" at once, very frequently stopping it in forty-eight hours; but it requires to be continued *quite a fortnight after entire cessation of discharge* to make sure the latter does not return. It produces these effects in the most acute and the most chronic cases alike. He gives fifteen to twenty drop doses three times a day. The average duration of cases treated by this method, he says, may be broadly stated to be three weeks. Twenty drops is a full dose, and this quantity invariably produces griping of the bowels and dull, lumbar aching. He also uses in some cases a large bougie smeared with a liniment of vaseline and Ol. Sant. Flav. The *modus operandi* of this drug he believes to be (1) (Neuræsthetic ?) upon the pelvic and genital nervous system; (2) Antiseptic, or rather *contra purulent*. It also appears to be a special stimulant to unstriated muscular fibres, and in this way constringent. It has a drying effect on all mucous surfaces, when healthy or diseased.

Nerve Stretching.—The operation of nerve stretching is coming more and more into favour for the purpose of curing or relieving certain affections of the nervous system, as locomotor ataxy, spasmodic tic, neuralgia, &c. Dr. Langenbuch, of Berlin, introduced a discussion on the subject in the late Inter-

national Congress in London. With regard to the *modus operandi* of nerve stretching, we are as yet much in the dark, and much has still to be found out about the class of cases to which this operation is most applicable. The German surgeons publish more favourable results than those obtained by others, but even in their cases results differ very widely in different cases.

Dr. Davidson has recorded two cases in the *Liverpool Medico-Chirurgical Journal* of stretching the sciatic nerves for locomotor ataxy. In one case, after three weeks, there was improvement as to co-ordination, and the lightning pains had ceased. At the end of two months the patient could walk fairly well, and the patellar reflex was very evident. The degree of stretching was 40 pounds, or half the breaking weight of the sciatic nerve. In the other case the ataxia was not improved, though the pains were much less. The disease in this case was much more advanced than in the first case.—*Lancet.*

Mr. F. A. Southam, in an article on "Nerve Stretching," with particulars of three cases (*London Lancet*, Aug. 27, 1881), says:—"Since the nerves of the brachial plexus were stretched by Prof. Nussbaum in 1872, for spasm of the arm, numerous are the affections in which this method of treatment has been adopted. For a time it was restricted to neuralgia and other painful or spasmodic affections of a simple localized nature, but more recently it has been adopted in diseases of a more general character, as for example, tetanus and locomotor ataxy; and during the last few months, cases of anæsthetic leprosy have, in India, been successfully treated by this plan."

Mr. Southam's three cases were all cases of clonic spasm.

In Case I., of clonic torticollis, he first stretched the spinal accessory nerve, and though temporarily relieved, no permanent benefit following, he afterwards excised a portion of the nerve, also without good result, owing to the fact, he thinks, of his not getting above the point where the spinal accessory gives off some muscular branches to the sterno-mastoid muscle.

Case II. was also a case of clonic torticollis. In this case he stretched the spinal accessory. The muscular spasms came on in

paroxysms, separated by brief intervals of complete rest. In addition, the deep muscles of the neck, back, and also both arms, were affected with clonic spasm. Locomotion was somewhat impaired—both legs—but more especially the left, dragging slightly; spasms much increased by emotional disturbance. Eating was performed with the greatest difficulty, and it was with the greatest effort he could bring his hand to his mouth. The operation was followed by great relief for about six weeks, when a relapse set in, but this passed off. At the time of writing a decided improvement had taken place in the patient's condition, the spasm only coming on at long intervals, especially when his attention is directed to it.

The operation is simple. An incision two inches long is made along the posterior border of the sterno-mastoid, its centre being on a level with the upper border of the thyroid cartilage. After cutting through the deep cervical fascia the spinal accessory nerve will be readily found running obliquely along the floor of the posterior triangle.

Case III. was one of clonic spaasm of the muscles of the face, and the facial nerve was stretched, with the result of completely relieving the spasm. The facial paralysis caused by the stretching was disappearing five weeks after the operation.

Mr. Southam states that previous to his case only five cases are recorded of this operation having been performed; once in England by Mr. Godlee, of University College Hospital; three times in Germany, by Baum, Schussler and Eulenberg; and once in America, by Dr. James J. Putnam. The operation is performed by making an incision behind the ear, from the level of the external meatus to near the angle of the jaw; the sterno-mastoid and parotid gland are then pulled in opposite directions, exposing the upper border of the digastric, close to which the nerve is found as it emerges from the stylo-mastoid foramen. Since writing his paper Mr. Southam has adopted nerve stretching as a means of relief in three cases.—(*Lancet*, October 8th, 1881.) The first was a case of idiopathic lateral sclerosis in a man, aged 36, under the care of Dr. Morgan, at the Manchester Royal Infirmary. At Dr. Morgan's suggestion, Mr. Southam stretched the sciatic nerve; on the second day after the oper-

ation the shooting pains ceased, and in the course of a fortnight ankle clonus and patellar reflex began gradually to reappear. Six weeks later there had been no return of the pain. In the second case, under the care of Dr. Dreschfeld, the left sciatic nerve was stretched by Mr. Southam for locomotor ataxy in a man aged 51, at Dr. Dreschfeld's suggestion. The operation was not at first attended by any apparent result. After about ten days, the shooting pains, in both legs, began gradually to disappear, and he left the Hospital greatly relieved in this respect, but with the other symptoms in no way affected by the operation.

The third case was one of clonic spasm of the muscles of the face in a woman aged 32; duration 4 years. Four weeks after the operation there was no return of the spasms, and paralysis was only present to a slight extent.

At a meeting of the Surgical Society of Ireland, in December last, Mr. Wheeler detailed the treatment of a case of acute tetanus, by nerve stretching, which was successful. The patient, a girl aged eight, last October received a lacerated wound of the hand, and when tetanic spasms came on the usual remedies were administered without effect. The median nerve of the forearm having been exposed, was stretched, and the patient progressed gradually towards recovery.—(*Lancet*, December 10th, 1881.)

H. E. Clark in July, 1879 (*Glasgow Medical Journal*), reports a successful case of nerve stretching in a case of acute tetanus.

R. M. Simon, in the *Brit. Med. Jour.*, Feb. 25th, 1882, reports a case of infantile paralysis affecting the right leg in a child five years of age, greatly benefited by stretching the sciatic nerve.

L'Union Medicale, of November 8th, 1881, states that at a meeting of the Societé de Chirurgie, November 2nd, M. Le Dentu presented a patient in whom he had successfully practised stretching the lingual nerve for neuralgia of the face with epileptiform convulsions. The pain was located in the temporal region, auricle, lower jaw, and the left side of the tongue; it had lasted for 5 years, but in the last few months it had so increased in severity as to be insupportable. M. Le Dentu reached the nerve through the mouth, held the tongue aside and gently

raised the nerve above the mucous membrane with a small hook for a few moments. On the second day the patient was able to sleep. Thirteen days after the operation the pain had entirely ceased and the patient was able to eat and sleep well. M. Le Dentu said that he had previously in another case practised, with success, resection of the auriculo-temporal nerve for neuralgia. M. Polaillon said, that three months before, he had stretched the inferior dental nerve for violent neuralgia, and the patient had been free from pain ever since.—*Am. Journal Med. Science*, January, 1882.)

Dr. Drake of this city was the first, as far as I know, who practised nerve stretching in Canada. The case was one of acute tetanus in a Swede aged 28, produced by running a rusty nail into the foot.—(*Canada Med. and Surg. Journal*, Vol. V.)

The left sciatic nerve was cut down on the posterior border of the gluteus maximus muscle and stretched. There was amelioration of the spasms for a few hours, but they soon returned more violently than ever, and the man died 12 days after the operation from exhaustion. This operation was performed August 26th, 1876.

Dr. Norman McIntosh of Gunnison, Colorado, reports in the April number of *American Journal of Medical Science*, a case of sciatic neuralgia of sixteen years standing which had resisted all ordinary treatment. The paroxysms lasted from five to six weeks, during which time the patient could neither eat nor sleep. The sciatic nerve was stretched and complete relief followed, and four months after the operation there had been no return of the pain.

Billroth, of Vienna, recommends a subcutaneous nerve stretching in sciatic neuralgia, by extending the leg and flexing the thigh forcibly on the pelvis.

Dr. J. Cavafy of St. George's Hospital, London, in the *British Medical Journal* for December 10th and 17th, 1881, in an article on nerve stretching in locomotor ataxy, gives an account of 18 cases besides his own, where this method of treatment was employed for locomotor ataxy. The cases are derived chiefly from German and French sources. In four cases the ataxy was cured (three of Langenbuch's and one of Esmarch's).

In eight cases the ataxy was diminished; in four there was no improvement. In one case, patient died 15 days after from pulmonary embolism. In the greater number of the cases the pains were removed or at least greatly alleviated by one operation; but in three cases they subsided only in the territory of the operated nerve, while in one they disappeared from the part operated on, but increased elsewhere. The improvement seems to have been permanent in the majority. Dr. Cavafy comes to the conclusion that the operation is applicable, especially to early cases where pain is a prominent symptom; but he would not hesitate to employ it in later ones, especially as the operation has not been followed by injurious results beyond temporary paralysis, and this very rarely. The wound is often slow to heal, as in his own case, where it was unhealed after six weeks.

Dr. Julius Althaus (*Brit. Med. Jour.*, January 7th, 1882), referring to Dr. Cavafy's paper, says that it may not be out of place to mention that at least five fatal cases have been recorded, due to nerve stretching in locomotor ataxy—one by Socin (mentioned by Dr. Cavafy), another by Langenbuch, who originated the operation; a third by Billroth and Weiss; a fourth by Berger and a fifth by Benedict. In most of the cases the cause of death appears to be undue violence in stretching, whereby the medulla oblongata would appear to have received a shock. Dr. Althaus goes on to remark that the operation cannot be considered a slight one, and we must be careful not to conceal the risks attending it from the patient and friends; also that undue violence and stretching should be avoided, and where there is the least suspicion of an affection of the medulla, such as asthma and certain cardiac and respiratory diseases, the operation should not be resorted to.

Medullo-Arthritis.—Mr. J. Greig Smith, Surgeon to the Bristol Infirmary, in a lecture published in the *Lancet* of Dec. 24th and 31st, 1881, on Medullo-Arthritis, proposes to name the two forms of so-called white swelling of joints, which are commonly called strumous, as follows:—The one where the inflammation commences in the synovial membrane, *synovio-arthritis*; and the other, where it commences in the pink marrow of the cancellated ends of long bones, *medullo-arthritis*. He

proceeds to remark that the pink marrow in the cancellated ends of long bones belongs to the lymph-glandular class of organs, and probably discharges most of the functions of lymphatic glands. In disease of bones in persons of a strumous habit, it is this pink marrow which is affected with a form of inflammatory disease, similar to that found in strumous diseases of lymphatic glands in connective tissue. The inflammatory products are of the same histological type, they show the same sluggishness, and have a like tendency to undergo caseous metamorphosis. There is this difference, however, a strumous gland has room to swell, and if it suppurates, its contents perforate the skin and so are discharged. But it is not so with bone glands. They are bound down by a bony shell, and the swelling results in compression and strangulation; an outlet is forced where there is least resistance, and it is for this reason the inflammatory products in the ends of long bones take a most dangerous course—through the articular cartilage into the joint cavity. Suppurative synovitis is set up, which generally leads to complete destruction of the articulation and even to the loss of the patient's life.

After describing synovio-arthritis, he gives the symptoms of medullo-arthritis, and states that it may be distintinguished from the synovial form by the intense starting pains, by percussion round the joint causing pain, and by the great tenderness during any sharp movement. In the synovial variety the pain is not a prominent symptom; the joint has a pale, smooth, sometimes glassy and lustrous skin, and large, blue veins course over it. In medullo-arthritis the skin is not pale, but a dingy red; instead of being smooth, it is rough and mottled, and frequently covered with long hairs, &c. He believes if the pathological condition of medullo-arthritis is recognized sufficiently early the progress of the disease may be nipped in the bud; and that if we can reach the inflammed marrow and remove it, we ought to cure the patient. Even after suppuration has taken place, the treatment he advises is better than excision. He relates two cases of advanced medullo-arthritis, both at the lower end of the femur, in young girls, where, after making an opening in the condyles and gouging out with a Volkmann's spoon the cancellated tissue of both condyles and inserting a drainage tube, the

best results followed. In the first case, after several months, the cavity filled up, and the girl now walks about without the slightest lameness. In the second case, after first trying simple drainage of the joint, it was determined to remove the whole contents of the condyles. At the time of writing the child was progressing most favorably, but had not commenced to walk. In this case it is probable a permanent stiffness of the joint will remain. Both cases were treated antiseptically. Mr. Smith says that this operation will be most frequently performed in morbus coxæ, because the hip joint is most frequently affected with medullo-arthritis. In medullo-arthritis of the hip, he taps the great trochanter a little above and posterior to its anterior inferior angle. The opening is made with a gouge, keeping carefully in the centre of the neck of the femur. He drills through this, through the epiphysal cartilage, and taps the marrow inside the head of the bone; if the bone is soft here, it may be scooped out; if not, it ought to be left; the incision in the skin is closed, antiseptic dressings applied and left on for ten days, at which time complete union will probably have taken place. As the gouge approaches the epiphysal cartilages care must be taken to handle the gouge gently, as any roughness might break off the diaphysis and set it loose in the joint.

In *Lancet* of Dec. 10th, 1881, Mr. G. A. Wright, F.R.C.S., reports a *case of pulpy disease of the knee,* treated by erasion, on the lines already laid down by Prof. Lister. On Jan. 22nd, 1881, an incision was made as for excision of the joint, but not dividing the ligamentum patellæ. The synovial membrane, which was thick, pulpy and very vascular, was cut and scraped away, and some of the cartilage removed at the margins; a softened cavity in the outer tuberosity of the tibia was gouged out, and the articular surface of the patella was scraped. The whole of the diseased material was removed as far as possible. The wound was closed with silk ligatures and an India rubber drainage tube inserted. The limb was packed in a Gooch's splint. On February 5th the wound was healing without suppuration, and on February 16th the wound had quite healed; except on the second day, the temperature had never reached 100°. The knee was dressed seven times in all. On the 21st the splint

was removed, and passive movement began. On the 28th the joint was fully flexed under chloroform, and one adhesion gave way; passive movement was kept up, and on March 9th the child was sent out with full range of movement of joint and free from pain. When last seen, May 27th, she could walk, run, kneel down on the bad leg, and flex it to its full extent without pain or difficulty. The patella was freely movable. The operation was performed antiseptically. This certainly seems too good to be true, and is a great improvement on the operation of excision.

New (?) Treatment of Varicocele.—Dr. R. J. Lewis, in the *Phila. Med. Times*, Nov. 5th, 1881, recommends the excision of the redundant scrotum as a radical cure for varicocele. The excision should embrace a portion of the anterior and inferior part of the scrotum; a clamp is used to fix the skin before cutting, and is also kept on whilst the metallic sutures are applied. Dr. Lewis has not seen hemorrhage follow the operation. The wound is then dressed with carbolized oil, and a perineal bandage is somewhat tightly applied. (*Amer. Jour. Med. Sc.*, Jan., 1882.)

This is merely a revival of Sir A. Cooper's operation, which is fully described in Guy's Hospital Reports (Vol. III) for 1838. Scissors were used to cut off the redundant scrotum, and the parts united by ordinary silk ligatures. Every case reported did well, and healed without a bad symptom. But this is by no means a radical cure, and is only advised where there is great pain. It relieves the pain, but does not cure the varicocele; in fact, it acts in much the same way as a well-fitting suspensory bandage.

Sponge-Grafting.—D. J. Hamilton, M.B., Pathologist to the Edinburgh Royal Infirmary, has contributed a valuable series of original observations on the above subject in the *Edinburgh Medical Journal* of November, 1881. In an article on the "Process of Healing," published in Vol. XIII *Journal Anat. and Phys.*, 1879, Mr. Hamilton endeavoured to show, experimentally and otherwise, that the vessels of a granulating surface are not newly formed, but are simply the superficial capillaries of the part which have become displaced. They have been thrown upwards as granulation loops by the propelling action of the heart, because the restraining influence of the skin has been re-

moved. He goes on to remark that one of the great functions of the skin is to counteract the tendency which superficial vessels have to be pushed outwards, and a similar restraining action is conferred upon the deeper branches of the fasciæ which surround them. These hold the vessels in their proper places, and overcome the tendency to this peripheral displacement.

It was whilst getting the information for the paper above mentioned, and also when subsequently studying the subject of organization and healing still further, that Mr. Hamilton was struck with the similarity of the process of vascularization, as seen on a granulating surface, and that which occurs when a blood-clot or a fibrinous exudation is replaced by a vascular cicatricial tissue. The author states that blood-clot or fibrinous lymph plays merely a mechanical and passive part in any situation, and that vascularization is not due to the formation of new vessels, but rather to a displacement and pushing inwards of the blood-vessels of the surrounding tissues. Being convinced that the blood-clot or fibrinous lymph, before organization takes place, was just so much dead matter in a tissue, it occurred to Mr. Hamilton that if he could employ, instead of blood-clot or fibrinous lymph, some dead porous animal tissue, it also would, in the course of time, become vascularized and replaced by cicatricial tissue. He thought that sponge, if placed under proper conditions, would fulfil the object in view, for the following reasons: 1. It is a porous tissue, and would imitate the interstices of the fibrinous network in a blood-clot or in fibrinous lymph. 2. It is an animal tissue, and, like other animal tissues, such as catgut, would, if placed under favourable conditions, become absorbed in the course of time. 3. It is a pliable texture, and can be easily adjusted to any surface. If, therefore, the blood-clot or fibrinous exudation merely acts mechanically in the process of organization, there is no reason why sponge or other porous texture should not similarly become vascular and organized. The first experiment was performed on a female patient suffering from several ulcerated wounds in different parts of the body. The largest of these was situated on the outside of the left leg. It was circular in a shape, and five inches in diameter by from a half to three-quarters of an inch in depth; the edges were

indurated, slightly raised, and in some places undermined. There was a cellular tissue slough at the deepest part of the wound, which gave to the whole ulcer a putrefactive odour. The rest of the floor was in a granulating condition.

The usual antiseptic dressings were first applied, but very little progress was made in its contraction, and on the 3rd of August, 1880, Mr. Hamilton filled the wound with one large piece and several small pieces of very fine sponge prepared by dissolving out the siliceous and calcareous salts by means of dilute nitro-hydrochloric acid, subsequently washing in liquor potassæ and finally steeping it for some time in a 1 to 20 solution of carbolic acid and water. The sponge in the central part of the wound rose a little higher than the edges, so that at its greatest thickness it must have measured from half to three-quarters of an inch by five inches in width. The sponge was made to fit the wound very accurately and was inserted beneath the undermined edges. A piece of green protective was placed on the surface and above this, lint soaked in a 1 to 20 solution of carbolic acid and glycerine, with a little tincture of lavender in it. The whole was covered by a pad of boracic lint. An ordinary bandage was applied. The patient was kept in bed, with the limb at absolute rest. Next day it was redressed. There was not any marked putrefaction odour. On the 5th of August there was a distinct putrefaction odour. It was dressed as formerly, but the wound was irrigated with 1 to 40 carbolic solution. This was continued throughout the progress of the experiment, and at one time when the putrefactive odour became great a 1 to 20 solution was employed. Oakum was now used as a top dressing over the glycerine and carbolic acid. The sponge at its shallowest part appeared to be slightly red in one or two points, and the undermined edge had extended for a short distance further over it. On the 6th of August the sponge was irrigated as before, and was gently squeezed so as to remove any waste materials which were contained in it. The edges of the sponge were now adhering to the granulating surface. Five days after the commencement of the experiment the wound seemed to have shrunk a little, there was very little putrefactive odour. The thin parts of the sponge felt firm and their inter-

stices were evidently filling with organizing tissue. If the surface was pricked it bled freely. Healing seemed to be going on from the edges to the centre and upwards. The edges of the sponge seemed to be dissolving as it became infiltrated with the new tissue. Its surface was covered by a grayish colored pellicle, very much like that seen on the surface of wounds healing under antiseptics. From this time onward the sponge rapidly became filled with organizing tissue, until on the 29th of November there was only a small piece of it seen on the surface. As soon as it became vascular and filled with new tissue the epithelium spread over it.

Mr. Hamilton remarks that in the healing of this wound instead of the edges and surrounding skin being drawn downwards and towards the centre, the reparative material had in reality grown up and so filled the vacuity caused by the cellular tissue slough. The first experiment showed that if sponge be placed over a granulating surface its interstices will, in course of time, be filled with blood vessels and cicatricial tissue, just as in the case of a blood-clot, and that ultimately the whole sponge will disappear in the wound, leaving an organizing mass of new tissue in its place. It further showed that even where the wound continues in a putrescent condition organization will go on. In the case of blood-clot, putrefaction tends to destroy it; in that of the sponge, its texture being more resistent, it does not seem to make much difference.

Four other experiments were made of healing wounds by sponge grafting on the human subject, all of which were successful except the last, which was a case of old necrosis of the lower end of tibia communicating with a wound of considerable size. There was no granulating surface at any part, and no attachment of the sponge occurred after several weeks, for the simple reason that the part could not furnish sufficient embryonic tissue to pierce the sponge and organize it.

Other experiments on animals were carried out in Vienna for Mr. Hamilton, by Dr. Woodhead, in Prof. Stricker's laboratory, for the details of which I must refer the reader to Mr. Hamilton's article. A minute account, accompanied by beautiful plates, is next given of the microscopic appearances of the

various stages of the organization of this new tissue. The first thing noticed, in all the experiments made, is the infiltration of the interstices of the sponge with a certain amount of fibrinous lymph. The canals do not become occluded by it, but fibrin with entangled leucocytes is found adhering to the sponge framework. The line of demarcation between the fibrinous and organizing layers was in all cases quite distinct, and in no instance was organization found to commence within the interior of the sponge among the primarily effused lymph. Without exception the cicatricial elements grew into the sponge in the form of a distinct layer springing from the tissue to which it had become attached, and from this attachment blood-vessels also arose.

The blood-vessels first become much distended and unduly tortuous. When the loops of blood-vessels reached the sponge framework, they were pushed into it, and always maintained the character of complete capillary loops. He was unable to detect anything like free, newly-formed and pointed offshoots. No evidence of sprouts from their sides could be detected after the most searching examinations. Mr. Hamilton noted a significant phenomenon supporting the theory that blood-vessels were pushed into the sponge as loops, viz., that when the convexity of a loop came in contact with the sponge framework, instead of one of its pores, a curvature formed on the vessel at the opposing point, and on each side of the obstacle there was pushed a secondary loop similar to that from which both had arisen. The blood-vessels which have been pushed outwards from the neighbouring parts bear with them great numbers of the actively proliferating connective tissue corpuscles derived from the neighbouring connective tissues. These, he affirms, and not the leucocytes, as described by Conheim and others, are the tissue-forming cells. Mr. Hamilton says that fibrinous lymph has no more power of forming *per se* a fibrous tissue than blood-clot or a piece of sponge has. The blood-vessels are the primary, and the connective tissue corpuscles the secondary factors in the organizing process. Mr. Hamilton thinks the method of sponge-grafting is excellently suited for growing new tissue where that is insufficient to cover a part or to allow of stretching, but whether it may not have a

wider range of application remains for future experience to demonstrate. The only objection seems the somewhat long time needed to organize it. Instead of sponge, charcoal or calcined bone might be employed in certain cases, as, for instance, where the formation of new bone is needed. To prevent contraction of the newly formed tissue when it cicatrizes, such a solid framework would be useful.

When speaking of the displacing action of the heart upon the blood-vessels, Mr. Hamilton asks, "Why is it that in different individuals there is such a difference in stature?" and answers, "May it not be that the cause of it, in reality, is that the propelling action of the heart is specially vigorous in those of great stature, and the resistance of the tissues slight, while in those of small stature the reverse conditions are present." "Why is it that growth goes on to a certain age?" "May it not be that the heart is relatively more powerful than the delicate stretchable tissues of youth, but as adolescence is reached, the tissues become sufficiently rigid to counteract the heart's action, &c." He says much the same thing is seen in plants. When growth is most active, the plant is in a cellular, pliable condition, and as it becomes older, and more woody fibre is formed within it, a stable condition is reached.

For a further account of this most interesting subject, I must refer the reader to Mr. Hamilton's original article, which will well repay a thorough perusal.

BI-MONTHLY RETROSPECT OF OBSTETRICS AND GYNÆCOLOGY.

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On Antiseptic Midwifery and Septicæmia in Midwifery, by Dr. Robert Barnes, of St. George's Hospital, London.—This is the title of a recent (*Am. Jour. Obstet.*, Jan., 1882,) and most pertinent paper to the present position of the burning question of the day in obstetrical circles. At the outset, Dr. Barnes makes a statement which contains an important and, we believe,

often-forgotten truth, that antiseptic appliances can strictly only be regarded as subsidiary means in the carrying out of the great principle that lies at the bottom of all good obstetric practice, namely, to screen the lying-in woman from those poisons and other noxious influences which threaten her from within and without. "The foundation of puerperal disease is laid during gestation. With the completion of labour, the conditions predisposing to disease gather strength. During the puerperal state fresh elements of danger accumulate." The diseases of the pregnant woman differ from those of the puerperal woman. The diseases of the gravida are diseases of high nervous and vascular tension. Those of the puerpera are of low nervous and vascular tension. In the gravida, the balance of osmosis is centrifugal; in the puerpera it is centripetal. During pregnancy there is an active process of building going on. The moment this work is complete, the reverse process of demolition and carrying away of refuse is begun. Absorption and excretion are now the ruling energies. Active absorption, it is true, goes on during gestation, but it is a very different thing from the absorption of the refuse-stuff, which must now be cast out of the body. If not cast out of the body, this refuse may be as poisonous as the elements of the urine. For these reasons, thrombosis, phlegmasia dolens and septicæmia are rare during pregnancy, but common during the puerperal period.

Before discussing antiseptic midwifery, we ought to have a clear idea of what constitutes septicæmia in midwifery. When a lying-in woman is assailed by a fever-producing cause, her condition is complex. If by the word septicæmia, as used in obstetric discussions, we understand simply that a special poison has been taken into the blood of the puerpera, then we have a very imperfect idea of the case. We have not a correct picture in the mind of what is going on in the poisoned puerpera. If we continue to use the word, and it is very convenient, it must be used broadly. Dr. Barnes suggests that it be used to designate an empoisoned condition of the blood. We cannot as yet, physically or clinically, identify sepsin, nor can we clearly and certainly distinguish between pyæmia and septicæmia. For these reasons Dr. B. advocates the old word "toxæmia." It implies no theory.

It only expresses the fact that a poison has entered the blood. Dr. Barnes traces as follows the several factors which enter into the problem of a case of septicæmia:—

1. The modified blood condition of the gravida: excess of fibrin, diminished red blood-globules, increase of water and white blood globules. If there have been hemorrhage during or after labour, the blood has become more watery and more charged with fibrin. The excess of albuminoid or colloid materials increases centripetal osmosis. 2. There is a fall of nervous and vascular tension, involving a change in the dynamic state of the circulation. 3. There is a period of rest after labour, of preparation for the active processes of breaking up of the tissue used during pregnancy, now superfluous, and of casting out refuse-stuff. This lasts 48 hours. It is rare to see evidences of self-empoisonment before the third day. 4. At the end of this time the disintegration of the uterus and other organs has begun. There is a great revolution at hand. The proceeds of the disintegration of the uterus, &c., are rapidly taken up into the circulation, and ought to be as rapidly converted and excreted. Absorption revives. The lymphatic vessels and venules have come into active function. If the lymphatic system and liver fail to prepare this waste-stuff brought to them, so as to fit it to enter the circulating blood, then it (the waste-stuff) is noxious, poisonous. Hence one form of toxæmia. 5. But even if this waste-stuff enters the blood, and is properly prepared or digested for removal, if it be not removed *pari-passu*, there will be accumulation in the system. This is another form of toxæmia. Hence the necessity for easily-working excretory organs; sound lungs, kidneys, and skin. 6. Both evils may co-exist,—conversion of waste-stuff and excretion may both be defective. Hence a complex toxæmia, endogenetic, derived from no external force. 7. Other dangers exist,—the ruptures, lacerations, and violent bruisings of the parturient tract by the passage of the child, and the separation of the placenta. Barnes draws especial attention, in this connection, to the extravasation of blood and serum in the pelvic connective tissue, and the baring of the mucous membrane by removal of its epithelium. In these various ways traumatism obtains

in the puerperal woman. Absorbing surfaces are produced. If there be foul, decomposing, septic material about the wounded parts, it may be absorbed—another form of autogenetic toxæmia. But this may be combined with the other two forms or sources, and a complex case be produced. Simple septicæmia, as described and imagined, probably does not, cannot exist. Whenever the blood is poisoned, be it with septic stuff or other, the natural processes of purification, of excretion of the waste-stuff, are obstructed, the balance between disintegration, absorption, and excretion is lost. 8. The puerpera is still open to poisoning from other sources. Poisons foreign to her may be brought in contact with the raw surfaces and absorbed. Cadaveric poison and others may be conveyed by the examining finger, tainted sponges or linen, may also carry such poisons Bacteria probably play an important part in some of these. 9. The lying-in woman, again, is peculiarly susceptible to the ingestion of zymotic poisons. Typhoid fever, variola, scarlatina, rubeola, and erysipelas act with special virulence in the blood of the puerpera. These poisons in the lying-in woman are in contact with blood loaded with refuse stuff which it cannot excrete, and are therefore most favourably circumstanced for the development of mischief. The patient may have had scarlatina before. She may have enjoyed immunity to the full extent till she became pregnant. If inhaled, the poison was quickly eliminated. But in puerperal blood, elimination is arrested and the morbid train is fired. Under such circumstances we get a toxæmia very complex in nature. It is neither waste-stuff poison, septicæmia, pyæmia, nor scarlatina, but is a compound of all, the product of their interactions.

How is the lying-in woman to be protected from these various sources of danger? There are two main objects. First, keep all extraneous poisons out. Second, if any gain entry, counteract their ill effects. It is an essential condition to success to put the system in the best condition for defence. Secure efficiency of the organs of nutrition and excretion. The carrying out of this programme fully is antiseptic midwifery in the broad sense. The adaptation of the Listerian or conventional antiseptic precautions is antiseptic midwifery in the partial and narrow sense.

But we cannot always get a healthy puerperal subject. We must take her as we find her, perhaps with damaged kidneys or liver, deficient in nerve power and fibre, with skin and lungs unequal to the new task thrown on them. Pregnancy is the great test of the soundness of the subject. Under it many women break down; some abort, others go on a little longer, some fail in labour, others in childbed.

Dr. Barnes is sceptical as to the occurrence of anything like milk-fever, strictly speaking. It is not physiological; it is not constant. When the breasts are sound, there is no fever. If there be fever, it obstructs the due secretion of milk. If the breast be not in a condition to secrete, fever is excited. The truth is that the third day is the epoch for the establishment of the absoption process. The two days immediately following labour are a period of rest. Blood or other matter in the uterus has not had time to decompose. But both begin at the third day. Active absorption finds material ready to work upon. This is the cause of febrility on the third day. The mammary glands labour under the disturbance thus induced. Their healthy action is impeded, and as they are under easy observation, their struggle against the fever is interpreted as the cause of the fever.

Antiseptic treatment of our lying-in patients must be begun early. 1. It begins with the management of labour. The great point is to secure firm contraction of the uterus. The immediate object, of course, is to prevent hemorrhage. To prevent hemorrhage is to oppose septicæmia. Dr. Barnes insists on the utility of the pad and binder to provoke contraction and counteract aspiration or the suction-force which tends to draw air, one of the factors of decomposition, into the uterus. The author further advocates the custom of giving an aperient the day after labour. In the effort of defecation the uterus, compressed, often expels a clot and contracts more effectually. For many years he has given to every patient after labour a mixture of quinine, ergot, and digitalis, three times daily for two or three weeks, and asserts that it contracts the uterus remarkably. The patient often feels a contraction soon after each dose. This ought to be regarded as the foremost measure in antiseptic midwifery. It shuts the

gate in the face of the enemy. 2. Wash out the uterus. Use a two per cent. solution of carbolic acid once or twice a day, from the second day onwards. It is best done by a gravitation or syphon tube. The good results on pulse, temperature and rigors is well known to be remarkable. In this connection the author points out that "Harvey the Immortal" thus cured a lady in imminent danger of death from septicæmia. Keep the uterus in position. Retroflexion or anteflexion favour retention of discharges. Keep the catheter and other appliances soaked in carbolic acid solution. Use no sponges, but soft tow soaked in the solution; it can then be thrown away. The napkins or diapers are a source of contamination, as they come from the wash which does not mean purification. The modern "ladies' towel" should be used. It consists of cotton or tow impregnated with carbolic acid. After use they are burned. Physician and nurse must wash in carbolic solution, and use carbolized vaseline for lubricating the hand. Dr. Barnes suggests that sulphurous acid will be found better than carbolic acid, which sometimes poisons. He has used it recently at St. George's Hospital. Dutrochet, in his investigations on osmosis, found that the slightest trace of it stopped osmosis. It may be used in a solution of one to forty of water. 3. While we take care to exclude foul stuff from the genital canal, it is also important to exclude foul air from the lungs. Supply pure air. Sometimes it is difficult. If the sun shines, open the window. At night, a fire will furnish good ventilation. Avoid a chill to the surface, or any check to the secreting action of lungs, skin, kidneys and alimentary canal. 4. Secure drainage of the uterus. Dr. Barnes is rather lukewarm in his advocacy of Goodell's plan of raising the patient at times to the sitting posture. In the weakly, those who have suffered from hemorrhage, syncope and sudden death have occasionally been the consequences. There is no objection to having the bed made so that the head and shoulders are kept at a higher level than the pelvis. 5. Supply healthy nutriment by the stomach. This is an effective barrier to absorption of noxious stuff from the parturient canal. The more the system is supplied in this way, the less will it absorb in other ways.

Although the diet ought to be generous in quantity it ought to be easily assimilable. Broths, beef-tea, milk toast, eggs, plain or combined are enough for the first two days. After this more solid food ought gradually to be allowed.

Dr. Barnes summarizes Antiseptic Midwifery in the following rules:—

1. Keep the door shut against the enemy by maintaining contraction of the uterus.

2. Prevent the enemy from forming and collecting by irrigating the parturient canal with antiseptic fluids.

3. Eject the enemy as fast as he effects an entry; that is, keep the excretory organs in activity.

4. Guard the lying-in chamber against the approach of foreign poisons.

5. Fortify the patient against the attack of the enemy by keeping up due supplies of wholesome food.

The practitioner who adopts these principles for his guidance will rarely meet with septicæmia in women confined in their own homes. It is otherwise in hospital practice. Here in addition to most careful attention to purity of clothing, beds, linen, fingers of accoucheur and nurse, &c., he recommends the carbolic spray. These measures within the last few years have saved many lives in Maternity Hospitals. Dr. Fancourt Barnes' results at the British Lying-in Hospital are amongst those most recently published.

The Treatment of Puerperal Hemorrhage.—This ever-interesting subject to the obstetrician was discussed at the June (1881) meeting of the Medical Society of the County of Kings, Brooklyn, N. Y. Dr. T. G. Thomas, of New York, participated in an able address containing many practical and some original ideas. He said that many individual remedies had been brought forward of late, but he did not believe that we had advanced much from olden time. The influences than which there are no other which prevent post-partum hemorrhage are contraction of the uterus, which ligates the vessels, and coagulation—the formation of thrombi at their mouths. In ante-partum hemorrhage there is a direct influence, pressure of bleeding points

directly against the body of the child. Post-partum hemorrhage is often due to hasty action on the part of the accoucher, effecting rapid delivery. It occurs much more frequently in cases managed by men who do not watch the uterus, who do not allow nature to deliver the child, who do not superintend the third stage of labor, and who do not fix in their mind the fact that the third stage of labor consists, not in the delivery of the placenta, but in *persistent uterine contraction.* As regards prognosis. he believed that this depends much more on the practitioner in charge than upon the case ; that a case of puerperal hemorrhage, ante or post-partum, if managed carefully and thoroughly in the beginning, will almost invariably get well. In hemorrhage at the beginning of labor, before the rupture of the membranes, (the child and liquor amnii are in the uterus) and the os uteri is not dilated, unless it be furious—the tampon is to be employed. Internal hemorrhage is, of course, possible in these cases, but only when there is not firm tonic contraction of the uterus, which latter condition must be secured. The practitioner must not, therefore, put in a tampon and leave his patient, for if the uterus relax she may die of internal hemorrhage. In speaking of the tampon, Dr. Thomas said:—"I do not mean that painful and inefficient measure known to our grandfathers, which consisted in stuffing a silk handkerchief into the vagina, or in using the kite-tail structure which accomplished nothing towards obtaining the desired result, but I mean the tamponing which is secured by placing the woman upon her left side, with one arm thrown behind her, and, with a Sims' speculum, or the two fingers of an assistant, lifting the perineum and depressing the anterior wall of the vagina, removing all blood from the vagina, and then taking balls of wet cotton, not containing any astringent whatever, and stuffing them all around the cervix so as to make a collar, and then thoroughly filling the entire vagina with this wet cotton." If in spite of such efforts well and persistently directed, hemorrhage goes on, the tampon is to be removed, the membranes ruptured by introducing the sound through the narrow cervix, and uterine action secured. If these fail, the uterus is to be emptied by rapid dilatation, begun by Barnes'

bags and completed by introduction of the hand folded into a cone, and then opened so as to spread out the tissues till it can grasp and extract the child, placenta and clots. The same treatment identically is that which is to be adopted for hemorrhage from separation of the placenta, as by a blow or fall on the abdomen, as labor is progressing.

In placenta prævia, we cannot trust to the same principles. The mouths of the bleeding vessels cannot be permanently sealed with coagulated blood so as to arrest the hemorrhage, because by reason of contraction of the uterus no sooner is one set of vessels closed than another is freshly opened, and unless something more is done the woman may die in the first stage of labor. Neither can we depend upon pressure and counter pressure, for the head of the child is quite above the placenta and out of reach. As regards ligation of blood vessels by contraction of uterine fibres, this is not to be depended on,—the cervix contracts very badly at best; besides, nature wishes to have it open. For all these reasons hemorrhage with placenta prævia is the most difficult to treat. It is in the first stage that the dangers and difficulties chiefly exist. In this stage Dr. Thomas advocates a properly applied tampon, which he prepares and applies as follows:—"My plan, when I wish to tampon for placenta pravia, is to take an ordinary piece of linen, make a conical bag, stuff it with carbolized cotton till it is quite hard, and sew up the base. I then turn the woman on her side, introduce a Sims' speculum, remove all the blood I can, and then push the apex of that cone into the uterus as far as I can make it go. It can do no harm. I then tampon around it, fill the vagina, and put on a strong T bandage, which keeps the compress against the uterus constantly, and when the uterus contracts it is forced up on this cone, and gradually three things are accomplished: First, coagulation of blood is favoured; second, the cervix is dilated by the pressure of the elastic plug; and third, direct pressure is brought to bear upon the bleeding blood vessels." When the first stage is complete the greatest difficulty is overcome; the uterus can be emptied at once, and the case is at an end.

In post-partum hemorrhage, when ordinary measures to secure contraction of the uterus have failed, then hypodermics of ergot or ether, or both should be employed. If the hemorrhage is not severe enough, or if for other reasons we do not wish to pass the hand into the cavity of the uterus, excessive cold or heat may be applied to the fundus, the uterus is to be forced into firm contraction under the hand, and never let go till the bleeding stops. Dr. Thomas asks the question as to how long the uterus ought to be held? And replies: "I have repeatedly held it, under such circumstances, for 12 hours." But if these measures fail and hemorrhage continues, "then wash the hand and arm thoroughly with soap and water, use a nail brush thoroughly, dip the hand and arm in warm, strong, carbolized water and without wiping them, carry the hand up to the fundus uteri, sweep everything out, and keep the hand there until the uterus contracts. Pass the pulp of the fingers up and down the sides of the uterus in any direction, and at the same time make counter pressure from the outside." Dr. Thomas believes that in ninety-nine cases out of a hundred of post-partum hemorrhage seen before the woman's nervous system is entirely prostrated if the hand is introduced and used in the manner described, the uterus will contract. He does not believe that hot water injections or the use of a sponge dipped in hot water and introduced to the interior of the uterus act otherwise than by mechanical irritation, and then the hand is more effectual. Injection of solutions of iron he rejects absolutely, except as a *dernier ressort* in the strictest possible sense.—(The proceedings of the Medical Society for the County of Kings, Brooklyn, N.Y., for July, 1881.)

A Case of Pyosalpinx bursting into the Abdominal Cavity.—Dr. H. Burnier reports a case of right-sided purulent salpingitis with the termination just mentioned. A woman, 69 years of age, suffering from prolapsus uteri, died soon after admission to the hospital. In the right side of the pelvis a pus-cavity was found communicating with the right fallopian tube. The portion of intestine attached was thinned at several points, and actually perforated at one. Burnier believed that the metritis and endometritis resulting from the prolapse had given

rise to the purulent salpingitis. The free end of the tube was closed, and the consequent accumulation led to rupture. Eleven days before death the patient suffered from tolerably well marked symptoms of peritonitis. It was probably at this time that the rupture took place.—(*Zeitschrift f. Geb. & Gynak.*, Bd. vi., Hft. 2.)

Treatment of Incontinence of Urine in Women.—Dr. J. M. Chapman reports (*Edin. Med. Jour.*, June, 1881), a case of vesical catarrh, with inability to retain the urine for more than half an hour, which, after having cured the catarrh, he treated by gradual dilatation of the bladder with daily injections of a warm two-per cent. solution of carbolic acid in increasing quantity. At the beginning of the treatment the patient could retain the urine only one hour, and the bladder held one fluid ounce. After six weeks' treatment the capacity was sixteen ounces; during the night she micturated once or twice only, and during the day at normal intervals. We have had some very favourable experience of this method of treating this form of incontinence.

A New Method of Intra-Uterine Application of Perchloride of Iron.—Dr. Von Teutleben, of Berlin, has recently (*Centralblatt für Gynakologie*, 26th Nov., 1881), proposed to use perchloride of iron in the form of solid sticks. These are made of the pure salt, of suitable size, and are kept in stoppered bottles, as they are deliquescent when exposed to the air. They are introduced to the uterine cavity by means of a parti-caustique with as large a fenestra as possible. The instrument is to be moved about several times in various directions, and partially withdrawn and reintroduced to remove coagula, and so favor the escape of the melted salt. After a few minutes the instrument may be removed, and will be found empty, the perchloride being dissolved and remaining in the uterine cavity. The advantages claimed by Teutleben for this method are facility of application, as the parti-caustique is easily guided to the uterine cavity by the finger without the use of a speculum, which, in women with very narrow or sensitive vulva or vagina, is painful or disagreeable, and further, the absolute impossibility of any escape of the iron into the abdominal cavity. This plan certainly commends

itself by reason of these obvious advantages. Its absolute safety does not appear to us to be proved.

Capillary Drainage of the Abdominal Cavity.—Prof. Hegar, of Treiberg, draws attention (*Centralblatt fur Gynakologie*, 18th Feb., 1882) to his method of employment of the principle of capillarity in drainage after laparotomies. The method is described by Kaltenbach, who wrote the section on ovariotomy in Hegar and Kaltenbach's *Operative Gynakologie*, 2nd edition 1881. It consists in the use of a glass drainage-tube in the wound and plugging its outer extremity with absorbent carbolized cotton attached to the end of the tube by a piece of wire wound around it. A quantity of prepared plugs of this cotton are kept ready to hand, and the nurse or student in charge of the case can change the dressing in a few seconds as often as it becomes soaked with the discharges. Frequent changes are necessary during the first twelve hours only, as after this the soakage is less copious. Asepsis in the discharges was found to be maintained so long as the cotton was changed sufficiently often. This was proved by Prof. Zeigler, who, at Hegar's instance, examined microscopically the discharges for four or five days and found no bacteria to be visible in them.

Kehrer, of Heidelberg, in the number for 21st January, 1882, of the same periodical, describes the use in one case, of a modification of Hegar's method. It consists in using strands of cotton (wicking) enclosed in rubber tubing as it lies between the edges of the wound, the free ends lying in the abdominal cavity and outside the wound.

Reviews and Notices of Books.

Eczema and its Management: a practical treatise based on the study of 2,500 cases of the disease.—By L. DUNCAN BULKLEY, A.M., M.D., &c. 8vo., pp. 334. New York: G. P. Putnam's Sons, 1881.

Dr. Bulkley is so well known as a teacher of, and writer on, skin diseases (especially eczema), that anything coming from his pen is sure to be the result of matured experience. This book, as might be expected, represents the personal views of the

author, and on that account is much more valuable as a contribution to the Science of Dermatology. Most of the matter has appeared from time to time in the various medical journals. The basis of the work being, however, an Essay on "The Management of Eczema," read before the American Medical Association in 1874. In the opening chapter we find a definition of the disease and also the author's valuable general classification of diseases of the skin. In Chapter II an interesting analysis of 2,500 cases of eczema is given, from which it appears that eczema occurs with greatest frequency between the ages of 20 and 40, and most often on the face and head, hands, thighs and legs. In about 8 p. c. of the private cases it occurs with other eruptions, these eruptions being psoriasis, boils and severe acne. The frequent occurrence of hordeoli or styes is considered by Dr. Bulkley to be significant of an eczematous diathesis. He has little belief in the heredity of the disease and gives, in proof, a table, where out of 2,153 relatives of 500 eczema patients only 422 were ever said to have been affected with eczema. Gouty, strumous, and nervous states which are transmitted, predispose to eczema; eczema has also frequently been associated with asthma, affections of the liver, &c.

In Chapter IV the different forms of eczema are described, and we are told that eczema may be papular or squamous from beginning to end, the typical vesicular form being comparatively rare. Cases of papular eczema are often called lichen, strophulus, &c.

In Chapter VI the nature of eczema (whether constitutional or local) is discussed at length. Although educated at the Vienna School under the great Hebra, Dr. Bulkley has completely discarded his teacher's ideas as to the local pathology and treatment, and is convinced that eczema and many other diseases of the skin are constitutional diseases, and success depends in a great measure on careful constitutional treatment, aided, however, by local applications. Dr. Bulkley states that he has frequently seen cases of eczema disappear under constitutional treatment. Hebra and his school believe, on the other hand, that constitutional treatment alone never cured;

that constitutional and local treatment together cure, and also that local treatment alone cures. They inferred, therefore, that in the cases treated constitutionally and locally, it is the local treatment only which is curative. The author does not adopt the old humoral pathology to such an extent as to assert that the disease is due to a *materies morbi*, but gives some credit to the importance of local cell action. He, however, holds that there is such a condition as an eczematous diathesis and what is commonly called eczema produced by purely local causes, as irritation of insects, occupation, &c., is not eczema but dermatitis, that there is no more connection between the two conditions than there is between rheumatism and a sprained ankle ; and that the success of the *local* school has been due to the fact of their not recognizing the difference between dermatitis and eczema. He admits that clinically these diseases cannot be distinguished, except by their different causes, and that their local pathology is identical. This, certainly, we think, is a distinction without a difference. Dr. Bulkley concludes that eczema cannot be both constitutional and local. His arguments in favour of the constituted character of the disease are very forcible, but still not completely convincing, especially that part where the chance of eczema being local is excluded by calling it dermatitis. Probably a view taking the happy mean between the local and constitutional schools would be nearer the truth, viz., that eczema is a disease which may be either constitutional or local in its origin and course.

Eczematous patients may be divided, says Dr. Bulkley, with tolerable accuracy into three classes: the gouty, the strumous and the neurotic. This corresponds to the three states of constitutional debility described by Mr. (now Sir) Erasmus Wilson, viz., assimilative debility, nutritive debility and nervous debility. Dr. Bulkley observes that he cannot understand how the influence of the gouty diathesis has been overlooked in connection with eczema by the local pathologists. The clinical signs by which the gouty state is manifested in eczematous patients are said to be: imperfect digestion, constipation, diarrhœa, imperfect urinary secretion and faulty cutaneous action; these states

depend the one very much on the other. The most important of these symptoms are imperfect digestion and constipation. The second-class strumous is generally easily recognized. In Vienna, one-third of the children suffering from eczema, Neumann states, were found to be rachitic or strumous. The author draws attention to the fact that this condition exists in the aged as well as in children. The third, or neurotic class, includes all those who suffer from "nervous debility, neurasthenia, or lowered vitality of nerve action," and this condition is often induced by the gouty state. Besides the cases under these classes, others are seen where the eczema is connected with dentition, varicose veins, pregnancy, &c.

Among the local causes mentioned as causing eczema in persons predisposed to it, are atmospheric conditions, catching cold, bad air, burns, action of soap, water, scratching the skin, chemical irritants, as mercurial and sulphur ointments, &c.

Now, many of these causes produce an eruption which, according to the author, would be a dermatitis, and should, therefore, be ignored as causes of eczema. Still they are given, which shows how difficult it is to draw the line and keep to the purely constitutional theory. Of course it is said that these causes produce eczema only in those persons having the eczematous diathesis; but what is this diathesis which is only recognized by the appearance of an eruption, and how are we to say that it is not a dermatitis?

Dr. Bulkley believes that tobacco has some influence in producing or prolonging this disease, that is, if used at all in excess. The ill-effects are produced in three ways: 1st. By disturbance of digestion. 2nd. Depressing effects on the nervous system. 3rd. The irritating effects of the fumes, especially in eczema of the hands and face.

The author is evidently never at a loss to account for the causation of every case of eczema, and has no large class of cases, as Hebra had, whose causes are unknown. Dividing patients into the three divisions given above, there are few, even of ordinary people, who would not be included in one or other, especially when each division has such a wide range. Dr.

Bulkley is quite Abernethian in giving such prominence to disorders of the digestion.

Chapter VII is devoted to treatment, constitutional and local. Enemata and mineral waters to relieve constipation are disapproved of, pills of blue mass, colocynth and ipecac. being preferred. To relieve itching, chloral and bromide of potassium, alone or combined, are of the greatest service. Gelseminum is highly spoken of, in this connection, given in ten minim doses of the tincture, and increased and repeated every half hour till relieved. When speaking of local treatment it is very truly remarked that the greatest number of errors made are in the direction of over stimulating and over irritating applications.

Chapter IX., on the management of infantile eczema, is, perhaps, the best in the book, great stress being laid on proper constitutional treatment: Tonics and cod-liver oil for the strumous, with an occasional alkaline purge. For the apparently healthy child suffering from eczema, depurative remedies with alkalies have proved very valuable. The author remarks that children suffering from eczema are often apparently in the most rugged health, but he is confident that a careful medical investigation will always discover *something* to be corrected besides the disorder of the skin. With regard to local applications it is very truly remarked, that he is poorly able to treat infantile eczema, who knows only zinc ointment, which bears the palm for universality of use. Lard ointments are objected to in the treatment of infantile eczema, cold cream made from almond oil, spermaceti and bees-wax being much preferred. The products of petroleum have not sufficient consistency. Great stress is properly laid on the importance of keeping the applications continuously in contact with the eruption, day and night. Ointments should be applied on lint and not rubbed in. In nursing children the health of the mother should be attended to.

Chapter X and the three following chapters are devoted to regional eczema, as face and scalp, hands and arms, feet and legs, anus and genital regions. Chapter XV being taken up with eczema of the trunk and general eczema. Attention is drawn to the fact that eczema of the face and hands is con-

stantly found to be associated with dyspeptic and nervous conditions. In eczema of the palms of the hands, soles of the feet and tips of the fingers, Dr. Bulkley has found the use of hot water a most important addition to the treatment. The water should be very hot, so hot that the part can be put in only for a few seconds; the affected part should be immersed thus several times, then dried carefully, and some ointment applied. In old, inveterate circumscribed eczema, Hebra's treatment by caustic potash, 5 to 20 grs. to the ounce of water, is advised. This, though painful, is often effectual. In the management of eczema and eczematous and varicose ulcers of the lower extremities, the use of the solid rubber bandages is unexcelled. The bandage may cause a little pain and heat, but the discomfort soon passes off. The most common and almost invariable symptom accompanying eczema of the arms and genital region Dr. Bulkley has found to be constipation, and this must be overcome if successful treatment is desired. Locally, very hot water is advised. When eczema occurs on the trunk, it often indicates "profound disturbance of the functions of nutrition," and, as might be imagined, local remedies have not much curative effect, and more attention should be paid to internal treatment. Arsenic, combined with other tonics, has been found useful, but should not be given alone. Cod liver oil is often beneficial. Beer and spirits in general eczema should be strenuously avoided.

Chapter XV is devoted to a consideration of diet and hygiene in connection with eczema. The author thinks, in common with many others, that articles of diet have a direct effect on the skin, for good or evil; he thinks no small share of the cases of eczema in private life are prolonged and perhaps caused by over-eating. This is especially the case in infants who are too frequently fed or whose mothers' milk is at fault owing to her partaking daily of beer, ale, porter and wine, or else large amounts of tea. Dr. Bulkley has noticed that eczema patients of all ages dislike fats as an article of diet, and from the favorable results he has obtained by the use of cod liver oil, he has long been convinced that the absence of fat is an important factor in causing eczema.

Tea, coffee, and fermented liquors should be avoided by the eczematous, also greasy soups. Sweet potatoes, cabbage, bananas and apples have a harmful effect on eczema, also salt food. Regular exercise in the open air is strongly advocated, especially long walks.

The last chapter (XVI) contains the formulæ for the various preparations used by the author, such as mixtures, lotions, ointments, &c. The book is well printed on thick paper, and is free from typographical errors. From its practical nature, easy style and original character, this work is sure to become popular, and take the first place among works on eczema.

The Physician's Clinical Record for Hospital or Private Practice, with memoranda for examining patients, temperature, charts, &c. Philadelphia: D. G. Brinton.

This is a handy little volume of the size of a small octavo volume, just fitted for the pocket. Almost its entire bulk is taken up with forms for clinical record. These are so ruled as to give space for pulse, temperature, respirations and other things generally required in such a record; and in addition, a number of very good temperature charts, and (a new feature) a small pasteboard figure of the shape of the chest—a stencil, as it is called. From this an outline can at once be made on one of the blank pages, and special points concerning situation of tumors, areas of dullness, &c., can be noted thereon. For those who do not keep more extended notes of cases, one of these pocket records will be found exceedingly useful.

The Diagnosis and Treatment of the Diseases of the Eye.—By HENRY W. WILLIAMS, A. M., M. D., Professor of Ophthalmology in Harvard University, Ophthalmic Surgeon to the City Hospital, Boston, &c. Boston: Houghton, Mifflin & Co. Montreal: Dawson Bros.

This is an excellent and highly practical treatise by an author already well known from smaller works already published. All purely scientific and theoretical discussions have been purposely excluded, and the bulk having been thus materially diminished,

it is made to contain, within very reasonable limits, all that is essential to the diagnosis, causation and treatment of eye diseases. All portions of the book seem to have been compiled with equal care, and the style is clear and logical. Special attention is given to those important affections of the deep structures of the eye, which are of such great diagnostic value to the physician in cases of suspected cerebral disorder. Color-blindness, and the method of testing for this defect are fully explained—a matter on which much observation has recently been bestowed. In conclusion, Prof. Williams' hand-book can be highly recommended as an admirable practical treatise on ophthalmic practice, and one extremely well suited to meet the wants of the general practitioner.

Books and Pamphlets Received.

ILLUSTRATIONS OF DISSECTIONS, IN A SERIES OF ORIGINAL COLORED PLATES. By George Viner Ellis and G. H. Ford. Vol. I. Second edition. New York: Wm. Wood & Co.

MARRIAGE AND PARENTAGE AND THE SANITARY AND PHYSIOLOGICAL LAWS FOR THE PRODUCTION OF FINER HEALTH AND GREATER ABILITY. By a Physician and Sanitarian. New York: M. L. Holbrook & Co.

A MANUAL OF ORGANIC MATERIA MEDICA. By John M. Maisch, Phar. D. Philadelphia: Henry C. Lea's Son & Co.

TRANSACTIONS OF THE MEDICAL ASSOCIATION OF GEORGIA—32nd Annual Session, 1881. Augusta, Georgia.

AN INDEX OF SURGERY. Being a concise classification of the main facts and theories of Surgery for the use of senior students and others. By C. B. Keetley, F.R.C.S. New York: Bermingham & Co.

PERCUSSION OUTLINES. By E. G. Cutter, M.D., and G. M. Garland, M.D. Boston: Houghton, Mifflin & Co.

A TREATISE ON HUMAN PHYSIOLOGY. Designed for the use of Students and Practitioners of Medicine. By John C. Dalton, M.D. Seventh edition, with two hundred and fifty-two Illustrations. Philadelphia: Henry C Lea's Son & Co.

A MANUAL OF DENTAL ANATOMY—HUMAN AND COMPARATIVE. By Charles S. Tomes, M.A., F.R.S. Second edition. Philadelphia: Presley Blakiston.

Society Proceedings.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, February 17, 1882.

GEORGE ROSS, M.D., PRESIDENT, IN THE CHAIR.

Dr. Osler exhibited a series of specimens illustrating certain points in the pathology of atheroma of vessels.

I.—*Atheromatous Plate and Ulcers on Arch of Aorta.*—The specimen was taken from a man aged 65, who died in the General Hospital after fracture of the left femur. Death was somewhat sudden and unlooked-for; the friends objected to the head being opened. Nothing of special note was found in the viscera; fat emboli were suspected, but none found on careful examination of the lungs. The heart was normal; valves a little stiff. The anterior wall of the arch of the aorta presented a flat plate about 10 × 6 cm., and from 3 to 6 times the thickness of the rest of the tube. The intima over this area was opaque, and presented irregular prominences. At one point, 2 cm. in front of the innominate, there was an oval-shaped loss of substance 8 × 4 mm., which opened into a small atheromatous abscess, the contents of which had in great part escaped. The increased thickness of the wall was due to a layer of brownish-yellow, firm, caseous matter, between the intima and the media; in places, this was 5 to 6 mm. in diameter, it was nowhere calcified. There was a second spot of softening in it which had not burst into the tube, but was separated by a thin brownish membrane. On squeezing from the outer side, a puriform fluid escaped. There were a few small spots of atheroma in the descending aorta. No satisfactory cause of death was found, and it seemed scarcely likely that the bursting of such a small abscess would produce immediate death. Unfortunately, the mode of death was not known, the patient being found dead by the night nurse. Such a spot might form the starting-point of an aneurism, as in the first specimen. Whether any symptoms follow this condition is not positively known; we certainly meet these ulcers in many cases, which, during life, have not afforded any evidence of their presence.

Dr. Girdwood thought it not improbable that the bursting of the abscess and discharge of its contents caused death, though, of course, it was impossible to say in the absence of an examination of the brain. He asked whether there was a murmur? Dr. Osler could not say.

II.—*Atheromatous Abscess and Aneurism of the Right Iliac Artery; general atheroma.*—This specimen was taken from an aged woman who had died from cancer of the cardiac end of the stomach. She had also dry gangrene of the toes of the right foot. Heart was in a state of brown atrophy, and valves were stiff. The aorta presented numerous calcareous plates, and towards its bifurcation was firm and rigid. The intima had many smooth, brownish-yellow calcified patches, and there were also several small atheromatous abscesses. The right iliac artery, at its origin, presented a firm, elastic tumour the size of a walnut, which almost obliterated its lumen. On opening the vessel, this tumour was found to be an aneurismal sac, communicating by a small orifice which was blocked with adherent clots. On section, the sac was found filled with a reddish thrombi in the lower, and pulpy atheromatous matter at the upper part. It was evidently a small atheromatous abscess converted into an aneurismal sac. The external iliac and femoral, with its branches, on being removed, were found to have thickened walls and in places calcified. Near the popliteal the lumen was greatly reduced, and an adherent thrombus almost obliterated the vessel. In several spots the calcified intima was elevated by a quantity of pulpy atheroma beneath it.

III.—*Bizzozero's New (?) Blood Element and its relation to Thrombus formation.*—The aorta in this specimen, which was obtained from a patient who died of extensive cancer of the stomach, presented an extraordinary condition. Just above its bifurcation there was tolerably advanced atheroma of the entire intima, patchy, and in places calcified; there was also a greyish-white irregular mass, 5 × 3 cm., somewhat flattened, but projecting from the intima about 1 cm., to which it was closely united. In the abdominal aorta there were six or eight smaller spots of a similar character attached to

localized areas of atheroma, the appearance, when fresh, being very suggestive of a neoplasm, and these were thought at first to be secondary cancerous masses. On examination, the large spot was found to be composed of closely set small colourless bodies, about one-third or one-fourth the size of red blood corpuscles, discoid, and with a uniform greyish stroma. They appeared to be identical with the individual elements of Schultze's *granule masses*, which are so common in the blood of certain persons. In Dr. Wood's case of aneurism, the grey filaments on the walls were made up of precisely the same elements. A few colourless corpuscles and some fibrin fibrils also existed, but they were in trifling amount compared with the small elements. Dr. Osler remarked that these were the little bodies recently described by Prof. Bizzozero of Turin as a new blood element, but they had, in reality, long been known, having been described by Schultze in 1861. They occur in the drawn blood in the form of granular clumps, but he (Dr. O.) had shown, in a communication to the Royal Society in 1874, that in the circulatory blood the individual elements of the masses were isolated, and in the form of small discoids. An engraving was passed round illustrating them, as seen in a subcutaneous vessel of the young rat, which was the most favourable animal for the study of these bodies. In the case under consideration, these elements had apparently collected on an extensive area of atheroma, and had either multiplied there or the mass had been formed by their gradual accretion.

In comparative pathology, Dr. Osler presented the following specimens:—

Glanders.—1. The split head of a horse showing the nasal fossæ and sinuses. Horse had been ill for several months, but still in pretty good condition, but suffering from a chronic mucopurulent discharge from the nostrils. The specimen showed numerous ulcers, many of which could be seen from the external orifices; glanders tubercles in the form of isolated neoplasms on the Schneiderian membrane. They were thickly set in the upper part of the septum, and some were as large as beans. 2. Diffuse infiltration of the mucosa, with a greyish material most evident in

frontal sinuses and antra, but existed over the turbinated bones. 3. Stellate cicatrices of healed ulcers: there were numerous nodules in the trachea and a few ulcers; there were also some of the specific nodules of the disease in the lungs. Liver, spleen and kidneys healthy. The cervical lymph glands were much swollen and contained a few nodules, no cutaneous glanders. (farcy.)

Dr. Gurd asked with reference to its degree of communicability, and whether many cases in man had been met with here. The President believed that the liability to contagion in man was over-rated; at least there were many cases of glanders in horses and yet instances of infection of grooms and others were very rare. He had seen only one case; that of a groom who had taken charge of several glandered animals on board a river steamer. The stench from them was very great and he took the affection by inhalation of the poison.

Verminous Aneurism.—Portion of arteria colica artery from a horse showing a small aneurismal dilatation, the size of an almond, the walls thickened and covered with adherent thrombi among which were several specimens of the *strongylus armatus* or palisade worm. This parasite bores its way from the intestine, penetrates the artery and excites arteritis, with weakness of the walls, dilatation and thrombosis in the lining menbrane. It is a common affection among horses and according to Bollinger is the most frequent cause of colic in these animals. He states that of horses which are afflicted with internal disease, 40 per cent. suffer from colic; of any 100 diseased horses, 40 have perished from colic; and among 100 colic patients, 87 recover and 13 die. No epizootic or sporadic affection in horses is so common and so fatal.

Aneurism of Aorta. Perforation of Œsophagus.—Dr. Wood narrated the case—a female, aged 55 years, ailing for some days with dyspeptic symptoms. One evening, on going to stool, she complained of feeling sick, did not vomit, but fell over suddenly and died in a few minutes. There had been no apprehension of serious trouble, and nothing special could be elicited on careful examination of chest and abdomen. The autopsy by Dr. Osler revealed a large coagulum in the stomach, forming a mould of

that organ. The source of the blood was not detected till the œsophagus was dissected, when a small aneurismal tumour, the size of a billiard ball, was found between it and the aorta, about two inches above the cardia. The aorta presented, in the lower thoracic portion, a small punched-out orifice, size of a five-cent piece, with a narrow zone of thickened translucent intima about it. This led directly into a small sacculated dilatation of the intima, not larger than a marble, which had ruptured and formed the main sac, spheroidal in shape, with walls composed of thickened media and adventitia. It contained fresh clots and thin mural thrombi. The perforation into the œsophagus was by a small orifice which was plugged with a clot. On the thrombi lining the sac there were curious-branched thread-like filaments well marked against the dark-red back-ground. These were composed of minute spherical bodies, identical with those found in the thrombus of the aorta in the case just described. No heart disease or atheroma of the aorta, except in the zone just about the orifice. The trouble had likely originated in a localized atheromatous process, with softening, rupture, and subsequent dilatation. The case was also interesting, as the patient had been treated four years before for pneumonic phthisis, but had unexpectedly made a complete recovery. The upper half of the right lung was firm, and contained much fibroid tissue, with several bronchiectatic cavities.

Dr. Girdwood remarked on the latency of many cases of aneurism and the varied symptoms produced by irritation or pressure. He narrated a case in point, in which digestive troubles were for a long time the most prominent feature in a case of abdominal aneurism. Dr. Mills asked if there had been any difficulty in swallowing, and suggested that auscultation of the œsophagus might have given some information in such a case. Dr. Wood had never been able to detect any abnormal physical signs in either chest or abdomen. He had not auscultated gullet.

Ammonia Poisoning.—Dr. A. A. Browne related the case, and presented the stomach and œsophagus. (*See page* 449.) The patient, aged 55, had been in the habit of taking bromide of potassium after drinking bouts. His bottle was accidentally filled with

strong liquor ammonia, and he gulped down a mouthful directly from it. Great pain was at once experienced and profuse bleeding came on from the stomach, lasting twelve hours. The vomiting was frequent, but after the bleeding stopped only recurred on taking food. The patient lived four days and was sensible to the last. There was very slight affection of the mouth and fauces; not much tenderness over stomach, chief pain being referred to chest. The amount swallowed could not be definitely determined. Autopsy revealed great engorgement of the tissues in the course of the œsophagus and about the fundus of stomach. The mucosa of fauces and gullet was of a deep yellow brown color looking dry and burnt. The cardiac end of the stomach and a patch at the fundus were chiefly affected; mucous membrane much swollen, dark yellow, and in places looked sloughy; deep congestion of the sub-mucous and muscular layers in this region; rest of surface was unaffected; mucous membrane of epiglottis and larynx were injected but not burnt.

The President said he had been called to see this case shortly after the accident, and had seen the patient on several occasions with Dr. Browne, and the points which struck him as most peculiar were the absence of laryngeal symptoms and the persistent pain in the chest.

Medico-Legal Case.—Dr. Girdwood then read a paper on "The Plantagenet Murder Case," which will appear next month.

Extracts from British and Foreign Journals.

Unless otherwise stated the translations are made specially for this Journal.

The Treatment of Consumption.—Dr. Robert Saundby contributes to the *Practitioner* (Vol. XXVII, No. 4) a very instructive article on the Treatment of Consumption, when chronic. Some very useful hints for the practitioner are to be found in this paper. He finds that the treatment of phthisis, based on the Listerian system, is of no great utility. Then taking up the symptoms separately he deprecates the use of the opirate linctus. "Cough mixtures and cough lozenges containing opium or morphia are poisons to consumptive patients."

This sounds very well, but as a matter of practice what is one to do with a case of phthisis where cough is the prominent symptom, where it occurs almost incessantly day and night. Every man has met with cases where morphia and morphia alone allays the distress and where all substitutes fail. However, it is well to begin with a very simple remedy. We are recommended to try barley water acidulated with lemon juice or citric acid, raspberry vinegar and water, and when the cough is troublesome and especially at night to advise the patient to hold camphor to his nose and mouth with his handkerchief, covering his head with the bedclothes. This simple expedient has proved very useful in many cases. Camphor may also be usefully employed in combination with steam by putting a lump of camphor into a jug or inhaler with half a point of boiling water. The use of this for a few minutes at bed time allays the irritability of the fauces and permits sleep. He finds that cödeia possesses the anodyne properties of morphia without its deranging effect upon the digestive organs. The formula employed is—℞ Codeiæ, gr i; Tr. Card. Co., ♏ x; Syrupi Tolutani ♏ xx; Aqua ad ʒi. M. Fiat linctus. Sig: To be taken when the cough is troublesome. Or, the lozenges of Cödeia may be used containing cödeia gr. ¼ each, made up with extract of licorice and compound tragacanth powder.

The dryness of the Mouth so frequently complained of by the phthisical is to be treated by the placing in the mouth of one of Wyeth's compressed tablets of chlorate of potash and borax. These are found to stimulate the salivary secretion and provide a medication suitable to the catarrhal condition of the mucous surface.

The Bronchitis of phthisis.—In mild cases inhalation of ten minims of turpentine in a jug with boiling water or when this proves too irritating a lump of camphor may be substituted. Externally the chest must be rubbed with liniment of camphor, or acetic liniment of turpentine, or in more severe cases a waistcoat should be made of spongeo-piline, fastening by means of tape shoulder straps and tapes to tie in front, and this should be worn constantly and kept wrung out of hot water and sprinkled

with a few drops of turpentine. This waistcoat has the advantage, in addition to its counter irritant effect upon the chest, of keeping the patient in an atmosphere of steam and turpentine most likely to soothe the irritable condition of his bronchial tubes. I am glad to see repeated the opinion of Graves as to the efficacy of sulphur in bronchitis. Dr. Saundby thinks it next in importance to turpentine. On referring to Graves (Clinical Medicine, p. 231) I find that five to ten grains of sulphur taken three or four times a day is one of the best remedies that can be prescribed in cases of chronic cough, accompanied by constitutional debility and copious secretion into the bronchial tubes. * * * * As it has a tendency to produce elevation of the pulse, increased heat of skin and sweating, it will be necessary to temper its stimulant properties by combining it with cream of tartar, which is a cooling aperient, and has the additional advantages of determining gently to the kidneys. (Graves here quotes Baglivi: "In morbis pectoris ad vias urinæ ducendum est.")

Profuse Purulent Expectoration.—This is said to be best treated by large doses of sulphate of iron of which fifteen or twenty grains should be given daily, either in mixture or pill. Again to quote Graves, "the action of a chalybeate is not merely limited to strengthen the tone of the stomach and general system; it is also well calculated to arrest the superabundant secretion from mucous surfaces in many chronic fluxes, and hence its utility in gleet, diarrhœa, and chronic bronchitis." Dr. Saunby recommends, too, the use of an inhaler of his own design. It resembles the metallic chloroform inhaler, and enclosed in it is tow on which is sprinkled the particular substance to be inhaled. His favorite, is a one to twenty solution of carbolic acid.

Diarrhœa—In the treatment of diarrhœa he has abandoned all other means for the use of a lemonade made with sulphuric acid which the patient is to drink *ad libitum*. The formula is—℞ Acidi sulph, dil. ʒ ij; Tinct. Aurantii ʒ ij; Sacch. albi. q. s.; Aq. Fontanæ oj. M. Sig. To be drunk *ad libitum* every half hour till the diarrhœa has stopped.

This pleasant and very effectual means of stopping diarrhœa, is equally serviceable in ordinary summer diarrhœa and in the diarrhœa of typhoid fever. The cod liver oil should be temporarily stopped, and only iced milk and lime water should be allowed if the attack is severe and the patient weak. Where these means fail, the starch and opium enema is recommended. The writer has also found that relief may be given in bad cases where all other means fail by the injection into the rectum of half an ounce of liquid extract of ergot.

Hæmoptysis.—In severe cases, rest in bed, ice, low diet, avoidance of stimulants and suspension of all the routine treatment should be ordered if the attack be severe, and the following mixture is recommended: ℞ Extr. Ergot. Liquid. ♏ xxx; Magnesiæ Sulph. ʒss; Acidi Sulph. dil. ♏xv; Aquam ad ʒi. M. Sig. Every two hours till the bleeding stops.

How to avoid over drugging in phthisis? For if we have a remedy for each symptom, the patient will have many different mixtures to take during the day. We usually make a mixture designed to take in all symptoms, so that the patient may have but the one bottle to take. For example suppose that there be cough, profuse purulent expectoration, anorexia, diarrhœa, sweating, and slight hæmoptysis it is very easy to combine these remedies in the following manner:—

℞ Quiniæ sulphatis gr. i—specific and tonic.
Ferri sulphatis gr. v—for profuse expectoration.
Acidi sulphurici dil. ♏xv—for sweating, diarrhœa and hæmoptysis.
Aquam ad ʒ i.
M. Fiat mist, ter die sumend.

Acupuncture in Nervous and Spasmodic Affections.—The *Journal des Sciénces Médicales* for December contains an interesting article on the above subject by Dr. Arens, from which we extract as follows:—

The Doctor frankly admits that it was accidentally he at first used acupuncture, but that within the last few months it has given him most excellent results in a number of local spasmodic

affections. His first experience was with a lady, who, for four months past, had suffered from severe gastralgia, attended by nausea and frequent vomiting; this had finally produced considerable exhaustion. Having been called to her during the night, and finding her in great suffering, all other means having failed, he proposed relief by a hypodermic injection of morphia. He had with him Pravaz's injector, but the morphine solution was missing. It was then he bethought himself of acupuncture, and decided on making two subcutaneous punctures over the epigastrium, using for that purpose capillary trocars, which he left *in situ* for five minutes. The pain diminished soon after the first puncture, and ten minutes later had entirely disappeared. It has not since then been felt, and the cure is a radical one. Subsequently, in a case of nervous asthma, the Doctor again had recourse to acupuncture, with satisfactory results. The paroxysms were invariably checked by simply introducing the trocar of an injector two or three times under the skin, within a small space, on a line with the internal extremity of the clavicle. On several occasions, not having steel needles at hand, he made use of ordinary pins, and obtained quite as good results. This treatment was successful in over fifty instances. The attacks passed off within ten minutes, and the patient enjoyed quiet rest. Finally, the Doctor used acupuncture with success in the case of a boy, 13 years old, troubled with an almost constant nervous cough, lasting from morning till night. Three pins applied, as in the case of the asthma patient, and left in place for half an hour, cured the cough, which has not since then again appeared. Cases of hysterical cough have likewise been cured, and in some instances the paroxysms in whooping cough have been greatly relieved. Hence, the Doctor concludes by recommending a more frequent use of acupuncture, and suggesting that it may often advantageously replace hypodermic injection.—*Med. and Surg. Reporter.*

CANADA

Medical and Surgical Journal.

MONTREAL, MARCH, 1882.

THE MEDICAL TARIFF.

It is but a few months since our Province was endowed with a tariff of fees for the medical profession. It emanated, as by law provided, from the Provincial Medical Board, and, after due delay, was sanctioned by the Lieutenant-Governor. One would have supposed that the rates thus fixed by a body of representative men from all the various districts of the Province would have been such as to commend themselves to the community at large. Instead of this having been the case, however, as soon as ever it was published in the daily papers, a perfect panic ensued. Condemnatory editorials were hurled at it in all directions, numerous letters appeared, all complaining of the high rates which had been fixed, and for a few days medical men, even in their daily rounds, heard little else but uncomplimentary remarks on the grasping greed of the grinding doctors. It required, however, only the assurance that we were *not* going to take our patients by the throat and demand instantaneous payment of treble our usual fees, for the matter to quiet down and be almost forgotten, like many another nine days' wonder. But it so happened that this explosion occurred shortly before the coming on of our Provincial elections. The opportunity was altogether too good a one to be lost by the politicians, and the consequence was that a warm feeling was easily fanned into a flame in the constituency represented by the Hon. Mr. Lynch, Solicitor-General, who was made responsible for the passage of the Bill. This gentleman was thus obliged by his wily opponents either to defend a measure which had been rendered highly unpopular or

else promise that a relief bill should be brought in. He chose the latter course, and upon the hustings undertook to say that a measure for the partial or entire repeal of the obnoxious Tariff would be brought in at the earliest possible moment. To redeem this pledge, Mr. Lynch has now given notice of his intention to introduce a Bill concerning the Medical Tariff during the present session of our Provincial Legislature. We are given to understand that it is contemplated either to repeal the Tariff *in toto*, or else to do this for the whole of the country districts and allow it to remain in force in the cities. We are rather inclined to believe that, if the matter comes up for discussion, the opposition to the rates being so great, a demand will be made for complete repeal, *i.e.*, that the cities shall also be included. It may be looked upon, therefore, as pretty certain that after a remarkably brief existence, our tariff is doomed to a violent and ignominious death. It is to be regretted that sufficient time had not been allowed to have enabled us to see how this Tariff would have worked, for as it is, its premature strangulation has been decided upon purely through stress of a political emergency, induced by cleverly working upon a popular excitement. If it had been permitted to go on for a few years, and had been found to work badly, then its removal would have been founded upon justice and right, and would not have seemed so harsh a proceeding as the hurried immolation of the Board's first bantling.

The framing of a tariff of fees for the entire Province will necessarily always be a matter of difficulty, for what suits the cities will never suit the country districts, and what suits one city will not suit another; and even the rural districts themselves will be found to differ very materially in this respect. When, therefore, the general tariff is done away with, are there any other means which can be taken for the guidance and protection of the medical men? It has been suggested that we might follow the course taken in Ontario. There, each territorial division is represented by a Medical Association, which has the power of framing a tariff for that district, and which then becomes legal and binding. We have no such organization in

existence in this Province, and we fear it is a plan which is not likely to come into effective operation in Quebec. The Medico-Chirurgical Society of this city long since framed a tariff for the guidance of its members. and it has no doubt been of much service, but it is not legal. We should be glad to give space to any of our readers who may desire to lay their views on this subject before the profession.

TORONTO UNIVERSITY.—The following are the Examiners in Medicine for the University of Toronto for the year 1882 :—

Medicine—Physiology and Pathology, Geo. Wilkins, M.D., University of Toronto, Montreal; Surgery and Anatomy, Irving H. Cameron, M.B., University of Toronto, Toronto; Medicine and Therapeutics, F. R. Eccles, University of Toronto, London; Midwifery and Medical Jurisprudence, D. B. Fraser, M.B., University of Toronto, Stratford; Clinical Surgery and Medicine, Chas. O'Reilly, M.D., C.M., McGill College, Superintendent General Hospital, Toronto.

This is the first time that a special clinical or practical bedside examination has been required at this University, and we are pleased to see that the choice of the governing body has fallen upon Dr. Chas. O'Reilly, an old student of McGill College, and one whose long service in direct connection with Hospital work renders him specially fitted for undertaking the duties of this important office.

Medical Items.

MEDICAL VACANCIES.—We have been informed that there is a good opening for a medical man at Gaspé Village, where an unopposed practice worth over eight hundred dollars a year is vacant. There is also a good opening at Bolton, E.T.

—Sir James Paget, in an article in the *Nineteenth Century*, thus illustrates the condition of English anti-vivisection law :—"I may pay a rat-catcher to destroy all the rats in my house with any poison he pleases, but I may not myself, unless with a license from the Home Secretary, poison them with snake-poison."

MEDICAL ÆSTHETICS.—The following from the *Medical Record* is being much passed from hand to hand in New York. It purports to be from the opera of "Patience":—

A New York medical man,
  A very much advertised man,
A pills-in-variety, talk in society,
  Each for himself young man.

A Philadelphia man,
  An Index Medicus man,
A think-it-all-gammon, this talk of Buchanan,
  Great-medical-centre young man.

A Boston medical man,
  A hyper-historical man,
An ultra-persimmon toward medical women,
  A Harvard-or-nothing young man.

A Chicago medical man,
  A wide-awake, ethical man,
A good-as-the-rest-of-you, more-than-abreast-of-you,
  Down-on-the-East young man.

A Toronto medical man,
  A money grub, get all you can,
A societies shirker, night and day worker,
  Stick-in-the-mud young man.

A Montreal medical man,
  In-a-very-great-hurry young man,
A rhubarb-and-jalap, cab-at-a-gallop,
  Case-in-the-straw young man.

—A man out West feared he was going to have the small-pox, and believing whiskey to be a preventive, he drank about three quarts of it. A coroner's jury, the next day, rendered a verdict "that he died from excessive prophylaxis."

RESECTION OF THE STOMACH.—After eating some fish, a young man in Geneva, Switzerland, was attacked with acute pains in the stomach. As they did not yield to the usual remedies, the attending physician, Dr. Wagner, inspired by the example of Billroth, promptly opened the abdominal walls, slit up the stomach, and removed some fish bones which were attached to its side! At last accounts the young man was progressing

favourably. This incident, gravely given in the *Allgemeine Med. Central Zeitung*, June 4th, if true, is an astounding example of reckless surgery. But perhaps it is intended for what Artemus Ward called "a goak."—*Gaillard's Journal.*

—Dr. T. F. Houston writes:—For fresh cold in the head, accompanied with obstruction in the nasal passages:—

℞ Carbolic acid, - - - - - - 5 j
Absolute alcohol, - - - - - 5 ij
Caustic solution of ammonia, - 5 j
Distilled water, - - - - - 5 iij

M. Make a cone of writing paper; put a small piece of cotton in it; drop on the cotton ten drops of the mixture, and inhale until all is evaporated. Repeat this every two hours until relieved.—*So. Med. Record.*

PODOPHYLLOTOXIN—the name given to the chloroform extract of the mandrake root—is claimed to be more reliable in its action than Podophyllin. As a cathartic, it is given to children under 1 year in doses of $\frac{1}{60}$ to $\frac{1}{30}$ gr.; up to 4 years, $\frac{1}{30}$ to $\frac{1}{15}$ gr., and above that age, $\frac{1}{15}$ to $\frac{1}{8}$ gr. It is readily soluble in rectified spirit.

JOHANN HOFF'S MALT EXTRACT—a liquid resembling in appearance British porter—has been sent to us from Germany pretty freely during the last few years. Our esteemed President (Dr. Andrew Fergus) brought it under my notice about twelve months ago, and acquainted me with the fact of its having—in many cases coming under his own observation—proved of service in restoring the energies of individuals suffering from faulty nutrition. Suffering at that time from an attack of illness which had not only reduced my strength, but brought on extreme exhaustion from inability to appropriate food, I tried the effect of Hoff's Malt Extract, in the usual dose of a wineglassful twice or three times a day. Its use was followed by marked effects:—(1) Food which had hitherto been found to pass the alimentary canal unchanged, digested properly. (2) There appeared an increased power of evolving animal heat and storing up fat.—*Dr. J. J. Coleman before the Philosophical Society of Glasgow.*