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CANADA

MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

An easy Method of Bedmaking in Fractures. By E. D. WORTHINGTON, M.D., Sherbrooke.

I have a case of fracture of the neck of the femur in a lady sixty years of age, and weighing 160 pounds.

At the time of the accident she received some abrasions of the skin behind the trochanter of the injured side, but as she did not complain of them when the leg was "put up" they remained undiscovered. After a few days, however, these abrasions became so painful that it became necessary to ascertain their exact locality and extent.

How to do this was a matter of some difficulty, as the slightest attempt at moving the patient caused excruciating agony. I therefore adopted the following simple plan, and not having seen any similar contrivance used for this specific purpose, beg to recommend it to the profession, even at the risk of repeating "an old story."

My apparatus is as follows:—Eight pieces of pine—six of them being each thirty inches in length, four in breadth, and three-eighths of an inch in thickness. The other two are three in breadth, three-quarters of an inch in thickness, and the length of an ordinary bedstead; the ends and edges of them all being rounded, and perfectly smooth.

When everything is ready I pass the short pieces separately under the patient from side to side, at regular intervals from the head to the feet—say one at the heel, the calf of the leg, the middle of the thighs, the hips, small of the back, and shoulders. The long pieces are then carefully inserted under the ends of the short pieces. The apparatus is put together in a minute, and one person at each corner lifts the patient steadily on this temporary stretcher. The bed underneath is arranged in two minutes more, without the least feeling of discomfort to the patient. In this way my patient has been moved every day for the last two weeks. As her bedstead is rather low, two ends of the long side pieces

are lifted so as to rest upon the headboard, and a couple of hassocks support the lower ends until the process of bed making, &c., is completed.

In all the stretchers I have seen used, the patient had to be lifted upon them, while in this plan the stretcher is made under the patient. As a matter of safety the four corners may be secured by a pin or screw, but the weight of the patient, and a little care on the part of the attendants, render this unnecessary in a sick room.

It is sometimes difficult for nurses to pass the bed pan well under a patient, but by adopting the above suggestion either the bed pan or ordinary 'utensil,' according to the peculiar notions of invalids on this delicate subject, may be used without risk of making the sufferer a victim of misplaced confidence.

In conclusion, I believe that for 'field use,' the above put together in sets, with a wooden pin to be dropped in a hole at each corner, would be cheaper, more profitable, and in every respect better than the present army stretcher.

HOSPITAL REPORTS.

SURGICAL CASES OCCURRING IN THE PRACTICE OF THE MONTREAL GENERAL HOSPITAL,
UNDER THE CARE OF G. E. FENWICK, M.D.

CASE NO. 10. *Necrosis of the Humerus. Removal of the Sequestra; Recovery.* Reported by MR. HENRY S. WRIGHT.

O—D—, æt. 19, ston-cutter, admitted to the Montreal General Hospital, on the 12th October, 1870, for necrosis of the right humerus.

History.—Parents living and healthy. He has always enjoyed good health until a year ago, when he suffered from a severe attack of typhoid fever, from which, however, he completely recovered. No scrofulous or syphilitic history. He first complained of a feeling of soreness and pain in the right arm in November, 1869, which he at the time ascribed to a blow. On the day following his first complaint, he noticed the arm somewhat swollen and more painful; these symptoms rapidly increased and on the next morning the whole arm from the shoulder to the hand was enormously swollen, and presented an erysipelatous appearance; was very painful, the pain being of a burning character. He suffered from headache, shivering and vomiting. In short he was the subject of a severe attack of acute osteitis. The inflammation gradually subsided. Two abscesses formed at the upper and anterior aspect of the arm, which after a short time burst, and a fœtid pus was plentifully discharged;

after about a week the discharge became less profuse and not so disagreeable. At this time two more abscesses formed at the lower part of the arm above the elbow, and ran a course similar to the above, so that there were four openings allowing the escape of pus; two at the upper and two at the lower part of the humerus; discharge comparatively little. Up to this time, was confined to bed, and suffered from a bed sore over the sacrum and a large abscess in the left groin, both of which rapidly healed under proper treatment. After the inflammation had subsided in the arm he found he was quite unable to move the elbow joint. He gradually recovered his strength, but the openings in his arm still continued to discharge pus. When admitted into the hospital on October 12th, 1870, his general health appeared good. On examining the arm it appeared to be of normal dimensions, but the humerus was so much enlarged as to constitute nearly the whole thickness of the limb. Elbow joint firmly ankylosed. On passing a probe into the openings they were found to communicate with the interior of the bone, where several large sequestra were discovered, partly loosened. Dr. Fenwick considering the circumstances favourable, removed the sequestra on the seventh day after admission.

Operation.—A free incision was made down the upper and anterior aspect of the arm. Two cloacæ were found in the new bone about two inches and a-half apart. The bridge of bone between these was removed, thus leaving a large opening through which three sequestra, varying in length from two to four inches, in width about half-an-inch, and in thickness three or four lines, were removed without much difficulty. The wound was then filled with lint soaked in carbolic oil, (one to thirty) covered with oil silk, and the arm was bandaged from the hand.

The wound from the first week discharged copious fetid pus. Granulations grew from the bottom—the pus became healthier and less plentiful, and in a short time healed almost completely.

29th of October.—On examination of the lower opening dead bone was discovered, so that an incision was carried along the outer condyle of the humerus, and two or three small sequestra removed. The same dressing with carbolic oil was employed as on the former occasion.

On the 20th of November a small abscess formed on the lower part of the humerus (anterior aspect); this was opened, and freely discharged matter. The discharge continued for some days, and the part was very painful to the touch.

November 25th.—Was put under the influence of chloroform, and a free incision made down to the bone on the anterior aspect of the arm just above the elbow joint. With the finger could feel a large surface of

the bone roughened, as if denuded of periosteum. A few small fragments of dead bone were removed.

Two days after this last operation erysipelas set in, in the forearm, commencing in the wound. The lotio plumbi diacetatis was applied, and the arm kept well elevated. Iron and quinine given internally. Under this treatment the erysipelas disappeared in forty-eight hours without doing any injury.

These three different wounds were washed daily with tepid water, and filled with lint soaked in carbolic acid lotion (1 to 40 of water) and the whole arm bandaged firmly. They granulated from the bottom and healed slowly and steadily.

Dr. Fenwick stated that subsequent operative interference would without doubt be beneficial in this case with the view of remedying the position of the limb, as ankylosis had been allowed to proceed with the arm in a straight position. For this purpose he would propose in a few months excision of the elbow joint, and he believed that this operation would give to the man a useful limb. He did not regard it advisable to operate at once, as the process of repair was not altogether complete.

The patient was discharged from the hospital on the 1st of February. All the wounds healed up with the exception of two small portions of the first incision, which continues to discharge a drop or two of pus. A few days after being discharged a spicula of bone came away from the upper opening. The pus has ceased to flow and the ulcer is cicatrizing rapidly.

CASE No. 11.—*Extensive lacerated wound of the hand and wrist-joint—amputation at the middle third of the fore arm.*—Reported by MR. JOHN DUNCAN.

Auguste Papineau, aged 32, native of Canada, was admitted into the Montreal General Hospital, on the evening of Friday, December 2nd, 1870, with extensive lacerated wound of the right fore arm and hand.

He is an employee of the Grand Trunk Railway Company, and while engaged coupling the cars together, his hand was caught between the buffers, the soft parts were extensively lacerated, and the bones almost pulverized, so that no semblance of a hand remained. The wrist joint was opened, and the lower ends of the bones of the fore arm broken and exposed. There had been slight hæmorrhage, but not sufficient to occasion any depression of the vital powers. The man looked pale and depressed, but his pulse was firm. The attending surgeon Dr. Fenwick, having been sent for, he determined to amputate at once.

The patient was accordingly placed under the influence of chloroform and the operation proceeded with. The arm was transfixed a little above the middle third. The posterior flap being first made, four vessels were ligated, the radial, ulna, interosseous, and a muscular branch. Some difficulty was experienced in securing the interosseous, as it had retracted within its sheath. All oozing having ceased, the wound was bathed with a lotion of carbolic acid: 1 to 40 of water. The flaps were brought together and secured by six wire interrupted sutures, lint soaked in carbolic lotion applied; over which was placed oil silk, and a bandage, and the patient removed to bed. After recovering from the chloroform, he complained of considerable pain in the arm, so that a draught of solution of morphia was administered.

December 3rd.—He states that he slept only for two hours; that the arm was still painful, but less so than during the night. There is no fever and the general symptoms are favourable. Ordered a pint of beef tea, and half diet.

December 4th.—The bandage was removed and the stump dressed; there was considerable swelling, so that two of the sutures were taken out to relieve tension. There is very little discharge, and the wound looks well. The same dressing was continued, and the bandage was lightly applied. From this date the patient progressed favourably. The ligatures were all away by the tenth day, and the stump looking well, when erysipelas attacked the wound. For this a lotion of sulphate of soda was ordered and was continued for three days; no constitutional treatment was necessary; a black draught was given as the patient's bowels were rather confined. This attack, which was mild, subsided, and the process of repair went on without further interruption.

December 19.—Complains of pain in the arm of a neuralgic character. This he attributes to cold, as he was up and going about the hospital. The pain in the stump is worse at night and interferes with his rest, so that it was ordered to inject subcutaneously 20 drops of Battley's sedative solution of opium: this to be done about bed time. The following day he stated that he rested about two hours. The stump is almost healed, but is tender to the touch. The hypodermic injection to be continued each night at bed time.

The patient left the hospital on the 24th December; the stump was quite healed, but he still suffers at night with neuralgic pain, which interferes with his rest.

Case No. 12. Extensive injury of Fingers by a Circular Saw. Cellulitis and subsequent removal of Fingers. Reported by Mr. MATHEW GARDNER.

J. Labelle, æt. 47, a French Canadian, was admitted into the Montreal General Hospital, on the 10th November, 1870, suffering from an extensive lacerated wound of the left hand, which he had received in working a circular saw. The saw had entered the palm of the hand close to the meta-carpo phalangeal joints, had severed the flexor tendons and divided the bones. The index finger was hanging attached by a piece of integument only, but in the case of the other fingers the extensor tendons were intact. There was no bleeding of consequence, but the man was suffering from considerable pain. The wound was carefully washed with a lotion of carbolic acid (1 to 30 of water), the fingers adjusted and supported on a pasteboard splint applied to the back of the hand, and the wound drawn together with wire sutures. Carbolic acid lotion, of the strength above referred to, was then applied with lint and oil silk, and a turn or two of a roller lightly applied. Towards evening he suffered much pain, and a morphia draught had to be administered to secure rest. On the day following he stated that he felt comparatively easy, the fingers looked well with the exception of the index finger, which was cold and rather darkish in appearance. The same dressing was applied warmed.

14th.—On examination to-day it was noticed that the index and little fingers presented a gangrenous appearance. Sanious pus was exuding from the wound, and a collection of matter had formed in the palm. He complained of pain extending up the fore arm. The abscess in the hand was opened, the sutures removed, and hot fomentations ordered to be applied; the fore arm to be painted with tincture of iodine. On the following day a large linseed poultice was ordered by Dr. Fenwick; he stated that there was no prospect of saving the fingers, except, perhaps, the ring finger, but even here the chances were small.

On the 22d a well marked line of demarcation had formed, so that the index and little fingers were removed, as high up as the point sawn through at the time of the accident.

On the 28th it was found necessary to remove the middle finger, but every hope was entertained of saving the ring finger, which, even if stiff, will be of use in prehension, as he has a thumb uninjured; from this date he progressed favourably up to the 16th December, when he had a rigor, the fore arm became hot, swollen, œdematous, and there were general febrile symptoms. Several cases of erysipelas were in the wards

of the Hospital. The patient was ordered an aperient and was also placed on a mixture of quinine and tincture of the muriate of iron.

On the 19th it was found necessary to evacuate the contents of an abscess in the cellular tissue of the fore arm, and as the ring finger was in a very doubtful condition, Dr. Fenwick deemed it advisable to remove it to save any further trouble; this was accordingly done. From this time the wound healed rapidly; his general health improved, and he was discharged from the Hospital on the 27th December.

Case No. 13. Fracture of the Fourth Metacarpal Bone. Reported by
Mr. J. H. MATHIESON.

William Mathieson, soldier, æt. 26, was admitted into the Montreal General Hospital, December 18, 1870, with fracture of the fourth metacarpal bone of the right hand, caused by a blow on the knuckle. The accident occurred in the following manner:

He is a large and very muscular man, and, while in the barrack room, a comrade threw at him a heavy clothes basket, which he struck at upwards with the back of the right hand; the edge of the basket caught him on the ulnar side of the hand, occasioning the fracture in question.

The hand is very much swollen and painful, but crepitus is distinct; there is no displacement of the broken fragments. Ordered *lotio plumbi diacetatis*.

December 19th.—Ordered to apply a palmar splint of gutta-percha with a finger piece for the ring finger.

January 3rd, 1871.—The splint was removed and the bone found to be firmly united. Discharged.

Case No. 14.—Comminuted Fracture of the Leg. Reported by Mr. J.
H. MATHIESON.

Francis Chailly, a strong, healthy labourer, æt. 42, was admitted into the Montreal General Hospital, the 19th October, 1870, with fracture of the right leg.

He was engaged in excavating a sewer when the sides fell in, and a plank, which formed part of the scaffolding, struck him on the crest of the tibia, about three inches below the lower border of the patella, comminuting the tibia and fracturing the fibula. There is considerable swell-

ing; very distinct crepitus; free motion; and three-quarters of an inch of shortening.

It was set in a fracture box and packed with bran.

October 23rd.—There is still a good deal of swelling, slight elevation of temperature, and over the fracture on the outer side, distinct fluctuation. He feels well; has not had any rigor or constitutional disturbance.

October 25th.—The swelling is diminishing—the fluctuation is confined to a spot about twice the size of a penny. From this time he progressed favourably, and on the 20th November the leg was taken out of the fracture box, with the intention of putting it up with a starch bandage, but it was found that there was considerable swelling about the feet and ankle; and inside and outside moulded wooden splints were ordered to be applied instead. Union is not very firm.

November 28th.—The union is very much firmer; there is now only the slightest motion; no shortening; and it is quite straight. It was put up in a starch bandage.

December 7th.—Union is quite firm. He left the Hospital to-day.

MEDICO CHIRURGICAL SOCIETY OF MONTREAL.

MEETING HELD 21ST JANUARY, 1871.

George W. Campbell, A. M., M.D., President, in the chair.

William H. Hingston, M.D., L.R.C.S.E., read the following paper upon

MYOTOMY AND TENOTOMY IN CERTAIN JOINT-DISEASES AND THEIR SEQUELÆ.

GENTLEMEN.—I had delayed the preparation of this paper until this week, and most of it had to be written in a sick bed, to which I have been confined during the greater part of the time. If there is anything sickly about the manuscript you will know to what it is attributable.

Joint-diseases, their etiology, history, pathology and treatment, and not less in their sequelæ, are among the most interesting to the practical surgeon. I shall not in this paper, more than is necessary, enter upon those vexed questions which divide surgical writers, nor shall I from a partial experience endeavour to deduce general principles for the guidance of others. But as much of what I shall say is based on a belief in the generally local or traumatic character of uncomplicated joint inflammation, I deem it necessary to make that statement at the

outset. Were I to say more I should invite a discussion foreign to my purpose, and were I to say less, much of what follows would require constant explanation.

Myotomy or tenotomy was introduced to the profession by Stromeyer, of Kiel, in Schleswig-Holstein, for the relief of congenital deformities in otherwise healthy persons. Dieffenbach, of Berlin, employed it not only in such cases, but also preparatory to attempts at removal by forcible extension and *brisement forcé* of deformity caused by disease. He operated 200 times—two patients died from pyæmia and suppuration, and one required amputation. But how inadequate were the results may be gathered from the fact as mentioned by Bauer, that while in some the limb was benefited to a moderate degree, in others ankylosis became re-established. Dieffenbach, however, had accomplished *all* that could be done by any one without the aid of chloroform. Langenbeck, his able successor (by whom I had the advantage of receiving instruction in the winter of 1852 and 3) considered that in chloroform he had an agent powerful as tenotomy, and much superior; and often have I seen him attempting by *brisement forcé* alone what could have been much more easily, and much more safely, accomplished by that measure when preceded by subcutaneous division. Shortly after I began practice in 1853, I attempted, and with fair success, to restore the function of an elbow joint, ankylosed by disease, but the time and trouble to myself, and the suffering, and, as I believed at the time, the risk to my patient, were such as to induce me to avoid rather than to desire a renewal of them in similar cases. Two more cases, however, came under my notice, and while one did well, in the other the swelling, puffiness, heat and pain were of a character to compel me to desist from further attempts to place the limb in a better position—much less to restore motion. The hip joint, however, I had not meddled with, for I recollected how Langenbeck had discontinued both tenotomy and *brisement forcé* after a short and unsatisfactory trial. When (1865-6) Dr. Bauer, formerly of Brooklyn, N. Y., visited Montreal, I listened to his lectures with the deepest interest, and furnished him in my wards at the hospital frequent opportunities of illustrating them. I observed in his efforts a courage equaling Langenbeck's, with a result more satisfactory and less hazardous. Some of the views he then expressed were most original. Dieffenbach, Guerin, Rosy and others had preceded him in the practice of tenotomy as preliminary to all attempts at *brisement forcé*, but to Bauer is certainly due the merit of having first recommended subcutaneous division of muscles as an antispastic and antiphlogistic in certain inflammatory conditions of the joints.

Within a little more than five years I have practised tenotomy in joint diseases frequently; as an antispastic and antiphlogistic in morbus coxæ, three times. In inflamed knee joints five times—in all eight times. As a preliminary to forcible restoration, by traction or *brisement force*, of the normal position of the joint at the knee eight times, and at the hip thirty-three times, in both forty-one times, or in all forty-nine times. The results are various, and may be gathered from accompanying tables.

TABLE I.—TENOTOMY AS AN ANTISPASTIC IN KNEE JOINT INFLAMMATIONS.

Name	Age	Sex	Character of Disease.	Duration.	Position of limb.	Muscles divided.	Result.
M. B.	33	F	Synovitis.	6 wks.	Bent at angle of 45	Biceps.	Entire relief.
O. C.	17	F	"	4 "	Bent at right angle	"	"
A. M.	13	F	Arthritis.	3 "	Slightly flexed.	All hamstring	{ Relief of pain—disease continued.
M. B.	33	F	Synovitis.	1 "	" "	Biceps.	{ Relief.—Same person attended to 1st on list.
E. T.	12	F	"	4 "	Bent at angle of 35	"	{ Tendon had united in interval relieved.

TABLE II.—TENOTOMY AS AN ANTISPASTIC IN HIP JOINT INFLAMMATIONS.

Name.	Age.	Sex.	Character of Disease.	Duration.	Position of limb.	Muscles divided.	Result.
J. R.	13	M	{ Morbus Coxæ. }	2mths	{ Slightly flexed } { adducted. }	{ Adductor } { biceps. }	{ Relief of spasm—disease continued.
E. M.	5	M	"	3 "	Much " "	{ Add. L. T. }	{ Relief Permanent, disease arrested.
J. L.	8	M	"	3 "	Slightly " "	Add. L.	" " "

TABLE III.—TENOTOMY AT KNEE PRELIMINARY TO *Brisement force*.

Name.	Age.	Sex.	Character of Disease.	Duration.	Position of limb.	Muscles dissolved.	Result.
J. C.	16	M	Anchylolysis.	8 year	Bent at angle of 95	All hamstring	{ Limb straightened after 2nd effort—now very serviceable.
F. R.	22	M	"	16 "	" 90	"	{ Required 3 efforts at intervals of a few days.
E. H.	16	F	"	3 "	" 100	"	{ Gangrene of foot from bandage, subsequently amputated.
O. C.	17	F	"	6mths	" 50	Biceps.	Straitened 1st effort.
R. T.	13	F	"	8 "	" 90	"	" " "
J. M.	10	F	"	15 "	" 85	"	" " "
C. M.	13	F	"	2 year	" 135	"	" " "No diffy
J. F.	5	M	"	3 "	" 45	"	" " "

TABLE IV.—TENOTOMY IN MORBUS COXÆ.

Name.	AGE.	SEX.	Duration.	Cause.	Condition.	Muscles divided.	Result.
J. F.	8 M		2 year	Fall	3rd Stage Add. inflex. in. short'ng.	T. V. S. & Add. L.	2 1/2 inches gained, with mobility.
J. P.	7 M		1 1/2 "	"	"	Add. L.	"
E. M.	7 M		3 "	"	"	T. V. F. Add. L. S.	" and full abduction
R. T.	28 M		23 "	Fall.	"	Add. L. & bri. forcè	" but power of "
A. L.	13 F		6 "	"	"	Add. & bris. forcè	" no improvement.
B. T.	16 M		9 "	Fall.	"	Add. L. P. & T. V. F.	" moderate mobility
V. J. P.	4 F		1 "	"	"	Add. T. V. & P.	" full plump. of limb
P. D.	6 M		1 1/2 "	"	"	Add. L.	"
C. M. C.	53 M		1 "	Crush	"	T. V. Add. L.	"
J. C.	23 M		1 1/2 "	Fall.	"	Add. L.	"
E. M.	5 F		1 "	"	"	T. V. F. & Add. L.	"
M. W.	15 F		1 "	"	"	T. V. F. & Add. L.	"
?	9 M		1 "	"	"	T. V. F. & Add. L.	No after treatment (2)
J. P.	18 M		9 "	Fall.	"	T. V. F. Add. L. P.	(3) Something gained ultimately, lost want of power to extend or abduct.
LM'I	9 F		3 "	"	2 No	T. V. F. & Add. L.	Went on to 3rd stage with shortening and adduction.
C. C.	8 F		2 "	"	3	Add. L. T. V. F.	Went on to 4th stage, death
T. G.	8 M		1 1/2 "	"	3 2 1/2	Add. L. T. V. F.	Still under treatment.
F. B.	7 F		2 "	"	4 1 1/2	T. V. F. Add. L.	3 in. treat. discontin. for drunkenness of mother
J. W.	6 F		1 "	"	3 2	Add. L.	1 1/2 in. and much mobility
R. R.	5 M		8th yer	Fall.	3 1 1/2	P. Add. L. T. V. F.	" & power of abduct.
W. H.	14 M		18 yer	"	4 1 1/2	Add. L.	1 1/2 "
A. H.	6 M		8 "	"	2 1/2	Add. L.	1 1/2 "
MMG	7 F		9 "	"	2 1/2	Add. L.	2 "
S. R.	6 M		6 "	"	1 1/2	Add. L.	1 1/2 "
M. B.	9 M		2 "	"	2 1/2	Add. L. & T. V. F.	1/2 " subsequently went to 4th stage.
J. R.	7 M		1 1/2 "	"	1 1/2	Add. L. & S.	1 "
E. B.	5 M		1 1/2 "	"	1 1/2	Add. L.	1 "
J. M.	7 M		3 "	Fall.	"	T. V. F. Add. L.	1 "
A. G.	6 M		1 1/2 "	"	"	Add. L.	0 " still under treatm't
MM'C	12 M		2 "	"	"	Add. L.	0 " treat. interfer'd with
B. L.	13 M		5 "	"	"	Add. L.	1 1/2 "
M. W.	8 F		3 "	Fall.	"	T. V. F.	1 1/2 "
A. B.	8 M		2 1/2 "	"	"	Add. L.	Scarcely perceptible imp.
						T. V. F. Add. L.	1 1/2 in. still under treatm't.

As an antispastic the operation gave invariably entire relief to pain and spasm. In the first case in which I divided the biceps for inflammation of the knee joint, no pain had been referred to the back of the knee—a small spot immediately below the patella was alone painful. The pain was of the most excruciating character. Yet, no anodyne, no anæsthetic ever gave more immediate or more complete relief than that which followed division of the biceps. In the four other cases relief was most complete but not so marked, as the sufferings which led to the operation had not been so severe in character.

It might be supposed that in some cases, at least, tenotomy might have been dispensed with, and extension alone, under chloroform, would have

T. V. F. is for sake of abbreviation, put for Tensor Vaginæ Femoris, Add. L. Adductor Longus. S. Sartorius. P. Pectineus.

(2) Operated upon in Edinburgh at request of Sir James Simpson, in June 1837.
 (3) Operated in Dublin, in August, 1867.

sufficed. These were tried in *two* cases, but the patient's sufferings were such that they were again put under chloroform and the tendons divided.

As an antispastic in hip joint inflammation the adductor was divided in every instance. Once the tensor vagina femoris, and once, I believe—but of this I am not certain—the gracilis. In these cases, as in those of the knee, relief was greatest where pain and spasm were most severe.

But in *all* relief was marked. In one case, that in which the division had been most extensive—very little pain was afterwards experienced in the course of the disease. After these operations, as well as after those of the knee, absolute rest was strictly enjoined.

In the knee, when tenotomy had been resorted to as a preliminary to *brisement forcé*, division of the biceps alone sufficed in five cases—in the remaining three all the hamstrings were divided. The tin splint and flannel bandages with soft tow cushions were then used.

In the hip joint cases the circumstances under which the operations were performed and the results were so various as to render it difficult to embrace under any general observations, the contents of the above table. In some cases I was disappointed at the paucity of the result where I had expected much; and in others I obtained by steady perseverance results I had scarcely hoped to realize. The unfavourable results were no doubt due—first, to bony ankylosis; or, second, to strong osteophytes extending from one part of the acetabulum to another, or from the acetabulum to the femur; or, third, to the length of time that had elapsed since the inflammatory disease had disappeared, permitting contraction of *all* the soft tissues around the joint, including, perhaps the capsule itself. Sufficient, however, may be gathered from these details to warrant a recommendation of the operation in certain cases. Nor do I think, should the deformity which results from the third stage of morbus coxæ be permitted to continue to exist, without those measures being attempted. Before operating it is difficult to say what tendons require division before the operation shall have been completed. Beginning with the long adductor, and, as I hoped, to finish with the adductor I have been compelled to divide several additional tendons, which seemed to start, as it were, into contraction, so soon as the former had been divided. The force necessary, even after division, was sometimes very great; indeed it was difficult and embarrassing to decide what degree of force could be safely borne without running the risk of adding to the mischief already existing. Sometimes all resistance would quickly vanish; at other times I almost feared for the integrity of the limb. When osteophytes were strong and numerous they would sometimes give way with a loud snap,

or succession of snaps, leaving bystanders to conjecture whether something more important than osteophytes had not been broken. The average duration of after treatment was ten months—in hospital somewhat longer, and in private much over that length of time.

In some cases the weight and pulley were alone used. In others, and by far the larger number of cases, Bauer's extension instrument—not as more recently modified by him, and in others that instrument by day, and weights and pulleys by night. The weight was proportioned to apparent strength of patients and resistance to be overcome. Four or five pounds to a child of that age—ten, fifteen or more pounds to stronger persons, but in no case was extension permitted to give uneasiness. Children, especially, bear a certain weight with apparent comfort. The addition of a pound, half-pound, or even a few ounces throws them into excitement. I have noticed the same to follow the subtraction of a small portion of an accustomed weight. Much depends on duly proportioning the weight to be borne. Too little is useless—*too much* is needlessly exhausting.

In every case chloroform has been given to the induction of complete anaesthesia, and no alarming symptoms have shown themselves in any case, although, it sometimes happened, the anaesthetic required to be continued a couple of hours or more.

Admission of air has taken place occasionally; no bad consequences have resulted, except, in one or two instances, trifling suppuration, which delayed for a few days the subsequent treatment.

Although the operation has been performed, first, so as to prevent continuance of deformity in existing, and perhaps still active disease, or to relieve deformity left behind by disease, in no case has the patient's health seemed to suffer. On the contrary, in acute or sub-acute disease, relief has followed generally, and thin, emaciated, ill conditioned children have become plump and healthy looking.

Sometimes it has been thought advisable to give ferruginous medicines, and then the syr. ferri Iod. has been the favourite; in other, and by far the greater number of cases, no medicines whatever have been administered, and sometimes, too, the disease has gone on unrelieved to the fourth stage, with all its dire results.

Although, in many cases, the length of the affected limb has been nearly or entirely restored, there yet remained even in the more favourable cases—where tenotomy and forcible extension had been resorted to in long continued morbus coxæ in third stage—a certain degree of stiffness. Whether that condition ultimately disappears as patients grow older, I am not in a position to determine; nor can I say

whether the affected limb will grow *pari passu* with the other. The case I shall exhibit to-night would seem to indicate that growth is not interfered with.

(Dr. Hingston then introduced a little girl on whom he had operated four years before for morbus coxæ. There had been shortening to the extent of $2\frac{1}{4}$ inches, immobility, and permanent adduction of the thigh. The leg was now restored to its full length, and no limp or stiffness was observable when the little patient walked backwards and forwards upon the table for the inspection of members of the Society. This was the patient alluded to as second case in Table IV. Dr. Hingston stated that other patients had been expected to attend the meeting for the purpose of illustrating his paper, but the inclemency of the weather had doubtless prevented their appearance.)

Dr. FENWICK said, of course, his friend Dr. Hingston, when he spoke of shortening referred to that apparent shortening due to obliquity of the pelvis occasioned by an effort on the part of the patient himself, to bring the two legs parallel. In consequence of the spastic contraction of the adductor muscles of the thigh, the effected limb was thrown obliquely across its neighbour which mal-position could alone be remedied by raising the pelvis on the affected side. In cases treated by him in the Montreal General Hospital he had on several occasions found it necessary to divide the adductor tendons, after which he used the long splint with weight and pulley attached, and generally found that the deformity was readily overcome. He was of opinion that as a rule in affections of the knee joint, tenotomy was not required for the relief of pain, but that rest and position would generally suffice.

Dr. CRAIK expressed surprise that the biceps should be found to be the only muscle affected, and if so how its division should be followed by instantaneous relief to the pain. In his experience affections of the knee joint accompanied by excessive pain were very rare. At the moment he could only recall to his mind two cases, both of them of old standing. In one of these cases he found that the pain was actually increased after tenotomy, and in the other the operation was not followed by any relief. The only explanation he could suggest of the immediate relief to pain by division of the biceps tendon, as mentioned by Dr. Hingston, was that the pain was of a neuralgic character, and that in the performance of the operation, section of the perineal nerve had also occurred.

Dr. SCOTT said he could easily tell Dr. Craik why the biceps was more frequently affected, and why its division was more frequently attended by relief. It was because of the attachment of the short head of the biceps

to the outer lip of the linea aspera; whereas the inner hamstring muscles had no attachment to the femur.

The president (Dr. G. W. Campbell) remarked that in the generality of cases of hip disease, tenotomy did no harm, and where there was actual contraction of muscles it was certainly of service, the results would be better, the length of time required for cure shorter, and the condition of the limb would be superior to any thing that could be produced by a process of natural cure. He desired, however, to ask Dr. Hingston a few questions: 1st, in what direction the knife was used in cutting? 2nd, how soon after division was extension resorted to 3rd, whether Dr. Hingston regarded the division in the light of a curative measure, or simply as a remedy to deformity.

Dr. HINGSTON, in reply to Dr. Fenwick, said in no case was the shortening real. It was only apparent, but that was a circumstance so well known to surgeons that he did not think it necessary to mention it. Real shortening could only occur where there was dislocation; not even the contraction of the adductor muscles alluded to by his friend Dr. Fenwick alone sufficed, for with it there was always associated obliquity of the pelvis, equal in most cases to the apparent shortening. When shortening had existed for a length of time extension alone was incapable of removing it. Concerning what had been said about tenotomy not being required to relieve pain in inflammatory affections of the knee he would say he had found it afford instantaneous and continuous relief where rest and position, backed up with anodynes, had failed. As the operation was easily performed and unattended with danger, why not resort to it? He would advise his friend Dr. Fenwick to try it the first opportunity. In reply to Dr. Craik, and his surprise at the biceps being the only muscle affected. Dr. Scott's explanation sufficed. But the biceps was not the only one. Although it was always involved, it was not always alone, the inner hamstring muscles, in some cases, also requiring division. He could not agree with Dr. Craik in supposing that relief was due to the accidental division of the peroneal nerve. Such a division would be followed by paralysis of the parts supplied, a result he (Dr. H) had not yet had occasion to observe. In answer to the President, he (Dr. H) said he was glad to hear the opinion of the learned president that where actual contraction existed tenotomy was certainly of service. In reply to the other queries, 1st, the knife used was always probe-pointed, after the first incision had been made by a sharp pointed tenotome. A long straight one was used for the tensor vaginæ femoris; a shorter anterior convex one for the pectineus and adductor longus, and a still shorter anterior convex one for the hamstring muscles. The knife was passed

between the skin and the muscles, or tendon to be divided, and the cutting was from without, inwards. One exception, however, to this rule occurred in division of the biceps, when the knife was introduced at right angles to the leg, and made to hug the tendon closely and cuts outwards to avoid the nerve, the accidental division of which had been supposed to give relief. Extension was usually commenced immediately after tenotomy, and not, as recommended by some, after the lapse of four or five days, when the wound would be closed, and all chance of the admission of air prevented. He (Dr. H.) was of opinion that air entered during the operation with the knife, and not subsequently, when the valvular wound was carefully covered up with soft tow, (not cotton) and bandaged. The advantage of proceeding at once with extension is that any undue resistance arising from undivided fibres could be overcome by renewed division, while the patient was still under the influence of the anæsthetic. With regard to the last question—that of the curative power of tenotomy—three very good questions rolled into one, he, (Dr. Hingston,) would say 1st, as an antispastic? certainly. 2nd, as an antiphlogistic—it might or might not be; it would be if the spasmodic working of the muscles offered, as they often do, hindrance to repose of limb, a condition very often observed in acute inflammations of the joints. 3rd. In several cases tenotomy had been followed not only by relief of pain, but also by early and permanent subsidence of the inflammation. But how much was due to the myotomy or tenotomy, and how much to the rest enjoined, he was not able to determine. He thought both had a share. As a remedy to deformity resulting from disease, it was invaluable, and in cases of long-standing, absolutely necessary. Any attempt at straightening, without tenotomy, a leg, long flexed at the knee, would incur risk, by *brisement forcé* alone, of dislocation of the tibia or of fibula, or both backwards; while forcible flexion would, before a certain period of life, expose the limb to separation of the epiphyses, and at a later period to fracture. At the hip, in long standing cases, division is necessary, and without it extension is impossible.

The President having, in the name of the Society, thanked Dr. Hingston for his interesting paper, the meeting separated.

MEETING HELD 4TH FEBRUARY, 1871.

The Vice-President, Robert Godfrey, in the chair.

Dr. Hingston exhibited to the Society a patient, named Edwin Foster, whose skin was covered with nodulated masses, of a stony hardness.

The patient is 50 years of age, tall, straight and immensely powerful.

His parents are Scotch; both died of inflammatory diseases; has lost five sisters and one brother by phthisis. In early childhood had noticed a small swelling over left temporal region, which remained stationary upwards of forty years. Eight years ago it was torn by a piece of wood, when it grew to the size of a small egg. Five years ago it was removed by Dr. Dubuc, of this city, but the disease returned before the wound had healed. Dr. Hingston had removed it at about the same period every spring for the past *four* years. After last occasion disease did not return, and the skin over temporal region is now healthy and free. Shortly after last operation, in April last, small bead-like bodies were felt in different places in the skin. These have steadily increased in number and in size, until the present, when upwards of two hundred can be counted, varying in size from a marrow-fat pea to a turkey egg. They are all freely movable with, but not in, the skin.

They are apparently all confined to the skin. All the functions of the internal organs are seemingly uninterfered with; the tongue alone gives evidence of the presence—one large nodulated mass occupying the left side of that organ.

Within the past couple of months the large tumor in the lower part of the abdomen opened, and soon we had the characteristic odour of open cancer. Coeval with the opening the patient's health failed considerably. He cannot sleep; is always more or less feverish; his appetite is indifferent; and he is much emaciated. Dr. Hingston then in a short *resumé*, said:

Cancer of the skin commonly occurs secondarily, or by extension; here primarily.

1. History of case; stationary for forty years.
2. Five years ago, when removed for second time, was of an almost bony hardness.
3. Four years ago, when removed, less dense, presenting character of cartilage.
4. Three years; appeared like fibro cartilage.
5. Two years ago, appeared like recurring fibroid; but, unlike recurring fibroid, did not again recur in original site.
6. The surprisingly numerous multiplications of solid growths, some of which are presenting characters like the original; but some, also, rapidly degenerating into scirrhus and open cancer.

Dr. Reddy read the following paper on a case of cholæmia.

On the 11th February, 1868, I was called so see L. B., an infant aged one year and a little over seven months, large for its age, plump and well

formed. Its mother gave me the following history of an accident which befell it nine days previously.

The child's sister, in passing through a doorway from one room to another, tripped and fell with the baby in her arms, at the same time crushing it by her weight. On attempting to lift the body up by the arms it screamed violently, nor could that be effected until the hands were placed under its back and knees, when it was easily accomplished; it then became perfectly tranquil, but any after attempt to lift it under the arms, or touching the abdomen (especially on the right side) reproduced the original distress. This peculiar state lasted for five or six days, when the child could again be lifted or handled without exciting pain or distress of any kind; its appetite had, however, failed considerably, and gradually from the date of the accident. Several simple remedies, such as purgatives, &c., had been tried by the parents, without any favorable result or apparent change, and, on perceiving a yellowish tinge in the eyes, they became so much alarmed they sent for me. I found the child lying on the mother's lap, seemingly at its ease and perfectly tranquil; its skin was hotter than natural, dry and darker in colour than normal, its sclerotics slightly tinged yellow, but not markedly so. Pulse 98; some thirst; no abdominal tenderness, nor did percussion over the hepatic region reveal either enlargement or any other apparent change of that gland; the bowels were very sluggish, only acted upon by aperients, and the evacuations were much lighter in colour than natural; urine highly coloured: it was stated also that its appetite was somewhat better for the past two days. There was nothing in the child's appearance or present symptoms that appeared to me to indicate danger, and I felt in no way apprehensive of any but a favourable termination to the case, and having prescribed a few powders of powdered blue pill, rhubarb and compound cinnamon powder, before leaving I gave directions that should any unfavourable symptoms arise, or no amendment follow, I should be again sent for.

On the 22nd, or eleven days later, I was again called in, when I found the child pretty much in the same condition as when I had last seen it, with this exception, that its appetite had very much declined, its tongue was white and loaded, pulse 110, much thirst. The urine, which I had an opportunity of examining, was of a very dark color, sp. g. 1020, not albuminous; on using Pettenkofer's test, I found the bile acids present, and came to the conclusion that it was a case of biliary obstruction.

I ordered an occasional mustard hip bath, and powders with podophyllin, rhubarb and soda, &c., also a mixture containing the sulphate and carbonate of magnesia, and varied such treatment as the above till the

28th, yet without any apparent advantage. During the past six days the pulse varied from 100 to 110; the stools still light colored and the urine as before.

29th.—Pulse 110; bowels confined; when relieved to-day, motion was almost white, and the urine, which I examined again, presents the same characters. During the course of the day the child suffered a good deal from pain in the bowels, but not lasting more than about a minute at a time. I ordered the warm mustard hip-bath again, and warm linseed meal poultices to the abdomen to be kept constantly applied. I also directed a 20 grain Biniodide of mercury ointment to be rubbed every four hours over the hepatic region till the parts were made tender.

March 1st.—Pulse 112; child appeared dull but seemingly free from pain, and had passed the night much more tranquilly than for the two past, but no decided relief had so far resulted.

March 2nd.—Pulse 120; child appears much worse, its pupils are sluggish and somewhat dilated, not answering quickly to light; its perceptive faculties also seem dull. I learned that since my visit on the previous evening it had vomited twice, refusing all nourishment.

3rd.—A great change has taken place; pulse very rapid; pupils largely dilated; convulsive movements of the right hand and leg, also lateral twitching of the head. Cholemia had now fully set in, and at midnight a severe attack of convulsions ensued which lasted over half an hour, and being again sent for, I found that coma was fully established, and it lingered on, however, till six o'clock the following morning.

On the 6th, assisted by Dr. Ross, house surgeon, Montreal General Hospital, I made a *post-mortem*.

On uncovering the body (which prior to death was only darker coloured than natural) we were both struck with the intensely deep yellow or orange colour it presented, and on making incision through the walls of the abdomen, the same colour pervaded all the structures, the intestines partaking deeply of the same. There was no fluid in the cavity. The liver appeared somewhat diminished in size, and presented a very singular and uncommon appearance, being irregularly covered over on both its surfaces with bright olive-coloured patches, raised from a line to a quarter of an inch from the surface, and to the touch not differing from the liver. These varied in size from that of a split pea, to over one and a half inches in length, and about the same in width. The interspaces were congested and of rather a bright pinkish hue, and on cutting down through one of these olive-coloured spots, it presented the same colour throughout, and dipped deeply into the surface of the liver; some to half

an inch, others an inch and a half; no trace of the lobules being discernable. The gall bladder was of a paler colour than the other structures, full of glairy mucus, like ordinary mucilage, and its duct quite permeable.

The spleen did not appear to have undergone any change; perhaps it might be said to be darker than natural, but the pancreas was nearly double the natural size, presenting, however, no other appreciable change.

The kidneys were more congested than natural, and the supra-renal capsules were also very much enlarged.

The urinary bladder was tense, and contained quite a quantity of dark coloured urine.

The heart and lungs appeared unchanged, with the exception of the colour with which they were also stained; the pericardium contained no fluid.

The brain was not examined.

A microscopical section of the olive-coloured substance presented the following appearances: quite a number of compressed cells were crowded together, which seemed loaded with fat and a quantity of oily matter; there was an absence of blood cells—the entire specimen seemed to be of a dark yellow colour.

On evaporating some of the urine preserved from the autopsy, I obtained quite a number of crystals of Tyrosine and Leucine, and a few crystals of Cystine. There were also a few circular bodies present with which I was unacquainted. In the case which I have just read, and which I have regarded as one of acute atrophy of the liver, there was much in the early history of the disease both to puzzle and render the diagnosis difficult. Occurring at so early an age, too, as in acute atrophy it is more generally confined to persons between the ages of seventeen and thirty-five. It is not mentioned at all as a disease of infancy, nor could I find any case recorded where it was the result of an injury, and it is generally fatal. While on the subject I should wish to draw attention to two cases, apparently very similar; one of which occurred in my own practice, and the other I watched while house surgeon at the Meath Hospital, Dublin. In the first instance the case of a woman six months pregnant, who at this period became partially jaundiced, which increased so much within a period of ten days that any one might be led from the colour to diagnose it as a case of malignant disease. There was continued vomiting, loss of appetite, irregular action, and partial dilatation of the pupils, and drowsiness. Cholæmia might be said to be nearly complete when the woman was prematurely confined of a dead child; recovery then took place, but not speedily.

The second case might be said to be a *fac simile* of the above, with one exception, that she died. I made the *post-mortem* and was struck then with the greenish-yellow patches on the liver. There was no name given to the disease, nor was there any microscopical examination made. She was seen at the time by Dr. Fleetwood Churchill.

We are all well acquainted with infantile jaundice (*Icterus Neonatorum*), which we occasionally meet, and which is generally easy of management, indeed, requiring none at all, and is, as a rule, of short duration. Also with that form of transient jaundice which is occasionally met with during pregnancy, and which a few gentle aperients only are necessary to recovery, but neither of these cases have any real resemblance (unless the colour) to the examples I have just read.

The following is a brief synopsis of the discussion which ensued :

Dr. FRASER enquired whether the liver of the child was smaller than usual?

Dr. REDDY said it was smaller, and was dotted over very peculiarly.

Dr. DAVID asked if Dr. Reddy considered the disease to have been the result of the fall, and whether the child was fat?

Dr. REDDY said the disease was certainly due to the accident, and that the child, although not fat, was a well nourished one.

Dr. GODFREY mentioned a case which occurred in his practice a few days previous, of jaundice from obstruction. A large gall stone was passed and the patient rapidly got well. He exhibited to the Society the gall stone which his patient had passed. It was discovered floating upon the surface of the evacuations.

Dr. FRASER remarked that the case just detailed by Dr. Reddy naturally brought up the interesting subject of the manner in which jaundice is produced and proves fatal. Not long ago it was taught by Dr. Budd and others that jaundice was produced in two ways: that is by suppression and retention of the secretion. But since it has been experimentally proved, that all the elements of bile, with the exception of cholesterine, are formed by the liver, the formation of jaundice by suppression is not now thought possible. Dr. Murchison recognized two forms of jaundice, one in which there was a mechanical impediment to the flow of bile into the duodenum, and the other in which no such impediment existed. His theory of the production of jaundice was as follows:—He believes that in health a portion of the bile is absorbed into the blood, and then transformed into products which are eliminated by the lungs and kidneys. But in certain morbid states and when there was an excess of bile, this normal metamorphosis does not take place, and the absorbed bile circulates with the blood and stains the skin and other tissues. Considering

the large amount of bile (50 oz) poured daily into the duodenum as compared with what passes through the alimentary canal, there can be no question, that a large portion of it was in health absorbed into the circulation and eliminated from the system through other channels as pointed out by Murchison. When the amount was excessive, as might be the case from mechanical impediment or excessive secretion, its complete transformation into products fit for elimination by the lungs and kidneys does not take place, and hence jaundice. Jaundice produced in either of the ways referred to was characterized by the presence of the biliary acids and bile pigment in the urine. These elements are not met with in the urine of animals whose livers have been cut out by way of experiment, thus showing that they are not preformed in the blood. The only constituent of bile performed in the blood, according to Dr. Austin Flint, jun., who has largely experimented on this subject, is *cholesterine*. His experiments appear to show, that this was the only fatal element of bile; that when it accumulated in the blood, owing to failure of the secreting action of the liver, it acts, like urea, as a blood poison, which Dr. Flint characterizes as cholesteræmia. The case described by Dr. Reddy appears to have been due to an acute traumatic affection of the liver, characterized by the absorption of much of the bile formed and terminating in atrophy. No doubt the urine must have contained the biliary acids and pigment. Dr. Fraser also spoke of the late experiments of Dr. Bennett of Edinburgh, upon the chologogue action of mercury, saying that this high authority was now of opinion that this drug possesses no specific action upon the secretion of the liver. On the other hand Dr. Murchison believes that mercury produces bilious stools by irritating the upper part of the bowel and sweeping on the bile before there is time for its absorption. Dr. Fraser stated that while calomel was unquestionably useful in congestion of the liver he did not believe it acted, as was usually urged, by stimulating that organ to increased secretion, which might be expected to increase the congestion rather than diminish it. Besides the mode of its action pointed out by Dr. Murchison, he thought it quite possible that the irritation of the duodenum by calomel and other purgatives might be reflected on the gall bladder and cause it to contract and thus evacuate an increased quantity of bile. But whatever the mode of action of the so called chologogues might be, he was satisfied from personal observation, that in the human subject, they increase the amount of bile passed through the alimentary canal and diminish bilious stains on the skin and conjunctivæ.

Dr. HOWARD spoke of the late experiments of Dr. Bennett, of Edin-

burgh, upon the cholagogue action of mercury, saying that this high authority was now of opinion that this drug possesses no specific action upon the secretion of the liver.

Dr. G. W. CAMPBELL (President) would say that although such an observer as Dr. Bennett had declared this doctrine, still, it was an undoubted fact that small doses of mercurials, more especially in children, had a marked effect in those cases in which it is generally recognized that the liver is at fault, connected commonly with loaded tongue, acid-smelling breath, and constipated bowels, with greyish stools. After small doses of calomel or grey powder, they rapidly change to dark brown, or so-called bilious stools. The green colour of the evacuations also after the exhibition of mercury to children is generally looked upon as showing the presence of bile, but Bennett denies that this is the case. Whether or not these newly impressed views be correct, certain it is that we should be foolish to discard our calomel on that account, for many years' experience has proved to him its great value in these hepatic derangements.

Dr. GIRDWOOD said that some believed that purgative doses of a mercurial acted in relieving congestion of the liver simply by the purgation produced, and without any specific action on the organ itself.

Dr. CAMPBELL would object to this view being taken, as saline purgatives are not followed by nearly the same amount of benefit.

The President thanked Dr. Reddy for his interesting paper. Some general business was transacted after which the Society adjourned.

REVIEWS AND NOTICES OF BOOKS.

Lectures upon Diseases of the Rectum. Delivered at the Bellevue Hospital, Medical College, session 1869-70, by W. H. VAN BUREN, A.M., M.D., Professor of the Principles of Surgery. New York: D. Appleton & Co. Montreal: Dawson Brothers.

The class of diseases treated of in the eight lectures comprised in this volume, are among the most common as well as the most troublesome and painful which the surgeon will be called upon to treat. As a rule, however, they can nearly all be relieved, and the experience of a careful observer, drawn from an extensive practice, among such cases, must be of great value. A false delicacy, upon the part of both patient and surgeon, often prevents a correct understanding of rectal diseases and entails upon the sufferer a vast additional amount of pain. A perusal of this little volume of about 194 pages, will do much to impress upon the surgeon the

vast importance of an early attention to this class of diseases. The style in which they are written is pleasing, and a very large amount of thoroughly practical information is given. We believe the experience of Dr. Van Buren has been very large, and we hope yet to see something more exhaustive from his pen upon this subject.

PERISCOPIC DEPARTMENT.

Surgery.

EXOPHTHALMIC GOITRE.

By J. J. CHISOLM, M.D., Professor of Operative Surgery and Clinical of Eye and Ear Surgery in the University of Maryland.

Whilst general attention is being drawn to a disease the pathology and causes of which are unknown, cases which differ from an assumed type should be carefully noted. When these become sufficiently numerous, their symptoms can be analyzed and useful deductions obtained. Exophthalmic goitre is one of these obscure diseases now under investigation, its curiously combined symptoms of heart disturbance, thyroid enlargement, and protrusion of the eyeball remaining, up to the present, unexplained. The disease is an insidious one, usually of slow approach, and of very chronic tendency,—the unsightly and annoying protrusion of the eye being a very persistent symptom.

The first prominent symptom—often the precursor of all the others, and said to be always present—is rapid and forcible cardiac action, with tumultuous palpitation from the least excitement. The frequency of the pulse is rarely below one hundred beats per minute; and the great nervous excitability of those affected, with the accompanying irritability of temper, nearly doubles the heart beats upon trivial provocation. Organic disease of the heart is found only exceptionally. In some cases there may be hypertrophy of the organ, with atheromatous deposit in the vessels, but most frequently the cardiac disturbance is purely functional, and the persons afflicted are young chlorotic women with irregular or suppressed menstruation. The implication of the heart is so very constant that it is called the invariable symptom, and to many observers is a sufficient explanation of the enlarged thyroid gland and the undue prominence of the eye,—being, in fact, the point of departure of all the accompanying symptoms, and the key to the phenomena.

The goitrous affection involves, ordinarily, the entire thyroid gland, but either lateral lobe may alone undergo enlargement: and, although

this hypertrophy is a very common complication, it is not invariably present. The protrusion of the eye is not commensurate with the size of the thyroid gland. In cases in which the exophthalmos is very marked, the thyroid enlargement may be scarcely perceptible; and, again, in cases of huge goitres there may be no eye-symptoms.

The prominent eye-ball, with its frightened stare, is the symptom which attracts most attention. At times it protrudes so much from the orbit as to expose the greater portion of the spherical globe. This protrusion is rendered more conspicuous by the retraction of the upper lid, which widens the palpebral fissure and exposes more of the sclerotic. This blepharitic retraction, with dilatation of the pupil, is recognized as a very early symptom, and is supposed to indicate the neuro-pathological character of the disease, an abnormal condition of the sympathetic,—H. Muller having detected unstriped muscular fibres in the upper lid which receive nerve-influence from the sympathetic. The protrusion of the eye affects vision by stretching the optic nerve, and mechanically interferes with the movement of the ball. Ulceration of the cornea and destruction of the organ sometimes occur.

The following secondary symptoms in exophthalmic goitre are of greater or less frequency: Chloro-anæmia is nearly always present; also dyspepsia, with general debility and emaciation, with buzzing in the ears, dizziness, and fainting-spells, headache, vomiting, and deranged bowels. In females—by far the most frequent subjects of exophthalmic goitre—there exists disturbed or suppressed menstruation. The face is often flushed, with increased temperature, and local sweating, restricted to one side when only one eye protrudes.

These various symptoms, which are more or less prominent, have from time to time attracted the attention of pathologists. Basedow, who in 1840 gave us the first succinct account of this disease, supposed chlorosis and serous effusions to be the cause. Piorry explained the phenomena as sequelæ of heart disease, with consequent interference to the returning circulation,—hence protrusion of the eyeball through congestion of the orbital vessels. More recent observers, among whom are Trousseau, Remak, Recklinghausen, Friedrichs, and Graefe, consider exophthalmic goitre a disease of the sympathetic nerve, either excited by reflex disturbances from distant organs, as the uterus, etc., or by organic changes in its cervical ganglia, or by paralysis of the vaso-motor fibres coursing with the sympathetic. In autopsies, careful examination has exhibited the cervical ganglia of the sympathetic sometimes enlarged; at other times atrophic, and again apparently devoid of pathological changes, even under high magnifying powers. In some of these bodies the eyes have

after death resumed their normal position, whilst in others the eyeballs continue to protrude, and in such the connective tissue which fills the posterior portion of the orbit has undergone hypertrophy.

In the following case, most of the so-called invariable symptoms were wanting, making serious breaks in the chain of phenomena:—

Miss A., aged 19, stout and strong, has noticed for the past five months that her neck was getting large, and that the right eye was acquiring an ugly stare. These symptoms were not connected with any special bodily derangement, nor has she suffered in any way. Her present condition is as follows: she looks pale, although she is very stout and never complains of fatigue; she states that she has never had a colour, and that she can walk many miles without any sensation of fatigue. Her digestion is good; she has a good appetite, is not troubled with constipation, and menstruates with great regularity, with a uniform loss and without pain. She has never suffered from cardiac palpitation; her heart-sounds are clear, pulse full and strong, 85 beats to the minute. She has never had flushings of the face, nor unusual sweating; the thermometer, carefully tried, detects no increased temperature. The right lobe of the thyroid gland is double the size of the left, although it is not conspicuously prominent. The right superior eyelid is pinched up, which prevents it from covering the protruding eyeball. When she looks up to the ceiling, the right superior lid is hidden completely by the orbit; when she turns the eye towards the floor, the lid does not cover more than one-half the exposed portion of the eyeball. When she tries to cover completely the protruding ball, the right superior lid quivers incessantly. The movements of the eyeball are somewhat impaired, the pupil is enlarged, but sight, for both near and distant vision, is perfect. Ophthalmoscopic examination shows no abnormal fulness of the retinal or choroidal vessels.

In the above case the exophthalmos and goitre of the corresponding side of the body appeared and progressed simultaneously, but all the other symptoms so marked in by far the majority of cases—viz., cardiac, uterine, gastric, and cerebral complications, and debility—were wanting.

CARBOLIC ACID IN SKIN DISEASES.

Edgar A. Browne, Surgeon to the Liverpool Dispensary for Skin Diseases, contributes to the *Practitioner* an article on the value of carbolic acid in skin diseases.

In all the diseases of the skin for which this remedy has been recom-

mented we have others more or less efficient and convenient. Does carbolic acid surpass these in efficacy or convenience?

In the treatment of tinea, carbolic acid comes into competition (amongst others), with two well-tryed and effective remedies, corrosive sublimate and sulphurous acid. In attempting the comparison—a task which has extended over two years—our author has followed a uniform plan of removing all crusts, scales, or accidental deposits with a poultice or oil, washing the part affected with soft soap, and then applying the remedy for twenty-four hours continually. In tinea circinnata and tinea tonsurans very good results were attained, but nothing “magical,” nothing beyond what may be usually seen in the routine treatment of these affections. It perhaps causes a little more irritation than an equal effectual strength of sulphurous acid. As regards convenience, carbolic acid stands at a disadvantage toward corrosive sublimate in the matter of smell, but requires less care in application than sulphurous acid—a point of greater importance in dispensary than in private practice. It may be added to the long list of drugs which can be used for the extirpation of these comparatively trivial diseases, but without attributing to it any sort of pre-eminence.

In favus the doctor has only had one opportunity of trying the acid. The case was recent, resulting from contagion. The patch was oval, about an inch and a half in its long diameter; cups thin but well-formed, perforated by hairs; sporules easily seen under the microscope. No hairs were pulled out, but the part affected, with an additional margin of healthy scalp, was kept close shaved, the crusts removed by soft soap, and a drachm of the crystallized acid in an ounce of glycerine thickened with spermaceti was kept closely applied under gutta-percha. Twice the application was suspended on account of irritation caused by the acid and soap; but the case was under treatment altogether eight weeks. At the end of this time hairs were growing nicely, and no sporules could be found. The mother was told to bring the child at once if a relapse occurred, but nothing was seen of the case for ten months, and probably a cure was effected. It can scarcely, however, be said that corrosive sublimate would not have acted equally well.

In tinea decalvans the acid seems to act injuriously on the young hairs, so our author has ceased to use it.

In pityriasis versicolor the results have been decidedly unsatisfactory, but so uniform in a large number of cases as to leave but little doubt in his mind that carbolic acid is an inefficient remedy compared with others. That it should act worse in this than other tinea can be explained by the fact that when the disease as in (tinea tonsurans) is situate

in a hair-follicle and around a hair the acid is able to make its way along the shrivelled hair-shaft. But in pityriasis versicolor the disease is situated in the rete mucosum and protected by the outer layer of epidermis. This is hardened by carbolic acid and converted into a covering, which, to a great extent, prevents further penetration. Even when the hardened layer of scales is removed by an alkali or soft soap the result is not so good as with sulphurous acid similarly aided. It must also be borne in mind that liquor potassæ, or the soap diligently applied, will sometimes effect a good cure in this disease, and too much credit must not be awarded to the supplementary application.

In eczema he is accustomed to add half a drachm or a drachm to an ounce of the zinc ointment, and considers it useful in hardening the newly-formed epidermis. In the latter stages of the disease it may be used instead of the tarry preparations with moderate success. The facility with which its strength can be graduated to suit the varying susceptibility of the skin in various cases renders it a convenient application in a disease which varies as much in severity as eczema. But there is nothing peculiar in its actions, nor can any result be attained which cannot be equally effected by the tarry or mercurial stimulants in common use.

In sweating feet it acts remarkably well, stimulating the flabby relaxed skin and hardening the unduly porous epidermis. He recommends it to be used as a lotion, weak at first, but the strength gradually increased till it stings uncomfortably. It may then be disused, and in cases of moderate severity does not require to be repeated for two or three months.

In psoriasis it cannot be compared with tar. Out of a number of cases treated at the dispensary showing no indication for internal treatment, but all kept equally under the influence of arsenic, none have been satisfactory. In order to produce any noticeable effect with the acid it seemed necessary to use it sufficiently strong to cause considerable pain, and then, acting as a mild caustic, it is comparable to the acid nitrate of mercury so commonly employed.

As an anti-pruritic, carbolic acid belongs to the same class as corrosive sublimate and borax, but certainly does not surpass them. It is, however, a convenient addition to an evaporating lotion, and can generally be relied on to relieve itching not dependent upon urticaria or true prurigo. In the former it seems utterly valueless; in the latter it often gives relief for a time.

In scabies and pediculi it is a good remedy, but as we have several devoid, or nearly so, of unpleasant odor, it is not worth considering.

As a caustic, our author confirms all that has been said in its praise. It is easily graduated in strength, and does not spread. Almost anything can be done with it that can be done with other caustics, except, of course, when very great destruction of tissue is required.

On the whole, carbolic acid may be considered a versatile jack-of-all-trades, doing many things fairly well, but in all, except as a caustic, inferior to some master-remedy either in efficacy or convenience.—*Half Yearly Compendium of Medical Science*, July, 1870.

ALMOST COMPLETE SEVERANCE OF THE BODY WITHOUT A
BREAK IN THE SKIN.

R. A., aged nineteen, a telegraph clerk, was seen near Camden Road Station at 11.50 on the night of Saturday, June 26th. He was then sober, had over two pounds of money in his possession, and stated his intention of going to Euston Square by the 11.56 train. Although he was known to the officials, and there were very few passengers, no one saw him get in at Camden Road, or get out at Euston Square. The ticket-collector also said that he should have recognized him at once had he been in the train. The train after discharging at Euston, was backed into a shed; and, as two shunters, who had performed this duty, were returning along the line which the train had just passed over, they found R. A. lying on his back just inside the station, straight across the outer rail, with his head between the rails, and his hat tilted over his eyes. He was alive when found, but died in a few minutes. The body was at once brought to University College Hospital. It was clothed in a long jacket, waistcoat, and trousers, of thick, coarse cloth, on which the marks of the carriage-wheels were plainly visible. Only a few pence were found in his pockets. There was not the smallest wound on the body, and only a few abrasions of cuticle across the abdomen. After some hours, pretty extensive ecchymoses appeared. On opening the abdomen, all the abdominal muscles were found completely cut through horizontally, retracted, and curled up, leaving a gap five or six inches wide. The back muscles were in the same condition. The right kidney was cut in half. The transverse colon and a large piece of the ilium were lying free in the abdomen; and the body of the third lumbar vertebra was crushed literally to powder; everything was divided except the skin. The rest of the body was healthy.—*Medical Times*.

Medicine.

TREATMENT OF PLEURITIC EFFUSION.

By JAS. CUMMING, M.D., Professor of Practice of Medicine, Queen's College, Belfast.

The operative treatment of effusion in the pleural cavity has recently been the subject of some important observations. The value of thoracentesis—an operation which dates from the earliest times of medicine—has been very variously estimated by many of the most eminent observers. Laënnec seems to have entertained little confidence in its utility. Dupuytren performed the operation frequently, and with fatal results in the great majority of his cases, so that in his last illness, when it was proposed to him to allow his chest to be tapped for the relief of a copious pleuritic effusion which existed in it, he is reported to have refused, saying that he preferred to die by the hand of God than by the hand of man. In this country the operation was regarded with little favour, notwithstanding the energetic advocacy of a more extended application of it by Dr. Thomas Davies and Dr. Hamilton Roe. It is to Trousseau probably more than to any other that the more frequent employment of this procedure in recent years is owing. Dr. Bowditch, of Boston, has also performed thoracentesis very frequently, and with great success, and his experience has had much influence in popularising the operation. Nevertheless, there can be no doubt that there is a wide divergence between the practice of physicians in this kingdom and that adopted on the continent with regard to tapping the chest.

The opinion prevalent in this country seems to be that thoracentesis is not to be had recourse to during the acute stage of pleurisy, merely in consequence of the effused fluid having reached a large amount, unless other urgent symptoms, such as marked dyspnea, have arisen. On the other hand, Trousseau has laid it down as a rule, that the chest must be at once tapped in all cases in which there is dulness from the base of the lung to the clavicle in front and to the supra-spinous fossa behind, with displacement of the diaphragm, liver, spleen or heart. The danger which he apprehends from this condition and which he regards as rendering the operation imperative, is that of sudden death apparently from syncope. Some doubt* has been thrown on the likelihood of this mode of fatal issue being a legitimate result of the disease, and it has been suggested that antiphlogistic measures adopted to combat the malady may have had much to do with the production of syncope. The termination of acute

* Gairdner, Clinical Medicine, p. 374.

pleurisy in sudden death has, however, been too often observed in the absence of any lowering treatment to render this explanation satisfactory. Quite recently Dr. Sutton* has recorded a case in which death suddenly occurred in acute pleuritis with only a moderate amount of effusion, not exceeding forty ounces. Another case of a similar kind occurred within the cognizance of the writer of this report. Trousseau has suggested that the explanation may be that the displacement of the heart by the pressure of the fluid may cause such a degree of tension of the large vessels that the passage of the blood through the aorta may be materially interfered with, and that as a result of any unusual effort on the part of the patient the circulation may be altogether arrested; or that in some instances it may occur in consequence of the diminished flow of blood through the vessels giving rise to the formation of thrombi in the cavities of the heart.

Bartels,† who has contributed a paper of great value on the question of the operative treatment of pleuritic effusions, has had several opportunities of making *post mortem* examinations of the changes produced by pressure in the position of the heart and great vessels. He states that the most important effect as regards the circulation is that produced on the intra-thoracic portion of the inferior cava and on the right auricle of the heart, and draws attention to the fact that when effusion takes place into the left pleura it has more influence in producing stoppage of the circulation than when it occurs in the opposite side. In a case of left-sided pleuritic effusion Bartels found that the heart had been pushed to the right side, so that it assumed an almost vertical position with the apex resting on the depressed diaphragm, that the lower wall of the right auricle was folded on itself, and that the inferior cava immediately above its emergence from the foramen quadratum was bent at right angles. This condition of parts must have interfered considerably with the return of blood to the heart, and the effect of any sudden exertion under such circumstances might readily be to altogether cut off the flow of blood through the cava for a short time, and thus bring about a fatal syncope.

In many cases of acute pleuritic effusion, it has been found that after tapping the fluid does not again accumulate. Trousseau has recorded instances of this, and the same fact has been noted by other observers. An interesting case‡ in which tapping the chest was followed by complete and rapid recovery of the patient, has been quite recently recorded by Dr. Constantine Paul. In this case the enormous amount of above

* British Medical Journal, July 17th, 1870.

† Deutsches Archiv für Klinische Medicin. Band. iv.

‡ Dr. C. Paul. Bulletin Général de Thérapeutique, Dec. 15, 1869.

nine pints of fluid were withdrawn from the chest at a single operation. No fresh accumulation took place, and the patient recovered without a single symptom of disturbance from the thoracentesis.

Professor Kussmaul* reports with great care and fulness the details of sixteen cases in which thoracentesis was performed in his own practice. In six of these, in which the operation was performed under urgent and almost desperate circumstances, permanent recovery followed. Of these six cases five were owing to acute and chronic empyema, and one to acute pyopneumothorax. In a seventh case life was prolonged for a year and a half. In an eighth case, one of acute pleuritis with purulent effusion, the first operation decidedly injured the condition of the patient, probably in consequence of having been too early performed; subsequent operations, however, became necessary, and the patient died phthisical a year after. The ninth case terminated favourably, but not on account of the tapping. The tenth case was an empyema of necessity, with a great amount of pericardial effusion. The eleventh, a similar empyema, with advanced disorganization of the pleura; both these cases ended fatally. The twelfth and thirteenth cases were cases of pyopneumothorax, in which the operation was only performed with the view of palliating the sufferings of the patient, which object was satisfactorily accomplished. The fourteenth case was one of tubercular pleuritis, with hemorrhage at the pleural sac, and was also relieved. The fifteenth and sixteenth were cases of acute pleuritis, with extensive serous exudations, and both ended fatally.

It becomes accordingly a matter deserving the serious attention of physicians whether the employment of thoracentesis might not be advantageously somewhat extended in cases of acute pleurisy with very copious effusion, even in the absence of symptoms of an urgent character.

With regard to chronic effusion, the arguments in favour of the operation are still stronger. In this country it is not considered advisable to tap the chest in consequence of the presence of the fluid, even in considerable quantity and remaining for a long period, if there is reason to believe that it is of a serous and not of a purulent character.

There are several considerations possessing weight which are favourable to the adoption of operative interference at a comparatively early period. Certain changes of some prognostic importance have been found to take place in the ribs and their cartilages in cases of chronic pleuritis. A process of ossification of the cartilages is found† to take place even in

* Deutsches Archiv, Band. iv.

† Parise, Archives Générales. 1849. Wintrich, Die Krankheiten der Pleura. Virchow's Handbuch der Spec., Path. 1855.

young subjects, and an enlargement frequently to a considerable extent of the ribs themselves. The effect of these changes may, as has been shown by Bartels, be very prejudicial to a complete removal of a chronic effusion. If the lung is bound down by false membranes so as to be unable to expand, or if the pulmonary tissue itself has undergone such changes as to render it no longer capable of expansion, then the only way in which the pleural surfaces can be approximated so as to obliterate the space between them and permit of the absorption of the fluid is by the yielding of the chest walls. It will be easily understood that the possibility of this yielding depends in a great degree on the elasticity of the parietes, and that any change which increases their rigidity offers an obstacle which may be an insuperable one to this change of shape, without which removal of the fluid is impossible.

Other considerations favourable to an early performance of the operation are derived from the changes which a lung which has been subjected to long-continued pressure is liable to undergo. It is remarkable how completely this organ may retain its power of being inflated even after having been compressed for a long time, but it does occasionally happen that changes occur in its texture which render it no longer capable of admitting air. The false membranes also, which bind down the lung, may undergo a process of development which may render their yielding impossible, and in this way the expansion of the lung may be prevented.

It has long been known that a tubercular condition of the lung is one of the causes of pleurisy; there is every reason to believe that the converse of this proposition is also true, and that the existence of a chronic pleurisy may be a cause of phthisis. Nor is this difficult to understand by the aid of the additional breadth which our conceptions regarding the nature of pulmonary consumption have recently received. When one lung is compressed, so as to become useless, the needs of the circulation must throw such an additional amount of work on the unaffected lung as to cause a hyperemic condition of it. This tends to the production of a catarrhal condition under slight exciting causes, and it must be remembered that the free play of the unaffected lung is seriously interfered with, partly owing to pressure through the mediastinum, partly by the pain caused by the respiratory movements, partly to the interference with the diaphragm by the fluid effused. These are precisely the conditions which favour an accumulation of the products of bronchial catarrh within the lung, and the development of those morbid processes which are now regarded as constituting one of the most frequent forms of pulmonary consumption.

It is a fact well known to practical physicians that effusions, which

there is every reason to believe to be merely serous, will for a long time resist all measures adopted for bringing about their absorption. In many instances they cause no apparent injury to the health or strength of the patient; in others they merely diminish his capacity for exertion, and render him unable to rapidly ascend stairs and the like, but otherwise seem to exercise little prejudicial effect. In such cases the question arises how far a physician is justified in leaving matters in *statu quo*, after rest and tonics and diuretics and iodine have failed in causing absorption. It cannot be a matter of indifference to the future of a patient to have a dislocated heart or a depressed liver, even if he does not suffer from the abnormal condition of these important organs at the time. Besides, there is always a risk that under the influence of intercurrent disease the fluid in the chest may become purulent. No physician would hesitate to remove such an effusion if it could be done without exposing the patient to serious risk. In a case recently under the care of the writer effusion was found to exist in the left pleura, displacing the heart to the right side and causing dulness as high as the clavicle. It had accumulated without any marked chest symptoms, and also without any considerable febrile reaction. When the patient came under observation he had been blistered over the affected side and otherwise treated with a good deal of activity. Iodide of iron, diuretics, rest, and abundant nourishment were prescribed with no perceptible effect upon the amount of fluid or on the measurement of the chest. The question arose how long it was justifiable to proceed with remedies of this kind under the circumstances. The patient was to all intents and purposes well, but unable to work from the dyspnea which exertion caused, and he had a family dependant on his exertions. Thoracentesis was decided upon, a fine tubular needle was introduced between the sixth and seventh ribs, and 20 ounces of serum removed by suction, by means of an instrument to be described. Two days after a similar amount was removed. The little operations were almost painless, no suffering being caused except by the trifling prick of the needle. No cough or other unpleasant concomitant occurred, and absorption proceeded rapidly, so that in a week the patient left hospital, and in another fortnight very little dulness and no displacement of the heart remained.

Professor Ziemssen,* of Erlangen, recommends strongly that thoracentesis be performed even in cases of non-inflammatory hydro-thorax occurring in connection with cardiac or pulmonary disease, with tumours in the chest, or with Bright's disease, when the pressure on the lungs

* Ziemssen, Deutsches Archiv, Vol. v, 457.

has attained such an extent as to give rise to deficient aeration of the blood or insufficient circulation in the lung. In accumulations of fluid under these circumstances the operation can be considered as merely palliative, but it has been found to afford a considerable amount of relief. Ziemssen records the case of a patient in whom there were present mitral insufficiency, hypertrophy of the heart, granular kidneys, and general anasarca, and in whom hydro-thorax was present in both sides. The chest was punctured during his illness sixteen times with marked relief to the dyspnea. In these different operations above 20 pints of fluid were removed, and Ziemssen expresses his decided belief that life was considerably prolonged as well as rendered much more comfortable by his interference.

The practical rules laid down by Bartels regarding the selection of cases in which thoracentesis is to be performed, are worthy of consideration.

In all cases of simple serous effusion, accompanied by signs of displacement, the operation is requisite if the physical signs show that absorption has not commenced within a moderate time.

It is not advisable to operate as long as febrile symptoms are present, unless there be urgent symptoms, such as distinct and considerable embarrassment of the circulation or of the respiration.

The entrance of air into the pleural cavity is to be carefully prevented in cases of serous effusion.

Purulent effusions are best treated by the establishment of a large fistulous opening, which permits a continuous discharge of the thoracic contents. If these effusions are removed by the trocar they rapidly accumulate afresh and exhaust the patient.

If, on puncturing the chest, an effusion which has been regarded as serous is found to be purulent, it is advisable to remove the trocar and make a pretty large opening at once.

The effusion is almost invariably purulent if pleurisy has occurred in connection with pyemia, puerperal fever, and the like, if a febrile condition continues without any other cause after the effusion has ceased to increase, and is certainly purulent if œdema of the subcutaneous cellular tissue exists on the affected side.

If pneumo-thorax co-exist with purulent effusion, the operation is indispensable to prevent the contamination of the system by septic fluids.

To prevent septic infection it is necessary to cleanse the pleural sac daily, either by injections of water or of a weak solution of common salt, or by insufflation of air.

As regards the choice of an instrument, and the mode in which the

operation is to be performed, we may be permitted to say a few words, inasmuch as this may be regarded as common ground for the physician and surgeon. Opening the cavity of the thorax by means of a bistoury is reserved for those cases in which a permanent fistulous opening is required. The trocar is the instrument usually employed, and Wyman's instrument has been frequently used in connection with the trocar.

"It is difficult, without the lessons of clinical experience, to appreciate the fact that the intensity and quality of heart murmurs are not of much account in judging of the importance of valvular lesions. A murmur very loud, notably rough or musical, it would seem, should denote graver lesions than one which is feeble, soft, and blowing. Experience, however, shows that it is not so. A striking illustration of this fact came under my observation some time since. A gentleman from Cuba consulted me for disease of the heart. He had a musical murmur loud enough to be heard with the ear removed some inches from the chest. The sound had attracted his attention, and this first led him to see a physician. He was told that he had disease of the heart, of which he had previously had no suspicion, having no ailments referrible to that organ, and, indeed, considering himself perfectly well. He became at once a medical curiosity, and he had been examined by many physicians. The case exemplified the fact that the diagnosis of a cardiac lesion is sometimes a misfortune. The man had no peace of mind after the discovery of the murmur. He relinquished his business, and came to this country for medical opinions. The lesion, as regards present importance, was innocuous; and had he remained ignorant of its existence, he would not only have been contented and comfortable, but his condition would probably have been more favourable for the preservation of health.

"It follows, from what has been said, that, with reference to prognosis it is important to go further in diagnosis than to determine, from the presence of murmur, the existence of an organic disease of the heart. If we except the accident of embolism, we are warranted in saying that, as a rule, in cases of valvular lesions giving rise to murmurs, whatever be their number, intensity and quality, there is no danger, either immediate or near at hand, so long as the heart is not enlarged; for clinical observation shows that, in general, valvular lesions cause enlargement of the heart before leading to more remote effects which involve distress and jeopardize life. Moreover, clinical observation shows that in most cases enlargement of the heart is produced by valvular lesions slowly, the ulterior effects being, of course, proportionately distant. I would remark, in this connection, that, in order to judge of the import of organic murmurs, aside from enlargement of the heart, the heart-sounds claim more atten-

tion from stethoscopists than is usually given to them. It is certain that the aortic and the pulmonic second sound can generally be interrogated separately by auscultation; and I believe this statement may also be made with respect to the mitral and the tricuspid valvular element of the first sound. The absence of any abnormal modifications of these several components of the two sounds of the heart is an important point in judging of the innocuousness of valvular lesions, the existence of which is revealed by the presence of murmur.

The difference in the tolerance of chronic affections of the heart is to be considered with reference to the prognosis. What is true of most chronic diseases, namely, that the same lesions are tolerated very differently in different cases, is especially exemplified by the structural affections of the heart. It is truly astonishing how well borne, in some cases, are cardiac lesions of unusual magnitude. A case which recently came under my observation afforded a striking illustration of this fact. The patient, a man of middle age, was suffering greatly from dyspnœa in paroxysms, together with loss of appetite and general prostration, and the case ended fatally within a few weeks after the occurrence of the symptoms just named. I saw the patient a few days before his death, and found the heart enormously enlarged. The apex-beat was in the eighth intercostal space several inches without the linea mammalis; and the dullness on percussion over the precordia was proportionately increased both in area and degree. Here was truly a *cor bovinum*. There were present murmurs, indicating both aortic and mitral lesions. There had occurred an attack of acute articular rheumatism fifteen years ago. Now, prior to a few weeks before death, this patient had seemed to be in excellent health, and he declared that he was so. He was a man of very active habits, engaged in a business (that of a wool merchant in the country) which required much travelling. He had had, on one occasion, an attack of hemiplegia, of very brief duration, which was probably attributable to embolism. With this exception he had not for many years been a patient, considering himself a healthy man. He was a man of temperate habits, but a good liver as regards diet, eating very heartily, and digesting his abundant meals without difficulty; yet it is certain that for several years there must have been very great enlargement of the heart, resulting from the valvular lesions. For some time before the occurrence of grave symptoms referrible to the heart, he had had an unusual amount of mental and physical work, accompanied with much excitement; nervous asthenia and impaired appetite ensued, and, under these circumstances, he began to suffer from dyspnœa. He was compelled to keep the bed; he became despondent; the existence of disease of the heart was forced

upon his attention, and he failed rapidly. The history of this case represents what I have been repeatedly led to observe in other cases, to wit, the tolerance of disease of the heart, while it was advancing, more or less slowly, until it had attained to a great amount, the person affected, in the meantime, not considering himself an invalid, taking no remedies, living freely, and engaged in pursuits involving activity of mind, or of body, or of both. The case also represents a fact which I have repeatedly observed, namely, that from the time when persons with disease of the heart become patients, that is, when they become impressed with a knowledge of the existence of the disease, and are obliged to give up their usual pursuits and habits, they are apt to fail rapidly. It is a *facilis descensus* from that time. The latter fact, as well as the remarkable tolerance of the disease under the circumstances stated, teaches an instructive practical lesson.

“In speaking now of the tolerance of cardiac lesions, I do not, of course, have any reference to those which have already been referred to as innocuous. I refer to lesions which are more or less serious, that is, involving either obstruction to the free passage of blood through the orifices of the heart, or regurgitation, or both these immediate effects combined, together with enlargement by hypertrophy or dilatation separately or in combination.

“All clinical observers who have seen much of diseases of the heart must have been struck with the fact that the inconvenience and suffering attendant on lesions the same in character and extent, differ widely in different cases.

“What are the circumstances on which this variation as regards tolerance depends? This question not only has a bearing on the prognosis but it is of great importance in relation to management. I will devote to it a few remarks.

“In general terms, chronic diseases of the heart, as of other organs, are tolerated in proportion as the functions of the body, exclusive of the part diseased, are healthfully performed. The internal conditions of general health and constitutional strength relate especially to the series of functions which begin with ingestion and end with nutrition. Other things being equal, the toleration is best and longest when, *first* of all, the ingesta are ample; *second*, when digestion is active; *third*, when, owing to adequate assimilation, the constituents of the blood are in normal proportion; *fourth*, when the nutritive supplies in the blood are well appropriated; and, *lastly*, when the secretory and excretory organs do their proper work. Now, a healthful performance of these functions is not incompatible with considerable damage of the central organ of the circulation; and, in

so far as it is practicable to maintain those functions at, or near to, the state of health, the toleration of disease of the heart will approximate to completeness. *Per contra*, the toleration will be incomplete in proportion as the functions of the body, exclusive of the heart, are feebly or imperfectly performed; in other words, in so far as the condition just named of general health and constitutional strength are deficient. The blood may be considered as representing the healthful performance, or otherwise, of the functions of nutritive and destructive assimilation; so that the simple phrase, *healthy blood*, comprehends the grand requirements for toleration."

In the discussion which followed Dr. Flint's paper, the following statistics, based on ninety *post mortem* examinations made in the Bellevue Hospital, New York, were brought forward by Dr. Alfred L. Loomis. They illustrate the question of how often and in what manner cardiac lesions are the direct cause of death:—

"It will be seen that valvular disease, cardiac hypertrophy, and dilatation were present in fourteen cases. Of this number heart-lesions were the cause of death in seven; death was sudden in one, and was caused by stenosis of the mitral and tricuspid orifices.

"In fifteen cases valvular lesions with cardiac hypertrophy were present, in eleven of which the heart-lesions were the cause of death; in five of these death was sudden, and the valvular lesions were aortic in one, mitral in another, aortic and mitral in another, mitral and tricuspid in another, and mitral and pulmonic in another.

"In six cases valvular lesions with cardiac dilatation were present. In four of these the heart-lesions were the cause of death; two died suddenly, in one the valvular lesions were mitral stenosis and aortic thickening, in the other the aortic, mitral, and tricuspid valves were all diseased.

"In forty-six cases valvular lesions were present without cardiac hypertrophy or dilatation. In only two of these were heart-lesions the cause of death, in neither of which was death sudden. Lesions of the coronary arteries were present in three cases; in one death was sudden. Thrombi of the heart were present in six cases, death sudden in one.

"It will also be seen that the number of deaths due directly to heart-lesions was twenty-six. In nineteen cases death was sudden; number of sudden deaths due to heart-lesions, ten; number of gradual deaths due to heart-lesions, sixteen; number of deaths not due to heart-lesions, sixty-four. Of the nine sudden deaths not due to heart-lesion, four were from cerebral apoplexy, four from uræmic convulsions, and one from croupus laryngitis."

The present writer regards an instrument which has very recent

come into use as affording facilities for the safe performance of the operation, such as did not before exist. It consists* in a strong glass tube, about the size of an ordinary stomach pump syringe, and fitted up in the same manner with two cocks. In this is an air-tight piston, by pulling up which, with the cocks closed, a vacuum can be formed. For the instrument is arranged a series of tubular needles and trocars, beginning at the ordinary size and decreasing to the finest calibre compatible with sufficient strength. In examining for a pleuritic effusion, it is necessary to introduce the needle into an intercostal space sufficiently far to cover the little lateral openings in it. Then it must be connected with the air-pump, and the cock communicating with the interior of the pump opened, so that the cavity of the needle forms a part of the vacuum. The needle is then to be slowly pushed forward. In this way the tissues are traversed with a tube connected with a vacuum, and the instant fluid is met with it immediately rushes into the glass pump, and its character can be at once recognized.

The advantages of this instrument are at once apparent. Among the objections to the operation is certainly to be reckoned the possibility of an error of diagnosis. Now, although in the vast majority of cases error is by no means likely, it must be remembered that it is far from impossible. The case of a distinguished member of the profession, Dr. Dolbeau, of Paris, has recently attracted a good deal of attention, and has been freely commented upon by the Parisian medical press. In the case† of this gentleman fluid was believed by some of his medical attendants to be present in the pleura, and although there was a difference of opinion as to the diagnosis, it was determined to puncture the chest. Two punctures were made without result, and the needle penetrated the lung in both

* A good deal of discussion has taken place regarding priority of invention with respect to this instrument. The instrument used by the writer is that called the Pneumatic Aspirator of Dr. George Dieulafoy, of Paris, and has been patented by the Messrs. Weiss, the well-known instrument makers. An instrument identical in principal, and closely resembling it even in detail, was exhibited by Dr. Protheroe Smith at the recent meeting of the British Medical Association in Newcastle-upon-Tyne. Dr. Smith claims to have invented and employed this instrument several years before Dr. Dieulafoy's introduction of his aspirator. A commission of the Academy of Medicine of Paris, consisting of Messrs. Broca, Jules Guerin, and Denonvilliers, examined into the question of priority, and reported at the meeting of July 27 of the present year, that an instrument identical in principle had been exhibited by M. van den Corput, Professor in the University of Brussels, as early as 1855, and that M. Laugier, the well-known surgeon, had also about the same period employed a similar instrument. The report of the commission will be found in the Archives Générales for September.

† Gazette Hebdomadaire, May 6, 1870.

instances without producing any bad effects. Twelve days later a considerable amount of fluid was found and removed by operation. It was the opinion of Barth, an auscultator of the highest eminence, that fluid was present in the first instance, but that local adhesions had occurred at the sites of the puncture. It is known that even in the hands of Laënnec the liver was once perforated by a trocar in an operation of this kind. An advantage of no mean importance in the employment of this instrument consists in the harmlessness of such errors; as the puncture of the lung by the fine needle employed is not found to be followed by any evil results.

Another advantage is the comparatively painless character of the operation. Not only is the puncture itself attended with very slight pain if a fine needle be used, but the removal of the fluid, which takes place very slowly and gradually, is not accompanied by the troublesome paroxysms of cough which have been noticed to attend the evacuation of the chest by the ordinary means. These points were brought under the notice of the profession by Blachez,* who advocated an operation which he described as capillary thoracentesis. The admission of air is also completely prevented, and although the experience of those who have employed the operation repeatedly does not point to this accident as one of much importance, still it must be regarded as a thing to be, if possible, prevented.

Experience has shown that it is not by any means necessary to withdraw the whole of the effused fluid. The removal of a portion is in many cases all that is necessary for the prevention of absorption. Once the excessive pressure has been diminished the increased activity of the absorbents becomes sufficient for the task to which they had been before unequal.

A method of employing the syphon-principle in the removal of fluid from the pleural cavity in combination with a mercurial pressure-gauge, which enables the operator to ascertain at any moment the degree of fluid pressure within the pleura, and the amount of syphon-power employed has been suggested by Dr. Douglas Powell.† If the syphon-principle be adopted in the operation of thoracentesis, the pressure-gauge will certainly be found an important aid in regulating its application; but there is no very obvious advantage to be gained by the employment of the syphon. An exhausting syringe seems to afford an equally efficacious, as well as a more convenient and manageable mode of withdrawing the fluid.

An instance of a totally different method of dealing with pleuritic effusion has been reported by Glauert,‡ from the clinic of Niemeyer. The

* Bulletin gén de Thérapeutique, Nov. 15, 1868.

† Transactions of the Clinical Society of London. Vol. iii, p. 240.

‡ Berlin Klinische Wochenschrift, Feb. 7, 1870.

treatment adopted was a modification of what is known in Germany as the Schroth cure. The patient was forbidden to take any drink or fluid nourishment whatever, and his diet consisted of bread and slightly salted sausages. The attack of pleuritis had lasted fifteen days before this treatment was commenced, and the physical examination revealed effusion in the right pleural cavity, extending upwards to the third intercostal space; all febrile reaction had ceased. During the first two days of the treatment the patient suffered greatly from thirst, and was scarcely able to swallow anything, owing to the dryness of his mouth. He adhered, however, rigorously during three days to the directions given him, with the exception of licking with his tongue some of the moisture deposited on the inside of the window panes.

During the three succeeding days he was allowed half a pint of wine daily. The amount of urine secreted during each of these three days averaged only fourteen ounces and a half. Absorption of the fluid took place rapidly. On the fourth day of the treatment friction sounds re-appeared, and on the sixth day dulness was only recognizable immediately above the liver. The patient was now permitted to eat and drink as he pleased, and in two days was completely well. His appetite and general condition were good, and all traces of effusion had disappeared. It seems from the experience of German physicians that this highly irksome and disagreeable plan of treatment can be put in practice without risk to the future health of the patient, in the great majority of cases at least.—
Dublin Quarterly.

PROGNOSIS IN CHRONIC DISEASES OF THE HEART.

An important paper on this subject was read before the Medical Society of the County of New York, by Dr. Austin Flint, in March of the present year, and will be found in the *New York Medical Journal* for May. It discusses a subject about which there is still much misunderstanding, and the following remarks will be found to be worthy of the high reputation of Dr. Flint as an authority on the subject of cardiac disease:—

“An important aspect under which the prognosis of chronic diseases of the heart is to be considered is the innocuousness of certain lesions. Lesions of the valves, as is well known, are represented by adventitious sounds known as endocardial murmurs. By means of these murmurs the existence of valvular lesions is determined, and they are readily localized. If there be found, in any case, endocardial murmur or mur-

murs persisting, and not due to a morbid condition of the blood, we have the proof of a chronic structural affection ; there is organic disease of the heart. But the lesions which give rise to murmurs are by no means always of importance as regards immediate or even remote evil consequences. They may be devoid, not only of danger, but of any morbid symptoms. There are many persons pursuing their various avocations, and wholly unconscious of any malady, who, if auscultated, would be found to have organic disease of the heart. In a certain proportion of these persons the existence of cardiac disease will hereafter be manifested by symptoms and morbid effects ; some may at length die from the disease, but in not a few, even if life continue for many years, the only evidence of the disease will be, as now, the presence of one or more of the cardiac murmurs, and death will be caused by some affection which has no connection with the lesions existing in the heart. In cases of innocuous lesions the harm of physical diagnosis is sometimes apparent. Let the simple statement be made authoritatively to one having an innocuous lesion that he has an organic disease of the heart, and he will be likely to look upon himself as doomed. If he be a timid, nervous man, he has received a moral blow from which he does not recover. He sees a sword suspended over him. He is under sentence of death. Not only is he hurt as regards his comfort and happiness, but the depressing effect of the diagnosis, and the altered habits of life to which it may lead, sometimes contribute to impair health, and tend, perhaps, to shorten life.

“ I would not for an instant have it supposed that I mean to disparage physical diagnosis. I wish only to place in a strong light the importance of going further than to the fact of the existence of organic disease of the heart. In other words, I would prepare the way for saying that, with reference to the prognosis, more information than the murmurs can furnish is indispensable. What has just been said concerning the long-continued innocuousness of cardiac lesions, I may add, is warranted by my own observations. I have records of cases in which organic endocardial murmurs existed from ten to thirty years ago, the persons now living, and exempt from ailments referrible to disease of the heart.

Materia Medica and Chemistry.

NOTES ON CHLORAL.

BY DR. H. Y. EVANS.

It seems to me that the remark so often made "that we are governed by fashion in medicine" is an erroneous one. The underlying cause of the disposition to change and drop certain remedies after a period of varying success is owing, in a great degree, to the use of an inferior preparation. The numerous reported failures in the use of hydrate of chloral seem to make this fact especially true in regard to this drug.

I have noted the effects of this drug in twenty-four consecutive cases. In the first *sixteen* cases (in doses of grs. xxv to xxx) its effects were really delightful. In the *seventeenth* and *eighteenth* it failed in producing anything but delirium and a subsequent headache. In the *nineteenth*, *twentieth* and *twenty-first* cases the effects were entirely satisfactory. In the *twenty-second* (nephralgia), grs. xxx, repeated every hour for three hours, resulted in wakefulness and headache. The use of it in the *twenty-third* and *twenty-fourth* cases resulted, within an hour, in vomiting and delirium, and, at the expiration of eight hours, a heavy, unpleasant sleep. Cases *seventeen*, *eighteen*, *twenty-three*, and *twenty-four* were most suitable ones for happy effects. The failure, therefore, made me anxious to discover the cause. On inquiry as to the character of the preparations used in these cases, I was convinced that three out of four of my failures were directly due to the use of an inferior and deleterious drug. These preparations had a heavy, dead, camphory odor, and, in one instance, a dirty appearance. The fact mentioned by Dr. Baldwin—that a small dose (grs. xv) largely diluted (in f̄ ̄ ij of fluid) seems to act *more promptly* and more pleasantly than a large (grs. xxx) one sparingly diluted (in f̄ 3 ij of fluid)—is an important one; and I am so convinced of its truth that I invariably act upon it.—*New York Medical Times.*

Canada Medical Journal.

MONTREAL, FEBRUARY, 1871.

CASES OF ALLEGED MALPRACTICE.

The practice of the profession of medicine or surgery is the most thankless and onerous occupation that any man can well undertake, and were it not for the earnest hope of aiding our fellow-man in his afflictions and difficulties, few, we believe, would subject themselves to the amount of harassing labour, and mental distress, which each case must entail on the conscientious practitioner. If in any case, all goes on well, the practitioner is loaded with adulation, and many a time his cheek is made to tingle with fulsome flattery; on the other hand, if through misfortune or the many accidents against which he cannot provide, evil befalls him and death or disaster attends his best directed efforts for his patients welfare, he is too often assailed with abuse, and now and then subjected to the annoyance of misrepresentation or a suit at law for malpractice. If a physician or surgeon does not fulfil all the expectations of busy friends or anxious relatives, if constant and faithful in his attendance, battling manfully, inch by inch, the disputed ground with disease or death, and is in the end unsuccessful, he is too often censured for unskillfulness or want of judgment, if not looked upon as criminally neglectful of the first principles of his art, and a howl of indignation and contumely is directed against him. This we can all endure in silence, it is the experience of every man at some period of his career; 'tis true in some exceptional cases, the natural good sense and honest conviction of those who have injured us, will lead occasionally to explanations and expressions of regret for words hastily used. It is not enough that a physician or surgeon should be unremitting in his attendance on his patients, to give general satisfaction he must be successful. His attendance is little appreciated by the public generally, he may sacrifice time, health and his very life in the service of his fellow-man and in the end be regarded as a bungler. These reflections have been forced from us from the frequent occurrence of prosecutions for alleged malpractice; they are becoming so common that the profession begin to see the urgency of seeking for some measure of Legislative protection. It has been suggested that a special enactment should be secured to oblige all litigants

in matters of alleged malpractice, before entering a Court of Law, to give security for costs in case of defeat: to this we would add a clause rendering it a misdemeanour to prefer a charge of malpractice which cannot be fully proven and substantiated.

We would as fully expose a glaring wrong done to an individual or society, by the criminal negligence of a physician or surgeon as we would lay bare a crime perpetrated against law, but it is a subject of deep concern to all practitioners to know that at any moment they may be called upon to answer to a charge of malpractice instigated through malice or the desire of gain. Regarding the law as it stands at present, no man is safe, and if it is to become the rule it will result in physicians and surgeons refusing absolutely to assume the responsibility of the medical or surgical charge of every doubtful case.

We cannot hide the unpalatable fact that many of the cases of alleged malpractice have been suggested and hounded on by some unworthy member of the craft. Some wretched brother, who, through ignorance or jealousy, is induced to make statements glaringly untrue, and thus misleads the complainant, but it is not always so, as the hope of gain will induce many a man of straw to enter an action against his physician or surgeon for malpractice, more especially if he thinks that the defendant will "come down handsome," rather than be bothered with a prosecution which may affect his reputation. This appears to have been the object of the parties in two cases of alleged malpractice recently disposed of in the United States. We allude to the suits for malpractice preferred against Dr. Lewis A. Sayre of New York, and Dr. John J. Rees of Philadelphia. Both these cases could at any time have been settled by an insignificant sum; but these gentlemen, fully alive to the high interests involved, refused all compromise, and the merits of the case in each instance was handed to, and adjudged upon by, a jury of their countrymen; in both instances the plaintiffs were discomfited. This happy result has not attended every case of the kind; on more than one occasion the practitioner has been heavily mulct in damages, even in cases where no malpractice has been proven; such is the uncertainty of the law, more especially when questions of this nature are referred to a jury of unprofessional men. We give below an extract from Judge Thayer's charge, in the case of "*Haire vs. Reese*," which is to the point, and we hope, with the Editor of the *New York Medical Record*, "that the results in these two cases will do much towards putting an end to these experiments of unjustifiable lawsuits, against skillful, attentive and humane physicians."

Extract from Judge Thayer's charge to the jury in the case of *Haire vs. Reese*.

"The implied contract of a surgeon or a physician who attends a patient is, not that he will entirely effect a cure, but that he will use all known and reasonable means to accomplish the object, and that he will attend his patient carefully and diligently. His relation to his patient implies that he possesses, and will employ in the treatment of the case, such reasonable skill and diligence as are ordinarily exercised in his profession by thoroughly educated surgeons and physicians . . . and reasonable skill and diligence, means such skill and diligence as educated and faithful surgeons or physicians ordinarily employ.

"No presumption of the absence of proper skill and attention arises from the mere fact that the patient does not recover, or that a complete cure is not effected. God forbid that the law should apply any rule so rigorous and unjust as that, to the relations and responsibilities arising out of this noble and humane profession. . . . On the part of the patient it is his duty to conform to the necessary prescriptions and treatment, if there be such as a surgeon or physician of ordinary skill and care would adopt or sanction; and if he will not, or under the pressure of pain, cannot, the surgeon or physician is not responsible for injury resulting therefrom."

—*Medical Record.*

AMERICAN MEDICAL ASSOCIATION.

The Twenty-second Annual Session will be held at San Francisco, Cal., May 2nd, 1871, at 11 A.M. The following committees are expected to report. On the Cultivation of the Cinchona Tree, Dr. Lemuel J. Deal, Pennsylvania, Chairman; On Inebriate Asylums, Dr. C. H. Nichols, D. C., Chairman; On Institutions for Inebriates, Dr. Joseph Parrish, Pennsylvania, Chairman; On the Structure of White Blood Corpuscles, Dr. J. G. Richardson, Pa., Chairman; On Vaccination, Dr. Henry A. Martin, Mass, Chairman; On the Comparative Merits of Syme's and Piragoff's Operations, Dr. George A. Ottis, U. S. A., Chairman; On Lithotrity, Dr. E. Moore, New York, Chairman; On Veterinary Medicine, Dr. Samuel D. Gross, Pennsylvania, Chairman; On Protest of Naval Surgeons, &c., Dr. W. S. W. Ruschenberger, U. S. N., Chairman; On National Medical Schools, Dr. Francis Gurney Smith, Pennsylvania, Chairman; On American Medical Association Journal, Dr. James P. White, New York, Chairman; On Criminal Abortion, Dr. D. A. O'Donnell, Maryland, Chairman; On Nomenclature of Diseases, Dr. Francis Gurney Smith, Pa., Chairman; On National System of Quarantine, Dr. J. C. Tucker, California, Chairman; On What, if any, Legislative means are expedient and advisable, to prevent the spread of Contagious Diseases, Dr. M. H. Henry, New York, Chairman; On Re.

newal of Prescriptions by Apothecaries without Authority, Dr. R. J. O'Sullivan, New York, Chairman; On American Medical Necrology; Dr. C. C. Cox, D. C., Chairman; On Medical Education, Dr. Ely Geddings, South Carolina, Chairman; On Medical Literature, Dr. P. G. Robinson, Missouri, Chairman; On Prize Essays, Dr. T. M. Logan, California, Chairman; On the Climatology and Epidemics of:—Maine, Dr. J. C. Weston; New Hampshire, Dr. P. A. Stackpole; Massachusetts, Dr. H. I. Bowditch; Rhode Island, Dr. C. W. Parsons; Connecticut, Dr. J. C. Jackson; New York, Dr. W. F. Thoms; New Jersey, Dr. C. F. J. Lehibach; Pennsylvania, Dr. D. F. Condie; Maryland, Dr. C. H. Ohr; Georgia, Dr. Juriah Harriss; Missouri, Dr. F. E. Baumgarten; Alabama, Dr. R. F. Michel; Texas, Dr. S. M. Welsh; Illinois, Dr. R. C. Hamil, Indiana, Dr. J. F. Hibberd; District of Columbia, Dr. T. Antisell; Iowa, Dr. J. C. Hughes; Michigan, Dr. G. P. Andrews; Ohio, Dr. T. L. Neal; California, Dr. F. W. Hatch; Tennessee, Dr. B. W. Avent; West Virginia, Dr. E. A. Hildreth; Minnesota, Dr. Charles N. Hewitt; Virginia, Dr. W. O. Owen; Delaware, Dr. L. B. Busie; Arkansas, Dr. G. W. Lawrence; Mississippi, Dr. J. P. Moore; Louisiana, Dr. S. M. Bemiss; Wisconsin, Dr. J. K. Bartlett; Kentucky, Dr. L. P. Yandell, Sr.; Oregon, Dr. E. R. Fisk; North Carolina, Dr. W. H. McKee.

Secretaries of all medical organizations are requested to forward lists of their Delegates as soon as elected, to the Permanent Secretary.

Any respectable physician who may desire to attend, but cannot do so as a delegate, may be made a *member by invitation*, upon the recommendation of the Committee of Arrangements.

W. B. ATKINSON, M.D., *Permanent Secretary.*

CHLORAL HYDRATES.

Messrs. Morson & Son feel it necessary for their protection to inform their friends that the statement made by Mr. A. H. Mason, a gentleman in the employ of Messrs. Evans, Sons & Co., Druggists, of Liverpool, in a paper on Chloral Hydrate, and its preparations, read at the Chemists' Association in Liverpool, and published in the *Pharmaceutical Transactions* for January, is entirely incorrect as regards the strength and purity of the Hydrate furnished by Messrs. Morson & Son, and also as regards the preparation of this substance by several eminent German makers to whom great injustice is done. Although this publication would be considered by most readers as a Trade advertisement, yet its hasty publication in the *Pharmaceutical Journal* requires that it should not pass unnoticed and uncontradicted.

31, 33 and 124 Southampton Row, London.