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Original Contributions.

ON THE ROLE OF PRIMARY AND SECONDARY OSTEOPLASTIC SURGERY IN THE TREATMENT OF COMPLICATED OR COMPOUND FRACTURES OF THE EXTREMITIES.*

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(*Continued.*)

OSTEOPLASTY AND OSTEOCLASTY WITH ILLUSTRATIVE CASES.

CASE 1.—Primary osteoplasty. Regeneration of entire tibial shaft after compound comminuted fracture.

Early in May, 1883, a boy, aged 4, was brought into Ninety-ninth Street Hospital who had his right leg so badly mangled by a street car injury that preparations were immediately made for an amputation. All the soft parts on the anterior aspect of the leg, from below the knee-joint to the ankle, were torn widely open, and quite the entire diaphysis of the shaft was shelled out in broken fragments. (Fig. 1, diagrammatic.)

The fibula was fractured in three places, but was not exposed.

The limb was of an ashy pallor, cold and pulseless. The child had lost considerable blood, and was in moderate shock.

The mother of the child positively refused to permit an amputation.

Then the parts were thoroughly cleansed, all bleeding points secured, the shattered limb being placed in a comfortable position, well protected by antiseptic dressings and warmed by artificial

* Read at the Twelfth Annual Convention, I. A. R. S., Richmond, May, 1899.

heat. The next day, to our surprise, it was found that the circulation was fully restored in the limb, but, as noted, the entire tibia was gone, except the epiphyseal or articular ends.

It is unnecessary to enter into details of treatment, which were very simple, but record the fact that within six months the entire shaft was regenerated, without any marked shortening or impairment in the action or strength of the limb.

This case was a remarkable one in many ways, and taught me an invaluable lesson. This child's limb was saved by his mother's stubborn refusal to permit an amputation.

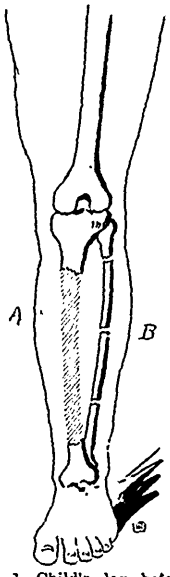

FIG. 1—Child's leg before operation.
A—Fractured Tibia.
B—Fibula fractured in three parts.

FIG. 2—After Regeneration. Showing where piece is grown in.

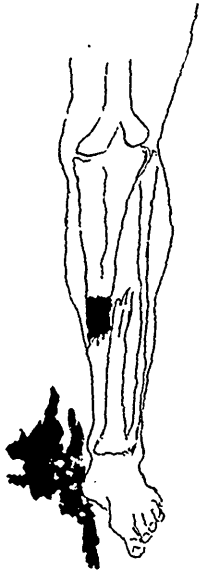

FIG. 3—At time of operation.

It will be noted that both articulations had escaped. The whole of the periosteum had been preserved; our patient was sound and healthy. Two years after the injury an action for damages was tried, when the counsel for the defence insisted, as the boy walked up and down before the jury, that the little fellow had suffered no permanent impairment of his limb, as he walked without the least impediment or lameness.

CASE 2.—Compound, comminuted fracture of tibia with loss of more than three inches of shaft. Primary osteoplasty.

Patient, aged 37, on July 9th, 1887, sustained a compound, comminuted fracture of the left leg. After remaining at home,

under treatment, for five days, when the parts had begun to take on suspicious changes, and it was thought desirable to amputate the limb, he was sent into Harlem Hospital. At this time the case presented some gruesome features, which in pre-antiseptic times would have immediately consigned it to the amputation knife.

The foot was bloated and of a deep livid color, edema extend-

FIG. 4—Showing the parts of fragment removed of the Tibia and Fibula at time of operation in FIG. 3.

ing well up the limb. At the junction of the middle with the lower third of the leg was a compound fracture, fully two inches or more of the proximal fragment projecting out. This was of a dark, sooty color. On examination, the distal fragment was found to be fissured and impacted in the tissues. Around the entire area of the wound was a broad zone of gangrenous ulceration. The wound was suppurating freely and pressure anywhere from the knee down would cause pus to issue from the wound.

The patient, although having some febrile disturbances, was a man of excellent physique. He had no organic disease, but he was a rheumatic, and it was while suffering from an arthritis in right ankle that he fell down a flight of stairs and was injured.

After a careful study of the case, it occurred to me that we should make further effort to save the limb before condemning it to amputation. Our first attention was directed toward endeavoring to place the wound in a healthy condition; then, ten days later, radical osteoplasty was undertaken. Here we found about three inches of the tibia necrotic, but the fibula was not fractured.

Operation was begun by denuding and pressing the free ends of the fragments well out through the wound, then thoroughly clearing away all necrotic or infected tissues. The saw was now sent through that part of the shaft known to preserve its vitality. After this a segment of the fibula was removed equal in length to that lost in the tibia. Now the foot was pressed up, when both the tibial and fibular ends were solidly wired together. Heavy wire girders, with a gypsum cast, were laid on over antiseptic dressings.

The case pursued an uneventful course. The fragments solidly united with free ankle action. Following January was able to walk on street with aid of cane. In a year used no support of any kind.

This case was a remarkable one, for its time, a period when surgeons scarcely allowed their patients time to collect their senses before an amputation was pressed for.

To the inexperienced it might seem that there was no hope for this bloated limb, with a gangrenous sore and large fragments of dead bone in evidence. But the limb was saved, and two years after operation, he walked, on a wager, from Harlem to Coney Island and back, a distance of thirty-six miles, without crutch or stick, in ten hours.

It is remarkable to note here that since the accident patient has never had any more rheumatism in the injured limb.

In a younger subject, in a youth under fifteen years, we might have spared the fibula and hoped for osseous regeneration if the periosteum were preserved without shortening. There can be no question but in the adult, healthy patient left with a pseudarthrosis, the so-called flail or cushion joint, after loss of part of the central segment of the tibial shaft from fracture and disorganization of bone, osteoplastic section and splicing, offers us greater prospects of restoration of function than any variety of heterogeneous grafting.

CASE 3.—Compound fracture of the tibia and fibula in upper third, with extensive shattering. Autoplastic grafting and solid union without shortening. Primary osteoplasty.

Patient, a man aged 26, was injured by slipping while dis-

mounting from a street car, when right leg was crushed by first wheel of car passing over it. The accident occurred late on a Sunday night. He was seen by me in the Harlem Hospital the following morning.

At time of examination there was found a fracture of the fibula besides one of tibia, with extensive comminution of bone. Most of the fragments were entirely denuded of periosteum and attachment to the fleshy parts, but there was one rather large triangular segment of the tibia of considerable size which had a firm mus-

FIG. 5—Showing scar and thickening at site of union.

cular attachment. After the loose pieces were removed, there remained a gap nearly two inches long. Into the centre of this was brought the large but adherent fragment, where it was fixed in position by strong wire sutures. The limb was then placed in a plaster cast, a fenestrum left over site of fracture.

Two weeks later the wire was removed, when it was apparent that free osseous proliferation was going on. After two months union was complete and the wound had closed. At this time the

entire hiatus had closed in and the surface outline of the tibia was firm over point of fracture. Full use of the limb followed.

This case illustrated the important principle laid down by Ollier, viz., that for all varieties of bone-grafting the autoplastic takes the first place, and hence, in all cases of comminuted fractures, provided the great blood trunks and nerves have escaped. Hence, we should look well to the preservation of fragments, no matter how small, which have an attachment to the soft parts, as it is through this bond the capillary vessels pass, every fragment so preserved becoming later an ossific centre for osseous regeneration.

Perhaps we make a mistake in many of these cases of even removing all the loose fragments when there are some left that are held by the soft parts. Bone tissue is slow to part with its vitality, though entirely separated from the body, and, moreover, if the replaced fragment should later necrose or undergo resorption, no alarm can come from it.

Case 4.—Fracture of tibia and fibula just below the knee-joint, with Pott's fracture below. Secondary osteoplasty.

Patient, aged 32, a locomotive engineer, injured on March 11th, 1898, in a "head-to-head" collision, was badly bruised about the body, sustained a scalp wound, and had the left lower limb so badly injured that for some days it was doubtful if it could be preserved. The knee had been violently wrenched, some of the ligament detached and the capsule lacerated, with free hemorrhage into the synovial membrane; there was a transverse fracture through the tibia and fibula, three inches below the knee-joint, with a vertical fracture through tibia, opening into the knee-joint. Besides, there was an incomplete Pott's fracture.

In this young man's case the vitality of the limb was for several weeks so feeble and the extent of tumefaction so great that no suitable adjustment could be borne. In consequence of this and the irritable, restless state of the patient when he left the bed, after four months, the lower limb was found greatly distorted, painful, stiff at the joint and useless for support or locomotion.

The knee was ankylosed at right angles, there was a sharp deflection and angular union of the fragments; the foot was turned up as in varus and ankle-joint action limited. After a time, under judicious treatment, some movement was secured at the knee and ankle joints, and the muscles largely recovered from the atrophy so conspicuous after he left the bed. Yet, however, the deformity remained, with marked limitation of motion at the knee and ankle, and paralysis of the peroneal group of muscles. The position of the limb remained so faulty that it was only a burden to him, as he had to support himself entirely on one limb, walking by the aid of crutches.

On February 11th, 1899, he was sent to New York and placed under my charge for treatment. After a careful survey of the case, noting his comparatively early age, his sound constitution, and his readiness to take any chance which promised recovery of the use of the limb, it seemed to me to be one which presented many hopeful features and justified the risk of radical measures. Two days later he entered St. Mark's Hospital and was operated upon in the afternoon.

The operation was begun by making a large, semi-circular flap with the convexity downward. This was on the inner aspect of leg, immediately over the seat of fracture. This flap was freely detached and turned upward, when the nude, thickened tibia came into view. The osteotome was then employed and a deep cleft made partly through the seat of union. After this was done on the opposite side of the leg on the same limb the fistula was exposed and deeply indented with the chisel. The limb now was brought down to the edge of the table, a sand-bag placed under it, and such force brought to bear on it as was necessary to freely refracture it at the sight of former union. It was now easy to press the lower segment of the limb into line and entirely obliterate the deformity. After osteoclasis the wounds made to expose the cleft were closed by catgut suture without drainage. The usual dressings were employed and a plaster-cast, with zinc strips, applied, extending from the ankle to the hip.

It may be added that while under ether the adhesions at the ankle were freely sundered and the foot hypereverted was included in the adjustment. The post-operative condition of patient and limb was exceedingly gratifying; there was absolutely no serious constitutional disturbance. Temperature never rose above 99 degrees nor the pulse above 85, and, moreover, instead of severe pain in the traumatized limb, he said that after operation it felt more "natural." On the tenth day after operation the cast was opened and complete aseptic union of the integument found. On this date he was permitted to leave the bed and move about on crutches. In six weeks union was solid, but in order to anticipate any tendency to bowing, the Tracy wood-fibre splint was worn for three more weeks. At end of the tenth week all supports to the limb were removed and he was allowed to go about, using only a cane in walking. On this date he left the hospital, although he remained in the city three weeks longer, every day up to the time of his departure for home—on the 17th of May—walking from one to three miles, with no support but a cane, mounting and dismounting from street cars and climbing stairs without any difficulty. The peroneal set of muscles were slow in recovering their tonicity, and hence it was found that a shoe with a strong ankle support made locomotion over long distances less tiresome on the

limb. He walks readily in his slippers, however, as was demonstrated at the New York Academy of Medicine, and can stand for a minute or more with the entire weight of the body on the rehabilitated limb.

Such is the history of this case. The patient came to me from Roanoke, Va., in charge of Dr. James Gale, the chief surgeon of the Norfolk & Western Railway system, to whom I am indebted for the earlier history of the case.

FIG. 6—Showing extent of shortening—3½ inches—with cork sole on shoe.

It was one of those which well illustrate the important principle of, in all cases, endeavoring to save a limb after injury, provided only vitality remains, and further demonstrates the range of application of secondary osteoplasty in badly damaged shafts.

No large bone in the body will tolerate mechanical interference with greater impunity than the tibia; it will reward us with better results after osteoplastic procedures; therefore, after many of these compound fractures of it, presenting the most hideous and forlorn aspects, provided only the main vascular trunks are

intact, resuscitation will call into activity regenerative processes and a useful limb will be preserved.

But let the surgeon have a care that he does not hurry to amputate here; if the slightest room for doubt remains, let him secure the bleeding points, cleanse, embalm the limb and wait. In many cases of grave compound, comminuted fracture no living surgeon can decide with certainty whether a limb must perish or not. Formerly to delay was to run a serious risk; now it often means the saving of the limb.

Dr. William James Fleming, in a recent able contribution on "Amputations" (*Glasgow Medical Journal*, April, 1899), deals with this phase of the subject, pointing out the judicious course the surgeon should take, and observes:

"All surgeons now save a large number of limbs which not very long ago they would have amputated. As a rule, I never amputate primarily, except when the main vessels are destroyed. I do not mean that I reserve these cases for secondary operation in the true sense of the word, or that I save them all, but I take great care to make them aseptic—as I often express it, I 'pickle' them—and after a few days can see exactly how much can be saved, how much must be removed. By 'pickling' I mean rendering and keeping aseptic. It is often very difficult to accomplish, especially the rendering. However, it is fortunate that 'dirt' is not always surgically unclean. This holds especially good with the very black material compounded chiefly of oil and finely powdered metal with which the recipients of machinery accidents and their wounds are usually liberally begrimed."

The work of Lord Lister has profoundly altered former established principles of surgical procedure, in every department of surgery, though in none has this been more salutary and far-reaching than in traumatisms of bones; in fact, the early evolution of antiseptics was first wrought out on compound fractures of the lower extremity.

Case 5.—Compound fracture of humerus with shattering of bone, from a gun-shot wound. Primary osteoplasty.

Patient, a carpenter, aged 32, was injured by the discharge of a gun, which exploded while being lifted by the muzzle out of a boat. The weapon was heavily loaded with buckshot. At time of entrance to hospital he was in deep shock, though fully conscious. The charge had entered just below the insertion of tendon of the great pectoral muscle, the arm being evidently rotated inward, and hence the blood trunks being carried under the humerus at time of injury. A large part of the deltoid muscle was torn away, the tendons of the biceps divided and the teres major partly detached. The surgical neck of the humerus was shattered, many loose fragments lying in the opening. The shot were scattered in every direction.

At first glance there seemed little hope for the limb, with so much comminution of bone and laceration of the soft parts, but the large blood trunks were intact and the cords of the brachial plexus had escaped. The patient insisted that under no circumstances would he consent to an amputation. At the primary dressing nothing was done, except to secure the bleeding points and cleanse the parts, removing at the same time all particles of clothing with a large number of shot. The limb was then embalmed and placed in a comfortable adjustment. Following day had reacted well, when all the loose fragments were dislodged, leaving an interval of a little more than two inches in the shaft. The proximal fragment was fissured in a longitudinal direction, and for more than an inch was entirely denuded of periosteum. Holes were drilled in both fragments and then the ends approximated. The wound, which had been enlarged by incision, was now closed on the ends, but left open in the centre for free drainage.

This case gave much trouble, the wound freely suppurating and large patches of necrotic tissue were thrown off. The silver wire sutures had to be removed early. After two months the parts were quite completely healed, a flail joint remaining. He later, however, by the aid of a comfortably adjusted prothetic appliance, was enabled to return to his trade. It was urged that he should submit to a later operation, with a view of endeavoring to secure consecutive union, but he was satisfied to allow the limb to remain in the state it was.

Case 6.—Compound fracture of arm, shattering of bone, multiple fractures. Primary osteoplasty.

Patient, a female, fell two stories from a window into a stone-paved area, sustaining a compound, comminuted fracture of right arm, fracture of lower jaw and two ribs. Admitted to Harlem Hospital service in same year as preceding case, 1891. The humerus was fractured obliquely, the lower fragment split in its long diameter. The upper end of the fracture exposed the musculo-spiral nerve. The ends of fragments were now sawn through, these being held with strong silver wire through their ends, and were brought well into apposition. Then the detached periosteum was carefully closed in with fine gut suture.

All the fractures did well. After two weeks the wire was removed. In six weeks a fistulous opening yet remained, at site where wire came through, and, furthermore, it was evident that there was but imperfect union. A free incision was now made, when a loose fragment was removed and the tract freely curetted. The limb was again placed in a loose felt splint and comfortably adjusted. In three weeks union was solid. As contrasted with the other arm, there was shortening of seven centimeters. This

was caused by the extent of shaft removed, and not overriding of the ends of fragments.

Fractures through the humeral shaft are well known to often unite badly. This has been said to depend in a large measure on the impossibility of effecting complete immobilization when they are high up, as the pectoralis major, being a respiratory muscle, keeps up an incessant motion of the upper fragment. But it is more probable that the truth is just the contrary, viz., that too firm adjustment and tight bandaging here, as elsewhere, impede the circulation and retard, if not wholly arrest, ossific processes. We certainly know that in various fractures of the leg which fail to unite under a rigid fixation, adjustment will often quickly consolidate if we take off the splints and allow the limb to hang unfettered.

Fractures of the Femur, Treated by Osteoplastic Methods.

The various fractures of the femur which may be treated by osteoplasty, osteorection or osteoclasis may be divided into two classes: First, compound fractures, which imperfectly unite with extensive hyperostosis; and second, those simple fractures which unite with the limb shortened and distorted.

With primary osteoplasty in compound fractures of the femur I have had no experience, as all these compound fractures coming under my own immediate care during the past fifteen years have been from railroad accidents, attended with so much destruction of the soft parts that amputation had to be performed. But though none of these cases of the first class have come under my own immediate observation after the injury, three of such cases have come under my notice—two under my own care—for secondary osteoplasty to relieve pain or resulting deformity.

Every practitioner knows well the serious aspects presented by a complete fracture through the shaft of the femur in an elderly or fleshy subject, but when the fragments have been driven out through the muscles and the skin, a very grave state of things exists.

Exclusive of the dangers from infection, there is the almost insurmountable difficulty of overcoming the contraction of the immense muscles and fixing the fragments. A large variety of mechanical devices have been invented, but we have none yet which meet the requirements better than stout wire to hold the ends of the fragments in apposition. But even this often fails or gives rise to so much irritation that necrotic changes set in and a consecutive operation is quite invariably necessary.

Case 7.—Compound fracture of left femur; faulty, defective union, with very large callus. Secondary osteoplasty.

Patient, a brakeman, aged 28, injured on July 7th, 1897. Was in some strange manner caught under the cowcatcher of a locomotive, sustaining a fracture of right humerus, a compound, comminuted fracture of left femur, besides several other severe bodily injuries. For some days after injury his recovery was doubtful. Finally, when reaction was fully re-established, a large slough formed over his right hip and free suppuration commenced at the seat of fracture of femur. It was said that the thigh and the leg were so swollen and sensitive that no description of adjustment could be tolerated for nearly a month after injury.

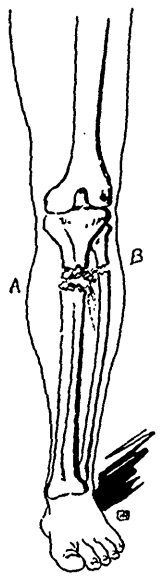

FIG. 7—Showing free and attached fragments in the wound.
A—Fracture of Tibia, one piece connected.
B—Fracture of Fibula

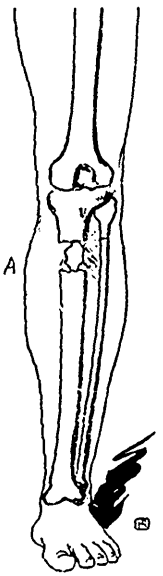

FIG. 8—Showing large fragment with extensive attachments pressed into position to fill in gaps. See connected piece (A) in tibial fracture.

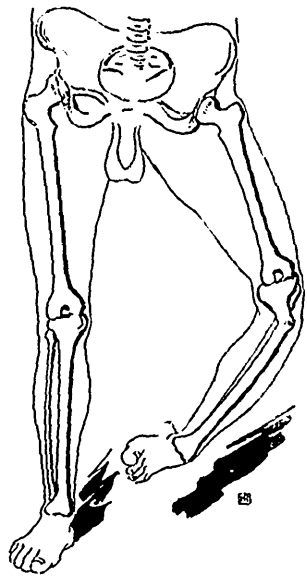

FIG. 9—Showing the extreme degree of deflection at point of fracture, with inversion of the ankle.

When he left the bed, at the end of ten weeks, it was found that there was much shortening and deformity, with quite entire loss of function in the limb.

The following June, 1898, he was sent to me with directions to undertake any procedure on the limb that might improve it.

When he came under my care he was in good general health, though in a melancholy frame of mind.

His organs were all sound, the deformed painful and useless limb alone being a source of distress to him. At no time since the injury had he been able to bear any weight on the foot. The

knee-joint was quite completely locked by adhesions, the heel being drawn up and foot everted. The limb, on measurement, was found shortened 4 3-4 inches. The thigh was quite sharply bowed outward, a large lump of callus projecting outward over the seat of fracture. On a casual inspection it seemed as though there was union, but on critical examination it was evident that osseous fusion was defective, as some motion and crepidation could be detected over the site of fracture. The patient had come to the conclusion that he must have the limb amputated unless something was done that might restore its use, and relieve him of the constant pain he suffered when he undertook to move about on crutches.

Before operation, he was anxious to secure from me a promise that there was no danger and he would have a good limb. This, of course, was promptly refused. It was my opinion, however, that this was an ideal instance to test the full value of secondary osteoplasty, and one, too, from which we might hope for satisfactory results.

Operation, on the 9th of June, was commenced by pressing the venous blood up into the trunk with Esmarch's bandage and compressing the femoral artery with an elastic constrictor, carried up over the crest of the ilium, the nates and perineum. A long, deep incision was then made over the outer aspect of the callus, in the long axis of the limb. Then the large hyperostosis was freely denuded. We had not proceeded far before it was evident there must be a large loss of blood, and that the condensed, massive callus had contracted very deep and firm adhesions with the sciatic nerve and the femoral vessels.

The elastic constrictor but very imperfectly controlled the circulation, and the new bone elements were exceedingly vascular, so that on their detachment blood issued through in alarming quantities. The greatest difficulty came through the removal of the inner segment of the callus, which lay immediately under the femoral artery, and was penetrated in various directions by large vessels passing deeply into its substance, the ends of the fragments being loosely held together by the callus. The fracture had been quite transverse, one fragment riding over the other. The distal fragment was softened by interstitial changes. Of this 1 1-2 inches were cut away with an osteotome. About half an inch was removed from the end of upper fragment. After this the ends of fragments were drilled and easily brought together and retained by a thin wire suture. The wound, except at the lower end, was closed, abundant dressings applied and all covered by a plaster-of-Paris casing. During the latter stage of the operation hypodermoclysis of a half gallon of warm salt solution was employed, and I am convinced it averted mortal anemia.

This young man made an excellent recovery, the ends of the fragments remaining well in place, a mass of fibrous tissue forming around them. This latter underwent so much resorption that the continuity of the shaft's surface was comparatively even. The wire was left *in situ*. The degree of union was quite perfect when he left the hospital ten weeks after the operation. As the limb remained somewhat weak when the entire body's weight was thrown on it, a strong leather sheath and brace were applied. To compensate for the shortening and the tendency to eversion of the ankle, a specially raised and braced shoe was made. He is now a switchman and only uses a cane when he walks a long distance.

M. Ollier notes the general unsatisfactory results following

FIG. 10—Photograph after recovery, showing degree of restoration of outline, a remaining degree weakening of peroneal group of muscles and tendency to inward inclination of the foot, near the heel.

osteoplastic operation on the femur after fractures, and hence the reason why the remarkable extent of recovery of function in the case just recorded must be regarded somewhat as an exception to what we may expect, though it will be observed it was not a primary case. Two instances have come under my notice which had been treated in the service at Harlem Hospital, for compound fracture of the femur; one, my own case, secondarily, to remove a large eroded wire, with necrotic bone. The sinuses closed after this, but union remained defective. In the other case the sharp, projecting ends of the fragments were sawn away and the limb adjusted. No union resulted, and later the limb had to be amputated.

Discussion.

Dr. Milton Jay: Prof. Manley has spoken of many interesting subjects relating to bone surgery, and during the past ten years more advancement has been made in this line than in any other department of surgery. In regard to the position of fractured bones, it is not particularly necessary that the fragments be nicely approximated for the first few days. As a rule, the position most comfortable to the patient, without too much angular deformity, is often better than an attempt to nicely adjust the fragments immediately, provided always that we have made a correct diagnosis as to the nature of the fracture, and the relative position of the fragments, so that at the proper time we will have to do no more than adjust the fragments and secure fixation. In order to make the exact diagnosis of some cases of complicated fractures, although they are not compound, it becomes necessary to make an external opening, in order not only to correctly diagnose the fracture, but to remove a tendon, a nerve, or shred of muscle or blood vessel that has become imprisoned between the ends of the fragments, and would prevent, or at least delay, bony union; or to evacuate from the fractured limb effused fluid or large quantities of blood, which, if allowed to remain, must suppurate.

In these days of antiseptic surgery we have no dread of external openings in fractured limbs; particularly is this true if we can get a better understanding of the nature of the injury. When the proper time comes for bony union to take place, I very much prefer to nicely adjust the fragments so that the limb will be in normal position when bony union is complete, than to give no attention to position until bony union has taken place, and then resort to an operation to straighten the limb. We should keep a close watch on all fractures for a time after they seemingly have united: the callus has not become osseous, and after all fixation has been removed one set of muscles will contract more than the counteracting set, and the limb will bend or crook at the seat of fracture. We only need to continue fixation for a longer time, in such cases, to prevent deformity. In a comminuted fracture, where the bone is broken in two or more places, making three or more fragments, you will find it seldom, if ever, that two or more fractures in the same bone unite simultaneously; almost complete union of one fracture will take place before union of the other has no more than just commenced. The distal fracture may unite first, or the proximal. In old cases of delayed or non-union of fractures, a limb should never be sacrificed unless there is no alternative; resect, remove a portion, shorten, or resort to almost any expedient, but save as much of the limb as possible. When it is

necessary to remove a portion of the shaft of a long bone, provided the periosteum is intact, it is frequently not even necessary to shorten the limb, but fill the interstice from which the fragment has been removed with declarified bone-chips or some other aseptically prepared porous substance, and the periosteum will fill the gap with new bone. In fact, nature will do almost anything we ask of her in bone repair if we only treat her fairly.

As to the osteoplastic operations referred to by Dr. Manley, for the relief of the various bone deformities, they are correct, and embrace many of the interesting and valuable operations in surgery, and as the relief from an unsightly deformity is always appreciated by the sufferer, it is no detriment to the surgeon to be able to perform those (the most of which are not very difficult) operations in surgery. Nothing is more unsightly to the eye of a surgeon than a crooked and deformed human being, and it is for the relief of this class of suffering humanity that Dr. Manley's paper has been treating.

Dr. A. I. Bouffleur: In listening to this paper, I have felt that we have had the subject pretty well presented, but there seems to be something of a tendency to magnify the difficulties in regard to treating fractures. My purpose in rising is simply to emphasize what I believe to be the important feature in the treatment of fractures, and that is, above all things, that we should apply that element which is not always present, namely, common-sense. We hear of cases of one sort and cases of another innumerable, and while it is true that upon different cases depends our practice, yet while cases differ in their details, the results will be practically the same if the principles underlying all cases of fracture are carried out. Fracture should be treated on principles and not on notions—principles as to position, principles as to preservation and protection of injured tissue, and not after the notion of some individual operator. For instance, the rule which Dr. Jay has mentioned in regard to never moving the limb till you see what nature is going to do, is all right as a principle, but, like all rules, it has a number of exceptions. It is my own habit not to perform primary operations, yet at the same time one of the conclusions which I presented to this society a few years ago was that we should attempt to preserve injured limbs, provided we could keep them aseptic. There are a number of doctors present who have attempted to save limbs, and there have been funerals in that vicinity. I, too, have had that experience, in which attempts have been made to save limbs until the line of demarcation has been formed, and that has been formed when it was too late to save the patient. Save limbs if we can, but do not save them too late. Dr. Jay said something about amputation just in time; that is a dangerous proposition, as we are not all able to know just when

that time is. If you do not operate in time your patient will be dead.

As to the treatment of fractures it seems to me we are going a little too far when we say that the position of the limb has nothing to do with the case in primary treatment. I do not believe that, as there are so many compound injuries, where it is not so much the question of the patient as the local area of soft tissues. In this case we should so place the limb that the circulation of the blood in that particular area would be favored; be it straight or crooked, the limb should be bent and the practice should be to favor the circulation. If it is the anterior part of the tibia, bend

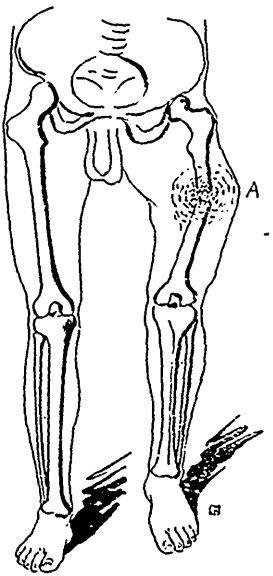

FIG. 11—First part fractured (see A). Site of fracture, extent of hyperostosis and shortening.

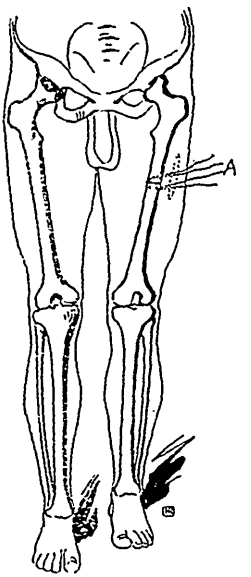

FIG. 12—Case 7 after operation.

the tibia and make a kink in it anteriorly to relax the skin until the circulation of the part has been restored; this is common-sense. If you hold it perfectly straight, the swelling which would occur incident to the traumatism would naturally result in the necrosis of that part. I think you will recall instances of that kind when the perforation through the skin occurred not on the first day, but two or three days after the injury from pressure on the necrosed parts. I look on angular deformity, when it occurs in my own practice, as improper treatment on my own part. I know this is something which it is not usual to own up to—mistakes which you make yourself; it is rather customary to apply the mistake to

the other fellow's case; but we all have cases where there is not a perfect position, and that is particularly true of those in which the other part of the femur is involved. One of the earliest results in my treatment of fractures, which I thought were at all poor, was in the upper part of the femur. I failed to appreciate then, as well as I have since, the fact that you have little control of the upper third of the femur. Our rule should not be to pay attention to the upper part, but put the limb in a position which corresponds with the upper part. If you have a fracture in this case you will have to dress the other portion of the limb in a vertical position. If it is the upper third you will sometimes find a fragment projecting upward. I saw a case in which a doctor had treated the lower part of the limb perfectly, but it was off at an angle; the lower was perfectly straight, but there was recovery with an angular deformity. The doctor should have put the lower axis of the limb in the same direction as the upper one; you can do it in most cases of injury to the thigh. If you cannot bring the two together in the dressing you can in the position, and the long fragment should be put in line with the short one, and not *vice versa*. The older members will probably recall some of the older teachers of surgery advising the placing a pad on the upper fragment to keep it down in position.. There will be few cases of gangrene resulting from that.

The secondary osteoplastic operations are particularly interesting. I have my doubt about the general use of the term "osteoplastic operations," but its use for secondary procedure is generally recognized and there is no question at all but what we should utilize it much more frequently than is done at present. It is the field of surgery which all of us, as we practise aseptic surgery, should practise on orthopedics and in certain deformities. All of us should practise the art of correction of deformities, which can be done as well, I think, by the general surgeon as by the orthopedist.

Dr. Manley (closing the discussion): I realize that Dr. Jay is very well up in osteoplastic surgery. There is one thing in which he seems to have misunderstood me; that is, about the incision. The position I took was that the incision made merely for the purpose of diagnosis in fracture was not justified. The doctor's argument has not at all touched that position. The doctor has simply shown that where he believed there were blood-clots, to cut down and remove the blood-clots is a therapeutic necessity, which is entirely proper. Every time that we have doubts about the character of a fracture, an exploration of the part is desirable; but I doubt if it is justified on the grounds of diagnosis solely.

There is one thing that cannot be too clearly emphasized. I knew a physician some years ago who had his house staff make the

autopsies. He visited the dead house and always wore kid gloves, and he was satisfied with what he saw to establish his opinions or conclusions as to the pathological changes; but pathology cannot be learned with the eye; it must be learned with the fingers also. The doctor described a case where he saw a discolored foot, and a careless physician would say that it must come off; but the trained surgeon does not trust his eyes alone—he puts his hand on the limb and finds its warm. The fact was that there was nothing seriously the matter with the limb, and it was restored.

I thoroughly coincide with the remarks of Dr. Bouffleur. There is one thing, however, to which he seems to attach too much importance, which has led us into much trouble and which we will have to unlearn; that is, this bugaboo about asepsis. If the doctor will read the contribution which I speak of, from a Scotch surgeon in the *Glasgow Medical Journal* of last month, he will find a case where all kinds of grease and dirt got into an injured limb; but while it is chemical dirt, it is not septic dirt, and the limbs make splendid recoveries. If the patient has a good constitution to work on, you will be all right. This thing about asepsis is overwrought, and it has been one of the theories which has led to much confusion. I learned from a young surgeon to-day that he was mixed up on this question of asepsis. I do not count chemical asepsis of importance at all if the patient's general condition is good and you can keep the part clean. With reference to the angular deformity, I am very sorry for the doctor (or any other gentleman whose practice is generally restricted to surgery) that he has had to reproach himself because he should not knowingly discharge a patient with an angular deformity. I have seen a few cases from the hands of reliable practitioners, who assured me that they discharged their patients with limbs practically symmetrical, where the extent of the angular deformity was five or six inches, and I gather that the patients were rickety or syphilitic, or there was something defective in the process of consolidation. I think we will have to view it in that light, unless we are prepared to prove our premises before a jury in a civil suit. It may be sometimes due to careless treatment, but in a great many the trouble is constitutional, and the physician is not responsible.

COMPLICATIONS OF SUPPURATION OF MIDDLE EAR.*

BY J. M. MacCALLUM, M.D., TORONTO.

In discussing the complications of suppuration of the middle ear, I shall confine myself to the affections of the mastoid.

The mastoid commonly contains a large number of air spaces communicating with one another, continuous through the antrum with the middle ear, and lined by the same mucous membrane. Indeed, the middle ear is not a separate structure, but, like them, merely an air space in the temporal bone. This continuity of structure and of situation necessarily leads to their frequent involvement in the suppurations of the middle ear. Their position and small size renders it almost impossible for pus to escape from them, and there results an abscess in the bone—originating, in the acute cases, very frequently, not in the antrum but in the smaller and more dependent spaces. If an acute abscess be not formed, there is left behind granulation tissue which, lining the cavities, especially the antrum, keeps up a chronic purulent discharge from the ear, and may at any moment lead to acute abscess. An abscess here, as in other parts of the body, makes its way out where it finds the least resistance. That way out may be the external cortex of the mastoid—the typical mastoid abscess; it may be the superior cortex, the pus opening into the fossæ of the skull, producing meningitis or cerebral abscess; it may be the posterior wall, the sigmoid sinus being attacked, with resultant thrombosis and the septic diseases which follow in its train, or the pus may cause meningitis at the base, and cerebellar abscess.

Which one, or how many, of these results an abscess in the mastoid may produce, no one can tell by any means other than exploration of the mastoid. The mere appearance of an abscess on the external surface of the mastoid is no guarantee, though it is too often assumed to be, that the pus has not at the same time made its way into the cranial cavity. Yet, any or all of these serious complications may arise without any so-called abscess formation in the mastoid. Indeed, it is when there are no noteworthy symptoms, no outward signs save a long-continued, it may be intermittent and scanty, discharge, that they seem most likely to occur.

The narrow barrier of bone which walls off the cranial cavity yields readily to the erosive process, even were ready paths for

* Read before Toronto Medical Society.

infection not presented by the sutures and many minute foramina through which vessels and nerves pass from the middle ear and the mastoid spaces to the fossæ of the skull.

Should the chronic process cause sclerosis rather than erosion of the bone, the danger is but increased, for the hardened bone offers greater resistance to the external exit of the pus. In such cases cranial infection is most likely to occur, for experience shows that when sclerosis attacks the mastoid process erosion is likely to occur in the roof of the tympanum.

Scarlatinal Otitis Media—Intermittent Suppuration for Six Years—Thrombosis of Sigmoid and Lateral Sinus—Operation—Meningitis—Death.

Olive R., aged 9. Scarlet fever at three years, and intermittent discharge ever since from both ears. Five days ago the discharge ceased, and she complained of pain across the forehead, in the right ear and behind it, vomited about every half hour and had chills, bowels normal, some edema over right mastoid, and tenderness on pressure along the sterno mastoid muscle. Dr. Britton diagnosed mastoid abscess and sinus thrombosis, and sent her into the Children's Hospital, where she came under my care. There was then some slight edema over the mastoid and tenderness on pressure, a line of deep tenderness and induration along the border of the sterno mastoid in its upper third. Optic discs and pupillary reactions normal. She showed considerable irritability when any attempt was made to examine her. Temperature, 104; pulse, 136; respirations, 24. Some slight discharge was found in the external meatus.

Assisted by Dr. Britton and Dr. F. N. G. Starr, I opened the mastoid. Half an inch posterior to the external meatus and on a level with its centre was a fistula in the mastoid, from which welled up very foul watery pus. At the bottom of the abscess cavity there lay a blackish yellow linear mass, the sigmoid sinus. The antrum was then exposed, the aditus enlarged to give free entrance into the middle ear, and the attic scraped. The sinus was then exposed more fully and found collapsed and empty down to the jugular bulb, while its upper portion was filled with a hard blackish grey thrombus. The bone was then removed along the upper portion of the sinus, showing the mastoid vein to be thrombosed, and the thrombus in the sinus itself to extend around the knee into the lateral sinus. The sinus was split open, and with a curette passed along it, in the direction of the torcular Herophilii, the thrombus was scraped away until the blood flowed freely.

It was evident that there was a thrombus in the jugular bulb or in the vein in the neck, for pressure upon it in the neck did

not cause any blood to regurgitate into the proximal portion of the sinus. I was overruled by my colleagues in my desire to attack the vein in the neck, and the operation was concluded in the ordinary way. Pulse, 120; respirations, 26.

During the afternoon the patient was restless but fairly comfortable. Towards evening she suddenly became worse, the head drawn towards the left, eyes turned to the left, respiration irregular, mouth drawn outwards, slightly upwards and to the right, convulsive movements of arms and legs, meningitic cry—death.

The sudden cessation of discharge followed by pain in the ear and head, vomiting and chills, are symptoms which may indicate the supervention of sinus thrombosis, abscess of the brain, or meningitis. In thrombosis, the chills are usually both more frequent and more severe, the temperature higher, and the pulse more frequent than in brain abscess. The diagnosis was also strengthened by two other facts, viz., the line of tenderness along the edge of the sterno mastoid, due to involvement of the external jugular, and the slightness of the edema, for mastoid edema is less in thrombosis than in true mastoiditis, because in the former case it is mechanical, while in the latter it is inflammatory. The great difficulty in diagnosis is that with the otitis there may be not mastoid abscess alone, but mastoid abscess combined with sinus thrombosis, brain abscess, and meningitis, any one or all of them. The thrombosis may obscure both the abscess and the meningitis, so that it is wise to give a guarded diagnosis and a very guarded prognosis. Meningitis differs from thrombosis in that the temperature is constantly high—there are no remissions in it. If basal, it will manifest itself in the retraction of the head and neck, and in involvement of the intracranial nerves.

When one thinks how close the sigmoid sinus lies to the infected middle ear, antrum and mastoid cells, and how freely the minute veins of these areas communicate with it, one wonders not that it becomes thrombosed oftener than any other sinus, but that it escapes so frequently. In this case nearly six years elapsed before infection reached the sinus—six years during which the only sign of disease was a discharge from the ear, so slight as to cause practically no uneasiness to the parents and no inconvenience to the patient.

One may conclude that the sinus was exposed by a gradual process of erosion, and then infected, but the sinus may at any time be infected while yet a thick, hard mass of bone lies between it and the infected middle ear or mastoid spaces. Infection, then, travels along or within the minute veins of these areas, which communicate with the sigmoid sinus. For this reason, I believe that no mastoid operation—certainly none in chronic mastoiditis—is complete until the sigmoid has been exposed and its condition

accurately determined, as well as that of its groove. Another reason for advocating this procedure is that the sinus may, though patent, be a source of infection, that is to say, the thrombus may not completely occlude the lumen of the sinus, or a channel may have reformed through the occluding sinus. In either such event, there may readily exist in the sinus a focus of infection without any marked signs of venous obstruction, but merely the systemic phenomena.

Acute Mastoiditis—Leptomeningitis—Death.

Ethel E., aged 6. At the end of June, 1899, had high fever and great pain in her left ear. After two days the ear began to discharge, and has run freely ever since. On the evening of July 31st, there appeared swelling in front of and behind the ear—the meatus itself filled with thick, yellow pus. She was sent to the hospital on August 1st, when temperature was 102, pulse 105, respirations, 30.

Operation, August 2nd, disclosed pus making its way out of a sinus in the mastoid cortex, 1-2 inch posterior to external meatus; in cleaning out the abscess cavity, the sigmoid sinus was exposed for an inch and found to be covered with granulations, but as there was no evidence of any disease within it, it was not opened, but the granulations removed with iodoform gauze; the operation was then finished by cleaning out the antrum.

I was called out of town early next morning, and did not see the patient again until a few minutes before her death. The house surgeon noted on her history paper that she had a very good night, but in the morning her temperature was subnormal, 95 F. At seven, the note is that she had been very quiet all day. Temperature, 97.3; pulse, 130; respirations, 34. At half-past ten the patient was seized with vomiting, and immediately afterwards the respiration changed, there was spasmodic twitchings of the arms and legs, especially of the extensors; head was drawn towards the right side; pupils contracted, but responded to light—no strabismus.

I saw her about an hour later—there was then some rigidity of the muscles of the neck. The respiration was a modified Cheyne-Stokes, viz., a deep sighing breath, a shorter one—a still shorter and shallower one—then a long pause—a deep breath again, and so on repeated. McEwen tells us that this form of respiration occurs in suppurative leptomeningitis when the cerebellar fossa is involved, or when the meningitis affects the medulla in the fourth ventricle. The rigidity of the head and neck, and the muscular twitchings, confirm the idea that meningitis had spread over the base of the brain and involved the medulla and cord.

Subnormal temperature usually indicates brain abscess, but *post-mortem* examination has shown it to occur when there had been meningitis alone.

Bilateral Mastoiditis—Left Facial Paralysis.

Female, aged 2. Scarlet fever in December, discharge from both ears. Mastoid swelling on right side. Mastoid opened and scraped out, during which the dura mater was exposed in posterior fossa. Temperature remained at 104 after the operation. The scalp around the wound became infected, thickened and red, but the infected area was so small that one could scarcely think it the sole cause of the pyrexia. In trying to examine the eyes, it was noticed that the child could not close the left eye, the left cheek was flaccid, the labio-nasal fold obliterated. Fluid ran out of the left angle of the mouth. When the child cried, the mouth was drawn to the right. There was no paralysis of the arms or legs.

The question at once arose, Was the facial paralysis cortical or was it due to disease in the left ear? Had the right mastoid abscess affected the cortex and face centre? Against the idea of brain abscess was the fact that the temperature was high and the pulse rapid. There were no other signs of meningitis, optic discs were normal. On the other hand, there was on the left side no mastoid swelling, no sign of tenderness on pressure, but the discharge from the left side had almost stopped. The bone over the right temporo-sphenoidal lobe was removed, but there were no signs of any morbid process there, so that attention was turned to the left side. At the first incision into the bone, granulations were exposed. These were removed and the antrum reached. The granulations being scraped away, the aquaductus Fallopii was found open, just where it passes around the floor of the aditus, exposing the facial nerve and accounting for the facial paralysis.

In children, this canal is more superficial than in adults, so that facial paralysis occurs more frequently in them.

The inability to close the eyelids and the greater completeness of the paralysis characterizes that due to peripheral involvement of the nerve, and distinguishes it from central facial paralysis.

Scarlet Fever.—Abscess Opening on External Cortex and on inner side of tip of Mastoid.

Harry W., aged 9, referred by Dr. Machell. Four weeks after onset of scarlet fever left ear began to discharge—pain—mastoid edema extending down into neck. Parents refused radical operation, but permitted incisions over the mastoid and below the angle of the jaw where there seemed to be fluctuation. No relief was given by this procedure, but after ten days of fighting with the parents, they at length consented to operation. The

mastoid was completely riddled, and the entire cortex and tip of mastoid had to be removed. An opening was found in the inner surface of the tip of the mastoid, through which pus had found its way down among the deep muscles of the neck, and had eroded and blackened the bone on this inner side. To the posterior side of the mastoid, granulation tissue had reached the sigmoid sinus, but its walls were not involved. The antrum was opened and scraped free from granulations. The abscess cavities in the bone and in the deep tissues of the ne were dressed in the usual way, and went on to an uneventful recovery.

How quickly and how completely scarlet fever may destroy the mastoid is shown by this case, in which practically the whole process was ablated. The pus had found its way out through the mastoid in two places—on the external cortex, and on the inner side of the tip; yet the first incisions made, while giving exit to the pus, in no way relieved the patient, for the spontaneous openings in the bone were so situated that pus still accumulated in the tip of the mastoid. Nor had these spontaneous openings in the bone in any way tended to safeguard the sinus, for it was found covered with granulation tissue, and, at any moment, this patient might have developed sinus thrombosis, with all its septic possibilities, meningitis or abscess of the brain.

The general condition and the temperature—98.4 and 99 in four-hourly chart—in no way indicated the presence of such a mass of pus and so great destruction of bone.

One should never be satisfied with a mere exit for the pus. Too many vital structures are too close to the abscess cavity to permit one to think of anything but the most radical surgical procedure, with the condition of things exposed plainly to view.

This case shows also how the sole manifestation of a mastoid abscess may be pus low down in the neck.

13 Bloor Street West.

A CASE OF JACKSONIAN EPILEPSY IN WHICH THE PAROXYSMS WERE CONTROLLED BY CHLORETONE.

BY W. T. PARRY, M.D., TORONTO, ONT.

Miss I. M., fifteen years of age, has been afflicted with epilepsy for five years; she has frequently had as many as twelve or thirteen attacks within twenty-four hours. A peculiar feature of the case is the invariable occurrence of a spasm on awakening, whether by day or night.

At first the convulsive movements were limited to the muscles

of one side of the face, but the affected area became gradually more extended until at times the entire body was involved. However, an ordinary attack is chiefly evident in the muscles of the face, neck, shoulder and arm, without any apparent loss of consciousness.

In the treatment of this case the drugs usually indicated were persistently tried with no beneficial results. Finally Chloretone was administered, and under its influence there was a cessation of the convulsions for ten days. The drug was then discontinued for the purpose of determining if the improvement could be ascribed to its action; whereupon two spasms occurred the second night thereafter. The patient was now placed upon Chloretone in full doses.

During a period of thirty days she had but two convulsions, and these occurred during a temporary withdrawal of the Chloretone. The results that I obtained with Chloretone in this case have been very encouraging, as by no other remedial agent was the number of seizures reduced to less than five in twenty-four hours.

Fish as Brain Food.—The popular notion that fish is a brain food, rich in phosphorus, is a myth—a pleasant conception with no physiological basis to rest upon. There is less phosphorus in fish than in beef or wheat, and that food which is best for the body is best for the brain. The origin of the conception is attributed to the German scientist, Prof. Moleschott, who forty years ago wrote this epigrammatic expression: "Without phosphorus, no thought." The great Agassiz, in an address in favor of a fish commission, with other considerations used the same idea, and urged that because of the intellectual activity of our people fish culture was demanded. When asked what gave him this idea, he replied: "Dumas, the French chemist, once suggested to me that fish contained considerable phosphorus, and might on that account be especially good for food; and you know the old saying 'without phosphorus, no thought'—I simply put the two together." Afterwards Mark Twain, by his famous joke in the *Galaxy,* advised a method of its practical application that travelled around the world and burst the empty bubble: "Young author—Yes, Agassiz does recommend authors to eat fish, because the phosphorus in it makes brains. So far you are correct. But I cannot help you to a decision about the amount you need to eat, at least, with certainty. If the specimen composition you send us is about your fair, usual average, I should judge that perhaps a couple of whales would be all you would want for the present. Not the largest kind, but simply good, middling-sized whales."—James P. Lynde, in a paper read before the Mass. Agricultural Society.—*The Dietetic and Hygienic Gazette.*

Clinical Medicine.

...IN CHARGE OF...
ALEX. McPHEDRAN, M.D.

ON THE TREATMENT OF PNEUMONIA.

BY SIR SAMUEL WILKS, BART., M.D.,
Late President of the College of Physicians, etc.

COMMON as pneumonia is, it is very remarkable how often it is overlooked. In the course of a long experience I should say that its non-recognition is of very frequent occurrence. Considering the very marked symptoms and physical signs which it presents, the ease with which the student can learn to get it up (so that I had long ceased to ask for a description of pneumonia at the examination), it is difficult to say why in practice it so often escapes notice. One reason must be that some students have left their hospital without any practical knowledge, and therefore they necessarily fail to recognize even so marked a disease as pneumonia. They have learned a description of this disease as found in books or at lectures; but this is given in the inverse method to that required at the bedside, where they must first appreciate symptoms and allow these to lead them to the true nature of the complaint. Or it may be that the disease is overlooked from carelessness and therefore from want of examination. Those least liable to mistakes are the men who make it a rule to examine thoroughly all their patients. When the disease has been overlooked, and I have suspected it, my first remark has been, "Why this hurried breathing or imperfect movement of the chest?" and have added, "Laying bare the chest and looking at the action of respiration should be one of the first observations made, if any pulmonary affection be suspected." In the absence of its recognition I have seen ordinary pneumonia called fever, inflammation of the brain, delirium tremens, and many other complaints. It is also often overlooked as a complication of heart disease and other chronic disorders. I have also reason to believe that some patients have passed through the whole course of pneumonia and have recovered without the medical man having had any suspicion of it. This is rather a serious experience, seeing that there is no class of diseases more important for the student to recognize than those of the chest, in con-

sequence of his frequent power of curing them by topical means. The diagnosis of a pleuritic effusion may save the patient from a speedy death, and the recognition of a local empyema may be the means of restoring him to health. I have in my mind three or four cases of this kind which were absolutely cured by a surgical operation, when the subjects of it had been previously condemned to die of consumption.

My own first knowledge of treating disease was from Addison, who was the leading light and teacher for many years at Guy's. The routine method in all inflammatory diseases—in fact, in all affections whose names ended in "itis"—was the administration of a saline mixture with an antiphlogistic pill composed of calomel, antimony, and opium; the antimony was sometimes omitted and the doses of opium and mercury modified according to circumstances. Whatever doubts I may entertain as to the value of antimony in inflammatory affections generally, I have none with regard to opium. I learned to give it from my master, and continued the practice ever since. I have the firmest belief in its powers of arresting or controlling inflammatory action. I cannot doubt this when I witness a dose of laudanum at once stop a sore throat, and see a rapidly spreading ulcer on the leg quickly heal as soon as the patient takes opium. Just as this drug lowers or retards the natural functions and secretions of the body with other tissue changes, so it tends to arrest morbid processes or those unnaturally set up in various parts of the body. The most remarkable fact connected with this drug is the circumstance of its being so often put aside for very poor substitutes. When meeting medical men in consultation in cases of pneumonia, I very rarely find it given, and, on asking why not, the usual answer has been that there was no indication for its use, there being no pain and no insomnia. It was quite the exception to find any younger man know of opium as a real remedy, or of its being antiphlogistic according to the old phraseology. In the memoirs of the older Louis Napoleon it is mentioned, when at the end of the eighteenth century influenza was raging in Paris, that he suffered severely from the epidemic. Opium was given him several times a day by Corvisart; the complaint was cut short, and in a few days the Prince was well again. I might add that Sir William Gull ordered opium in pneumonia up to his last days. Just as I have seen opium beneficial, so I believe many of its substitutes are very depressing. Scarcely one of these products made in the chemical laboratory, and which act so powerfully on the nervous system, but have a depressant effect on the heart's action. As a matter of safety when long continued none of them can be compared with opium, which may be taken with impunity for years without

any serious consequences. This could not be said of other substances.

What, then, it may be asked, is the best treatment which I have witnessed for the cure of pneumonia? I should naturally say, that which agrees best with my own views. When I see a patient with pneumonia taking a dose of saline and five grains of Dover's powder every four hours I am satisfied, or if he have bronchial complication some carbonate of ammonia instead of the simple saline. A very favorite method of treatment is to keep the patient in a jacket covered with wool or warm fomentation; of this I have also approved, as it acts as a warm bath, producing perspiration, and in this way is very useful. I never but once applied cold to the chest, and in that actual harm resulted. Blisters, I believe, are harmful. I have seen two or three patients bled, and they all recovered. As regards the mass of practice which I have witnessed, there has been little uniformity about it. Every man has been a free-lance, and treated the case according to his own views, these being regarded by him as the most rational or scientific. I remember seeing two cases on one afternoon in different parts of the town which were as much alike as the circumstances and the complaints could make them; the one was on saline medicine and low diet, the other was taking carbonate of ammonia, brandy, and plenty of nourishment. The *rationale* of the latter treatment was due to the lowness of the patient. For this expression I have the greatest contempt, as it reminds me of a doctor in large practice who, during the Toddian heresy, gave brandy to all his patients because they were all w k. In a case of pneumonia following whooping-cough in a young girl I found the doctor, an intelligent young man, giving strychnia, as he did not wish, he informed me, to treat the broncho-pneumonia, but strike at the root of the disease. For this he gave the remedy, as it was now understood that whooping-cough was a nervous affection. I remember another gentleman so impressed with his scientific method of treating pneumonia that he published the case for the edification of his medical brethren. He described how he began with his antipyrin to mitigate the fever, then digitalis to lower the pulse; this was followed by an expectorant, and afterwards bromide to allay irritation, ending with nux vomica as a tonic for the lung. I am unable to lay my hand on the journal for reference, but I believe two or three other medicines were administered at their proper stages. This gentleman was so intensely satisfied with his method that I asked him if he were a homeopathist, and he assured me that he knew nothing of their system or their doctrines. I quite, however, believe there are born homeopathists who have evolved the method out of their own consciousness. It seems much more difficult for most people

to follow an empirical method and give a medicine solely on account of its known value than to administer a drug with a reason attached to it even if it be of doubtful efficacy. The public also mostly require the latter method before accepting the remedy. The variety of treatment which I have witnessed may, of course, have been often adopted on truly rational grounds, dependent on the nature of the case, whether, for example, the pneumonia was simple or a manifestation of influenza, where the heart's action has much to do with the result. Variable as I have seen the treatment, it may be said that it is nowadays more or less of the sustaining or supporting character compared with the depleting one of former years. The remedies were then of a kind to expel, extract, or knock down the disease, and therefore bleeding, cupping, and leeching were in vogue, together with purges and emetics accompanied by other powerful drugs; now the prevailing effort is to keep the patient up, and remedies supposed to have that effect are all in favor. The public participates in this view, and therefore the most potent dose of medicine which the chemist can offer is when quinine, iron, strychnia, and cod liver oil can be rolled into one. The effect of this change of treatment suggested one of the most extraordinary notions that ever entered the mind of the physician, and that is that the constitution of human beings must have altered to account for it, or, in other words, that man who had inhabited this globe for ages had in the middle of the nineteenth century undergone a complete change, and all this within the period of thirty or forty years, or during the lifetime of any ordinary practising physician. The only moral I can draw from this extraordinary belief, possessing not the slightest foundation in fact, is the simplicity of character and strong faith that men like Latham, Watson and Stokes must have had in their therapeutic art; so that they verily believed that Nature had changed to account for their different experience. Dr. Latham at the latter part of his life uttered his regrets that medical treatment had been retrograding for the previous twenty years, and that its place was giving way to pathology. I need scarcely say that I have not the slightest sympathy with such an opinion, believing that pathology and therapeutics must go hand in hand. When I witness the cures of many forms of epilepsy and paralysis, and the vast improvement in the cure of consumption, I cannot but remember how the one was due to the discovery of syphilitic gummata in *post-mortem* room, and the other to the discovery of the bacillus of tubercle in the physiological and pathological laboratory.—*The Practitioner.* A. M'P.

DUSTING POWDERS IN DISEASES OF THE SKIN.

BY DAVID WALSH, M.D.

MEDICINAL.

DUSTING powders are chiefly useful in all periods of life in the treatment (*a*) of inflamed folds of skin, or intertrigo, in groin, armpit, and so on; (*b*) of excoriated and weeping surfaces; (*c*) of open ulcers.

(*a*) These eczematous inflammations of opposed folds or areas of skin are often due to seborrhea, or to parasitic fungi. They are common in the groin, armpits, bends of arms or legs, perineum, about the scrotum and buttocks, between the mammæ, and creases of the skin of neck and belly in stout persons.

The writer has found the best powders for this condition are made of starch, with oxide of zinc, or calamine, and an antiseptic in the shape of boracic acid (℥j or ℥ij to the ounce), salicylic acid (grs x. to the ounce) or Europhen (℥ss or ℥j to the ounce). The last mentioned is an odorless substitute for iodoform. The addition of a little calomel is often useful.

(*b*) Excoriated surfaces, result from injury, or from an irritant which may attack the skin from without, or according to the writer's theory of excretory irritation, either from within (*a*). A true eczematous condition, that is, a catarrhal weeping inflammation of the skin without obvious cause, is probably an extremely rare condition. In any case the object of the powder is to protect, to absorb discharge, and act as an astringent, to provide an antiseptic and aseptic application, and indirectly to form an artificial scab, and thus immitate the natural processes of healing.

Starch is one of the best drying applications to a moist inflammatory surface. Another excellent application is the compound powder of chalk. Slight astringency is obtained by adding zinc oxide or carbonate (calamine) and antiseptic action by boracic acid, salicylic acid or Europhen. Calomel is a good powder for unbroken skin, but is apt to do damage in a moist or discharging skin, possibly owing to the formation of a perchloride. Its use is strongly indicated, however, in syphilitic rashes about the buttocks of children. Kaolin (a silicate of alumina) is apt to irritate some skins, but can be used with a tar preparation. Iodoform, besides its unpleasant smell, has the disadvantage of setting up an acute dermatitis in some persons who have a predisposition against the drug, and other vehicles of active agents are rice, arrowroot, orris root, lycopodium, and talc.

For a simple excoriated surface:

Calaminæ	ʒij.
Europhen	ʒj.
Amyli, ad	℥j.

M. ft. pulv.

(*c*) Open ulcers, whether specific or non-specific, are often greatly benefited with dusting powders. Certain precautions are needed. Boracic and salicylic acids often cause great pain. Calomel is rarely safe to apply to any but the syphilitic sore, whether hard or soft. Iodoform is excellent for both ulcers, whether specific or non-specific. Europhen is somewhat less active as a substitute, but has not the offensive smell of iodoform. A plan used by the writer in treating non-specific ulcers is to incorporate a bland powder (*e.g.*, starch and boracic acid) with a pad of absorbent boracic wool, applied as a dry dressing. The usual way of applying these external applications is to dust the material on with a swan's down pad or pledget of cotton wool; or it may be peppered over the surface from a small dredger. One of the most satisfactory ways of procuring prolonged contact with the skin is by Unna's plan, by which the powder is sewn up in long, flat bags, and bandaged to the skin.—*Medical Press and Circular.* A. M'P.

INTESTINAL ANTISEPTICS.*

BY BURNEY YEO, M.D., F.R.C.P.LOND.,

Professor of Medicine at King's College, London; Senior Physician to King's College Hospital.

INTESTINAL antiseptics and evacuants have for a long time been in use without the *rationale* for their use being known. The old blue or calomel pill, together with the black draught which dissipated the spleen and the vapors for our forefathers are instances to the point. I intend to consider the subject under four headings: (1) What is the scope of antiseptics? (2) What is the scientific basis for their use? (3) Under what conditions are they applicable? and (4) what are the means of applying intestinal antiseptics? With regard to (1), the medical use of antiseptics is different to the surgical use. The surgeon nowadays aims rather at asepsis than at antisepsis. But in medicine, as concerned with the intestinal contents, asepsis is impossible. We must, if possible, prevent, or at any rate antagonise, auto-intoxication—*i.e.*, intoxication of the organism with the products of digestion. With regard to (2), it must be remembered that certain

* Abstract of paper read before British Medical Association, Portsmouth, August, 1899.

bacilli are only harmful in the presence of putrefaction or other abnormal condition. The bacillus coli, for instance, is a normal inhabitant of the intestine, and under ordinary circumstances is harmless. If, however, the bowel becomes abnormal in any way owing to catarrh, long-continued constipation, or sometimes injury, the bacillus coli seems to take on a virulent action. When associated with the bacillus typhosus it has the power of intensifying the virulence of the latter. The experiments of Dieulafoy with the bacillus coli when taken from an appendix, the cavity of which had got shut off from the rest of the bowel, and the same organism when taken from the normal mucous membrane of the bowel, show that the former is virulent, the latter not so. As, then, the virulence of intestinal bacteria depends upon their environment, so by modifying that environment it is reasonable to suppose that we can modify their virulence. With regard to (3), intestinal antiseptics are indicated in gastric catarrh and fermentative dyspepsia. Grange recommends in cases of summer diarrhea the use of plain boiled and cooled water. He claims that the use of this dilutes the toxins. There are many other conditions to which fermentative dyspepsia and auto-intoxication give rise. Such are dyspepsia, chest pain simulating angina pectoris, vertigo, aphasia and anemia. Even pernicious anemia had been considered by some observers to depend upon some toxin which exerted a hemolytic action. There are three other diseases in which the use of intestinal antiseptics is rational—namely, cholera, dysentery, and typhoid fever. Of the first two I have had no practical experience, but with regard to typhoid fever I have for some years advocated and practised the use of intestinal antiseptics. Typhoid fever often exhibits symptoms of being due to a mixed infection, and this may explain the extraordinary variations in the severity of cases. I can recall instances in which the use of a chlorine and quinine mixture given every two or three hours has been attended with most marked results for the better in cases of typhoid fever. So, also, in some cases of indefinite febrile affections accompanied by rise of temperature, furred tongue, and foul-smelling stools, the use of thymol by the mouth, together with irrigation of the large bowel by eucalyptol, olive oil, and soap-and-water administered in the knee-chest position, had rendered the patients well. I am not able to say to what exact disease this condition was due, but I think that whether the original infection had been by typhoid fever or influenza, the condition which I was called upon to treat was due to the action of the bacillus coli in an abnormal environment. With regard to (4), the various intestinal antiseptics are: water boiled and cooled, calomel and salines, both of great value in the *early* stages of typhoid fever. Salicylate of bismuth and carbolic acid are both

useful. As to the latter, I remember a case published recently in the *Lancet* by Dr. G. Williams, where a patient suffering from typhoid fever took by mistake one ounce of carbolic acid. He had, of course, to be treated for the toxic effects, but recovered from them with his typhoid fever much lessened. Salol is very uncertain. Eucalyptol and thymol are both good, and irrigation of the large bowel in such cases as I have mentioned was a necessity. Patients, especially in typhoid fever, must not be overfed. I would conclude with a warning against the production of the modern manufacturing chemist who sets up to teach the clinical physician.—*Medical Press and Circular.* A. M'P.

SOFT SOAP TREATMENT OF TUBERCULOUS AFFECTIONS.

For the last thirteen years Prof. Albert Hoffa, of Wurtzburg, has been using soft soap inunction in all forms of local tuberculous affection, and in *Munch. Med. Woch.*, September, 1899, he reports his experience. The soft soap inunction, it should be said, is always used as an adjunct to the ordinary general treatment. The case treated consisted of spondylitis tuberculosis of the hip, knees, foot and elbow, as well as of the glands and skin, and he claims that the effect has been good. It is said to be wonderful to observe the difference in the results obtained between cases treated with and those without the soap inunction. Under the influence of the soft soap treatment, the general condition of the patient and the appetite rapidly improve, the tuberculous joint swellings rapidly become smaller, fistulæ close up quickly, and glandular swellings subside. Wonderful results are seen, especially in the multiple tuberculous diseases of bones and joints, and children already much reduced. As regards the selection of the preparation of soap it is to be remarked, according to the author, the only kind suitable is the sapo kalinvenali kept in the shops, which is prepared from linseed oil and crude caustic potash without spirits of wine, and which always contains a small excess of caustic potash and its carbonate. The author rubs in 25 to 40 grms. of this soap two or three times a week, and lets it lie on half an hour, at the end of which time it is washed off with a sponge and warm water.

As regards the mode of action of the soap the author confirms the ruling view, among others, that of Kollmann, that under the influence of the soap treatment the injurious lactic acid circulating in the system becomes neutralised, and that the alkalinity of the blood is increased. The increase in the alkalescence caused increased tissue change, and this acts favorably on the general condition and especially on the affected parts.—*Medical Press and Circular.* A. M'P.

Proceedings of Societies.

INTERNATIONAL CONGRESS OF MEDICAL DEONTOLOGY OR MEDICAL ETHICS.

By virtue of the Ministerial Decree of June 11th, 1898, an International Congress, dealing exclusively with economical and ethical questions, is convoked. It will hold its first sitting at the Palace of Congresses and of Social Economy, situated within the Exhibition Grounds, Paris, on June 23rd, 1900. After the inaugural ceremony the Congress will meet at the Faculty of Medicine, 12, Rue de l'Ecole de Medecine, Boulevard St. Germain, and continue its sittings till July 28th.

By virtue of the Ministerial Decree of December 19th, 1898, a Commission of Organization for the Congress was appointed. Dr. L. Lereboullet, Member of the Academy of Medicine and General Secretary of the General Association of the Medical Practitioners of France, is the President. The Vice-Presidents are Dr. Robert Jamin, President of the Medical Society of the Ninth District of Paris and Vice-President of the Syndicate (or Union) of the Paris and Suburban Medical Practitioners; and Dr. Le Baron, founder of the Syndicate of the Medical Practitioners of the Department of the Seine. Dr. Jules Glover, 37, Rue du Faubourg Poissonniere, Paris, is the General Secretary, and the Commission comprises such well-known and eminent medical men as Dr. Brouardel, Dean of the Paris Faculty of Medicine; Dr. Bergeron, Dr. Cornil, Dr. Napias, Dr. Albert de Blond, etc., etc.

FIRST SECTION.

The Relations of Medical Men and Collectivities.

Dr. Cuylits, formerly Secretary of the Brussels Medical Union, will report on the Relations between Medical Men and Benefit Societies. It is also proposed that the following questions should be discussed in this Section :

1 The Laws governing the Exercise of Medicine.

2. The Relations of Medical Men and the Organizations for the Relief of the Poor workhouse infirmaries, hospitals, dispensaries, etc.

3. The Economical Position of Medical Officers of Health.

4. The Relations of Medical Men and the Judiciary Authorities, expert evidence, professional secrecy, etc.

5. The Relations of Medical Men with other collectivities than State or Municipal collectivities, such as Railway, Insurance, and Industrial or Mining Companies, Provident or Benefit Societies, Private Charities, etc.

SECOND SECTION.

The Relations of Medical Men and Individuals.

Dr. Descouts, Professor of Forensic Medicine, will report on the Illegal Exercise of Medicine. This Section is invited to discuss the question of medical fees; the Privileges of the Medical Practitioner; and the relations of the Practitioner with nurses, midwives, dispensing chemists, manufacturers of surgical apparatus, etc., and with quacks.

THIRD SECTION.

The Relations of Medical Men with Fellow Medical Men (Medical Deontology).

Reports will be read by Dr. Grasset, Dean of the Medical Faculty of Montpellier, on the Fundamental Principles of Medical Deontology; by Dr. Pollak, of Vienna, on the Organization of Chambers of Medicine and the Results Attained in the Countries where these Exist; by Professor Jendrassik, on the Organization of Medical Leagues in Hungary; and by Mr. Adolphe Smith on the Organization of Medical Unions in Great Britain.

Questions submitted for discussion: Consultations, Cliniques and Medical Institutions, *Locum Tenens*, Sale of Medical Practices, Orders or Guilds, Chambers, Syndicates or Unions of Medical Men, and the Relations between Medical Men of different Nationalities.

FOURTH SECTION.

Professional Organization of Insurance, Mutual Assistance, and Defence.

Dr. Lande, of Bordeaux, will report on Insurances for the Help and Relief of Medical Men. Dr. Porson, of Nantes, will report on Organizations for Professional Defence. The Section will be invited to discuss the questions of Insurance for Medical Men against Sickness or Infirmities, of the creation of a Pension Fund, a Fund for the Succor of the Widows and Orphans of Medical Men, etc.

Dr. J. G. Adami, of Montreal, will be pleased to furnish all further information upon this subject.

THE 1900 MEETING CANADIAN MEDICAL ASSOCIATION.

THE Canadian Medical Association this year will convene in Ottawa on September 12th, 13th and 14th. There is everything in favor of the century gathering being the biggest on record. A most enthusiastic meeting of the profession in and around Ottawa was held recently, and a large sum of money subscribed for the entertainment of visiting members, making it a certainty that those in attendance will have, if possible, even a better time than they have ever had before in the Capital City. The President, Dr. R. W. Powell, has recently heard from Mr. Edmund Owen, of London, England, the gratifying information that he will deliver the address in Surgery. We urge upon all the advisability of turning out next September *to a man*, and making the 1900 meeting of The Canadian Medical Association the best yet.

THE ONTARIO MEDICAL ASSOCIATION.

THE date of this year's meeting of the Ontario Medical Association has been changed to June 6th and 7th. The sessions will be conducted at the Educational Department, Gould Street, Toronto. Dr. L. Barker, of Johns Hopkins University, will read the paper in Medicine, and Dr. Luke Teskey will open the discussion in Surgery. The subject of Inter-Provincial Registration will be discussed at one of the general sessions, the subject being introduced by Dr. J. A. Williams, of Ingersoll. Intending speakers should communicate at once with Dr. Harold Parsons, Toronto. There will be also a large exhibit by the various manufacturers.

DR. H. J. HOUGH has settled in Midland, Ont.

CONGRATULATIONS to Dr. Harper, of Alliston, on his recent marriage.

DR. T. J. NORMAN, of King, has gone to England to take a post-graduate course.

DR. GIBB WISHART has been appointed Laryngologist to Gravenhurst Sanitarium.

THE American Medical Association meeting will be held at Atlantic City, N.J., from June 5th to 8th.

WE acknowledge the loan of the cuts illustrating Dr. Manley's paper in this issue of the JOURNAL from *The Railway Surgeon*, Chicago, Ill.

DR. VAUX, of Brockville, has been appointed Chairman of the Ontario Provincial Board of Health, *vice* Dr. Macdonald, of Hamilton.

DR. EZRA STAFFORD has left Toronto for a vacation, and is at present in Omaha, Neb. He has been succeeded at the Asylum by Dr. R. W. Bell.

OUR old friend, Dr. H. Morell, of Slayton, Minn., where he has been practising for some years, has secured the appointment of Acting Assistant Surgeon to the U. S. Army at Manila, P.I.

THE editorial management of *The Canada Lancet* has been assumed by Dr. H. B. Anderson, of Toronto. The associate editors are Drs. W. B. Geikie, J. L. Davison, D. G. Gordon, J. T. Fotheringham, F. Fenton, F. LeM. Grasett, G. A. Bingham, Allen Baines, D. C. Meyers, H. C. Parsons, G. S. Ryerson, N. A. Powell, D. J. G. Wishart, and C. A. Temple.

REPORT OF DEATHS FROM ALL CAUSES AND FROM CONTAGIOUS DISEASES IN ONTARIO FOR THE MONTHS OF DECEMBER, 1899 AND JANUARY, 1900.

PREPARED BY P. H. BRYCE, M.A., M.D., DEPUTY REGISTRAR-GENERAL.

DECEMBER, 1899.

Total Population Reporting.	Total Municipalities Reporting.	Total Deaths Reported.	Rate per 1000 per annum from all causes.	Scarlatina.	Rate per 1,000 per Annum.	Diphtheria.	Rate per 1,000 per Annum.	Measles.	Rate per 1,000 per Annum.	Whooping Cough.	Rate per 1,000 per Annum.	Typhoid.	Rate per 1,000 per Annum.	Tuberculosis.	Rate per 1,000 per Annum.
2,276,532	756	1,843	10	20	0.09	42	0.2	3	0.01	6	0.02	28	0.1	157	0.8
99.7%	97%														

JANUARY, 1900.

2,057,455	638	1,771	10	13	0.07	51	0.3	2	0.01	4	0.02	16	0.09	183	1.6
90%	82%														

Population of Province 2,283,182

Registration Divisions of Province..... 777

The Canadian Journal of Medicine and Surgery

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Clinical Surgery—ALEX. PRIMROSE, M.B., C.M. Edinburgh University; Professor of Anatomy and Director of the Anatomical Department, Toronto University; Associate Professor of Clinical Surgery, Toronto University; Secretary Medical Faculty, Toronto University.

Orthopedic Surgery—B. E. MCKENZIE, B.A., M.D., Toronto, Surgeon to the Toronto Orthopedic Hospital; Surgeon to the Out-Patient Department, Toronto General Hospital; Assistant Professor of Clinical Surgery, Ontario Medical College for Women; Member of the American Orthopedic Association; and H. P. H. GALLOWAY, M.D., Toronto, Surgeon to the Toronto Orthopedic Hospital; Orthopedic Surgeon, Toronto Western Hospital; Member of the American Orthopedic Association.

Oral Surgery—F. H. ADAMS, M.D., D.D.S., Toronto.

Surgical Pathology—T. H. MANLEY, M.D., New York, Visiting Surgeon to Harlem Hospital, Professor of Surgery, New York School of Clinical Medicine, New York, etc., etc.

Gynecology and Obstetrics—GEO. T. MCKEOUGH, M.D., M.R.C.S. Eng., Chatham, Ont.; and J. H. LOWE, M.D., Newmarket, Ont.

Medical Jurisprudence and Toxicology—N. A. POWELL, M.D., Toronto, and W. A. YOUNG, M.D., L.R.C.P. Lond., Toronto.

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Mental Diseases—EZRA H. STAFFORD, M.D., Toronto, Resident Physician Toronto Asylum for the Insane.

Public Health and Hygiene—J. J. CASSIDY, M.D., Toronto, Member Ontario Provincial Board of Health; Consulting Surgeon Toronto General Hospital; and E. H. ADAMS, M.D., Toronto.

Pharmacology and Therapeutics—A. J. HARRINGTON, M.D., M.R.C.S.Eng., Toronto.

Physiology—A. B. EADIE, M.D., Toronto, Professor of Physiology Woman's Medical College, Toronto.

Pediatrics—AUGUSTA STOWE GULLEN, M.D., Toronto, Professor of Diseases of Children Woman's Medical College, Toronto.

Pathology—W. H. PEPLER, M.D., C.M., Trinity University; Pathologist Hospital for Sick Children, Toronto; Demonstrator of Pathology Trinity Medical College; Physician to Outdoor Department Toronto General Hospital; Surgeon Canadian Pacific R.R., Toronto; and J. J. MACKENZIE, B.A., M.B., Bacteriologist to Ontario Provincial Board of Health.

Ophthalmology and Otology—J. M. MACCALLUM, M.D., Toronto, Assistant Physician Toronto General Hospital; Oculist and Aurist Victoria Hospital for Sick Children, Toronto.

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Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited.

Advertisements, to insure insertion in the issue of any month, should be sent not later than the fifteenth of the preceding month.

VOL. VII. TORONTO, APRIL, 1900. NO. 4.

Editorials.

TREATMENT OF THE INSANE BY CONFINEMENT TO BED.

THE systematic treatment of insane patients by confinement to bed, called in Germany Bet-behandlung, is much used in Germany, England and Russia, more particularly in cases of recent mental alienation and the acute psychoses. A well-written presentation of the subject appeared recently in *La Presse Medicale* from the pen of Dr. A. Vigouroux, Physician of the Colonie

Familiale de Dru-sur-Auroz, a *resume* of whose views we herewith present to our readers. Up to the present time, only certain classes of insane patients have been confined to bed in the majority of asylums; for instance, in addition to those suffering from some intercurrent affection, paretics in the third stage, and wasteful patients, are so treated. Some alienists, however, favored confinement to bed in the treatment of melancholy, though not in a systematic manner; it was rather directed against the physical signs of the disease—edema and cyanosis of the extremities, different disorders of the circulation, loss of flesh, etc. The systematic application of Bet-behandlung necessitates the confinement to bed of all lunatics after their entry into an asylum, and the keeqing in bed of all patients affected with acute psychoses.

As an instance of the mode of classifying patients in the Leubus Asylum, Germany, in which there are 205 patients, Dr. Serieux gives the following statistics:

Patients confined to bed permanently.....	57.6	per cent.
" " " intermittently.....	10	"
" engaged in work	31	"
" isolated	1.4	"

The advantages of Bet-behandlung are as follows: Transformation of the general appearance of an asylum, easier and more complete clinical examination of the patients, more continuous and attentive observation of the patient, more rapid repair of losses sustained by the organism of the patient, better rest and sleep, diminution of the intensity of the symptoms of the acute stage of diseases, and perhaps a more rapid evolution of these diseases; besides less danger to the attendants and much less destruction of furniture and bedding.

Among the disadvantages accruing from the employment of this therapeutic method may be mentioned a tendency to syncope experienced by patients who are confined to bed for a long time. This tendency may, however, be prevented by causing the patients to rise from bed for a short time each day. Dyspeptic troubles, loss of appetite and constipation may be treated by a special kind of diet, by laxatives, etc. Massage and electro-therapy may render great services in ameliorating the unfavorable general condition and the stiffness of the joints observed in amyotrophic cases.

The habit of masturbation and the destructive habit will call for careful, though easily applied, observation. Good ventilation of the wards, the providing of baths for patients, and taking them for short walks in the open air will tend to prevent anemia. A longer experience of this method will, no doubt, enable superintendents to judge of its therapeutic merits. The mere transformation of part of an asylum into a hospital, by suppressing cells and quarters for violent patients, would be a great advance and a long step towards the realization of a hospital for lunatics such as it should be at the present day. Such an asylum would consist of three distinct parts: a central portion, or hospital, where all acute forms of insanity and the incident diseases would be treated; an annex where convalescents could test their capacity for further liberty, by working in a ward with open doors; an observation department, where dangerous lunatics would be confined.

Alcoholics, epileptics, idiots, and criminal lunatics should be placed in special asylums; senile dements and harmless cases of chronic insanity, in industrial colonies in the country or in family colonies. J. J. C.

SOME OBSERVATIONS ON THE VITAL STATISTICS OF ONTARIO FOR 1898.

For the year 1898, the total births recorded in Ontario were 46,599, as compared with 47,323 in 1897, showing a decrease of 724 for the year. The estimated population is 2,279,929. The Registrar-General contends that it is useless to draw any conclusions as to the causes of a decreasing birth rate, until the Division Registrars give more complete returns. An Act was passed in 1896, which provides that "Division Registrars (municipal clerks) shall use all available means to obtain the necessary information hereafter required in this Act, and shall be paid 20c. for each return by the municipality," which further states "that the parent or guardian of every child born in this Province, or, if there is no such person, then the nurse or midwife present at the birth shall, within thirty days from the date of the birth, give notice to the Division Registrar of such birth;" while the Act further provides: "It shall be the duty of every qualified medical practitioner attending at the birth of any child born within the

Province to give notice thereof forthwith to the Division Registrar of the division in which the child was born."

In spite of all these provisions, births are not well reported. City Division Registrars are especially blamed for neglecting to make complete returns of births, and the reason given is that, when a city clerk is paid a good salary, covering all the duties laid upon him, he will not go out of his office to collect birth statistics, so as to make his returns complete. To this accusation the city clerk may respond, that he is always prepared to receive such reports of births as reach his office from the several contributing persons mentioned in the Act, and that they are responsible for the incompleteness of his reports. One way of surmounting this difficulty would be to appoint, under the Act, in each large city in Ontario, an official whose business it should be to collect accurate reports of births, a fee of 20c. being allowed him for each return. To give him sufficient employment and salary, he should also report deaths and marriages. Such an official would not remain passive in his office, waiting to receive reports; but would, in his own interest, exert himself to collect the true birth statistics of his municipality.

The total number of deaths recorded in Ontario in 1898 was 26,370, as compared with 27,633 in 1897, a decrease of 1,263. There is no complaint made about the registration of deaths, owing to the stringent laws against burial without a permit. The total marriages recorded in 1898 were 15,375, as compared with 15,293 in 1897. The returns of marriages are also complete, since the passage of the amendment to the Marriage Act in 1897, requiring license issuers to forward to the Registrar-General copies of all licenses issued by them.

It is a source of gratification that deaths from diphtheria and croup in 1898 were less than during the preceding year, the figures being 634 in 1898, as compared with 976 in 1897. Much of this satisfactory showing is due to hygiene, including under this head the salutary fear of this disease entertained by the people, coupled with the activity of local boards of health in suppressing it. The use of diphtheria antitoxin has, however, enabled practitioners to accomplish a saving of life from this disease which, prior to 1895, had not been witnessed in this Province, even when the best efforts of sanitary authorities had been employed.

Tuberculosis is increasing, the total mortality for 1898 being 3,291, as compared with 3,154 in 1897, or a death rate from this disease of 1.4 per 1,000 living persons. The Registrar-General significantly remarks: "As yet no systematic steps have been taken by local boards in the cities of Ontario to maintain a supervision of houses where consumptives are resident, nor to disinfect the premises after death." And it might have been added that rural health boards are equally remiss in these respects. He also attributes a considerable influence in propagating this disease to "old houses where previous cases have been." Yet he does not suggest that consumption should be made a notifiable disease, which, however, would naturally follow from his remark; for the principal object in view, in asking for notification of consumption, is to obtain accurate information about the phthisical infective centres in a municipality. These houses can thereafter be placed under the control of the sanitary authority, particularly after the departure of a consumptive tenant and his death, so that the germs of his disease, which are contained in his expectoration, may not be left after him to mingle with the house dust, and thus renew the process of tuberculization in some other susceptible person.

J. J. C.

THE CLIMATE AND DISEASES OF SOUTHERN AFRICA.

From communications made to the British medical press and from a paper read at a recent meeting of the Berlin Medical Society, and condensed in *La Presse Medicale,* interesting information has been received as to the climate and the diseases of Southern Africa. Generally speaking the climate is healthy, but is not uniform. The southern part of Cape Colony resembles the climate of Central Europe. Basutoland has an Alpine climate; in the Orange Free State and the Transvaal, in the neighborhood of Natal, the climate is like that of Italy. These favorable climatic conditions explain the reason why, in spite of continuous wars with the blacks, the white population has steadily and constantly increased.

The diseases usually met with in hot countries are, however, prevalent. Diarrhea is common, but does not generally affect civilians severely. Soldiers in camp, who are more exposed to the

weather, often suffer very much from it. A correspondent of the *British Medical Journal*, writing from Modder River, says: "The cause of the diarrhea is an acute enteritis, following the ingestion of particles of sand. Seldom a day passes without the camp being attacked by a 'devil.' This is the popular name for a dustspout of sandstorm. These storms may last from a quarter of an hour to a whole day, and make life a perfect misery. The quantity of silica one is compelled to breathe and to swallow is enormous, and it is the irritation of the bowel membranes by these particles of silica that causes a large percentage of our cases of diarrhea."

Typhoid fever is pretty common in Southern Africa, and certainly depends on the defective distribution of potable water. This disease sometimes assumes a severe form; for instance, at Douglas, which had a population of 800 souls, it caused a mortality of 150 out of 300 cases. Cholera, plague, and yellow fever are imported diseases, and can be restricted by quarantine and hygienic measures.

A severe form of scurvy prevails among the blacks. As a result of the cattle plague, which raged in Bechuanaland, the blacks were deprived of the use of milk, and owing to a failure of the maize crop, they had no corn, so that scurvy became epidemic among them. For the same reasons, the whites are frequently attacked by this disease. Tuberculosis is almost unknown among the blacks and the Boers. On the other hand, leprosy, which was introduced into the country at the beginning of this century, threatens to become very formidable. At the present time there are said to be more than 10,000 lepers in Southern Africa, an enormous number for a small population. The blacks also suffer a good deal from a severe, infectious pneumonia. Bacteriological examination has shown that these cases of pneumonia are produced by pneumococci, Pfeifer's bacilli, or streptococci.

Infantil. mortality, in spite of large families—Boer families of from twelve to twenty children are not uncommon—is small, and that circumstance depends largely on the fact that infants are nursed at the breast. Epizootics are frequent and very destructive. In 1870 an epidemic of pleuro-pneumonia destroyed 2,000,000 out of a total of 3,000,000 head of cattle in Cape Colony. The "horse sickness," which affects the equine race, and the tse-tse, which affects horned cattle and horses, destroy a considerable number of these animals every year. J. J. O.

THE ANTISEPTIC ACTION OF HYDROGEN DIOXIDE.

At a recent meeting of the Parisian Surgical Society, a discussion arose as to the rationale of the antiseptic action of hydrogen dioxide. Dr. Chauvel had reported a case of diffuse phlegmon of the leg, which continued to spread in spite of several incisions, and was at last arrested in its progress by hypodermic injections of hydrogen dioxide, introduced at the periphery of the diseased tissue. Professor Terrier contended that from the standpoint of the antiseptic action of hydrogen dioxide, Dr. Chauvel's case was not of much interest, as he had neglected to make a bacteriological examination of the disease. In his opinion, the disinfectant in question should not be employed, unless a bacteriological examination reveals the presence of anerobic bacteria, in the destruction of which its action is very powerful. Dr. Albarran concurred in this opinion, and claimed that he had obtained excellent results by treating with hydrogen dioxide the sloughs containing anerobic bacteria, which form in tissues devitalized by urinary infiltration. Dr. Quenu was also of the same opinion as Professor Terrier, and stated that he used this antiseptic as a lotion in cancerous disease of the rectum, prior to its removal by a surgical operation. He thus prevented the occurrence of those post-operative phlegmons, in which the integument is soft and the contents of a dead-leaf color, the appearance of which he had previously endeavored to combat, though in vain, by the use of boracic acid and permanganate of potassium.

Dr. Lucas-Championiere considered that hydrogen dioxide was the most powerful antiseptic known; but did not think that its employment in a diseased tissue should depend on the nature of the bacteria discovered there, because its mode of action is as yet unknown. Complex phenomena result from its action, terminating in the destruction of all kinds of microbes, both anerobic and aerobic.

Professor Tuffier offered the following explanation of the *modus operandi* of this drug. Wounds of the lung will not endure the local application of any liquid, and cannot, therefore, be directly disinfected. After performing pneumotomy for gangrene of the lung, he found that the wound did well if exposed

to a current of oxygen. Similarly, broncho-cutaneous fistulæ, through which a constant current of air passes, heal easily. Hence he concluded that hydrogen dioxide owes its antiseptic power to the oxygen which it contains. J. J. C.

PROPOSAL TO RE-PROVINCIALIZE TORONTO UNIVERSITY MEDICAL FACULTY.

As we go to press for this issue, there is going on an exceptionally vigorous lobby in behalf of a certain change in legislation which our Ontario Government is being requested to enact by Trinity Medical School. We are not able at this late hour to make any comments, further than give a plain statement of fact, so far as we understand it. There has for years been what might be termed a sort of truce existing between Trinity Medical School and Toronto University Medical Faculty, though at all times there has been a decided spirit of rivalry, as is always the case between two such bodies. Now Trinity wishes to step in and, as she terms it, re-provincialize her competitor, claiming that Toronto University, being the Provincial University, has a right, and is bound, to extend to her certain rights as a teaching body of which she claims to have been deprived in 1887. In a word, what Trinity is after, and says she will get, is to effect a movement looking to the reduction of the medical department of Toronto University to a merely examining status, and the withdrawal of the State aid alleged to be given the Medical Faculty of that body. Were this done, it is argued in effect if not in words, the handicap, under which Trinity is said by some to exist, would be removed, and it would then be in a better position to resist the competition of Toronto University Medical Faculty.

Dr. McKay, M.P.P., has a bill before the Legislature intended as a move in this direction. The bill provides that the medical department of the Provincial University, which now consists of one set of medical teachers only, shall after the passing of the Act consist of the medical faculties of all medical colleges or medical schools affiliated with the University of Toronto; also, that the examining board for degrees in medicine in the Provincial University shall consist of an equal number of examiners,

selected from each teaching medical college or school in affiliation with the University. These examiners shall be recommended to the Senate by the respective teaching bodies to which they belong. Also that each affiliated medical college or school shall have one and only one member on the Senate, who shall be elected by the body he represents. W. A. Y.

EDITORIAL NOTES.

The Mayor of Toronto and Vaccination.—In an evening paper Mayor Macdonald is quoted as having said, "I don't know that we should pay for murder," when the Board of Control at a recent session took up the estimates of the local Board of Health, and an item of $250 for the purchase of vaccine was considered. The Mayor moved that this item be struck out. Fortunately the appropriation was carried. Then a slight altercation ensued over a bill of $144 for a little creature comfort (sometimes called whiskey) for the patients at the Isolation Hospital. The JOURNAL will with pleasure head a list of subscribers to a fund to buy paper enough, even at the advanced rate of pulp, to make a laurel to adorn the brow of someone sadly in need of a halo in the shape of a fool's cap. W. A. Y.

Toronto Sanitarium for Consumptives.—Recently a sort of public wave of interest in sanitaria for consumptives seems to have enveloped the community, and found its expression in the commodious group of buildings at Gravenhurst. Now local public opinion seems to be aroused, and pondering the advisability of erecting another sanitarium in the vicinity of Toronto where the poorer classes of afflicted may find an ever-open door of refuge. An extension of the "Muskoka Cottage Sanitarium" near Toronto has also been spoken of. Perhaps the best advice a canny medical journal can give is, "Pull one, pull all, and pull altogether," for in union lies capital and strength enough to make the proposed "Toronto Sanitarium" worthy of its name and adequate to its high mission of ameliorating the sufferings of the consumptive poor, of whom truly we have many always with us.

W. A. Y.

Is Dr. Osler, of Baltimore, Going to Edinburgh?—There is a report that Dr. Osler is to be offered the chair of Medicine in

Edinburgh University, to succeed Professor Grainger Stewart, deceased. Should he go, America will lose one of its brightest minds, and medical research its greatest luminary.

Dr. Roddick's Bill on Interprovincial Medical License.—*Le Bulletin Medical de Quebec,* which has been offering an energetic opposition to Dr. Roddick's bill, announces that it will be kept before the House this session for discussion only, with the understanding that it will be introduced next year. The bill, in its modified form, will be reprinted and distributed to all members of the profession.

Treatment of Abscess of the Liver.—Dr. Championiere reports to the Surgical Society of Paris a case in the practice of Dr. Muselier, in which an incision made into the patient's liver caused the evacuation of two litres of pus. Although this kind of pus is ordinarily sterile, he takes great care to prevent it from escaping into the peritoneum. To gain this end he introduces a few sutures at the seat of puncture, before incising the orifice of the wound made by the exploratory trocar. He also thinks the thermo-cautery preferable to the bistoury for incising the liver, as the resulting hemorrhage is thus reduced to a minimum.

Treatment of Fracture of the Neck of the Femur by "Nailing."—In *Nordiskt Medinskt Arkiv,* Dr. Julius Nicolaysen thus describes his method of treating fractures of the neck of the femur: After reducing the fracture, the bone is fixed in its normal position by means of a steel nail of a triangular shape, and about 4 3-4 inches in length, after which an immovable plaster bandage is applied and allowed to remain in position during ten or twelve weeks—the nail is removed after two or three weeks. The results of the operation have been quite satisfactory. The real shortening has been reduced on an average to 1 1-2 inches. The apparent shortening (dependent on adduction) disappears. This treatment was chiefly applied to non-impacted fractures; but in some cases of impacted fracture, in which the shortening was considerable, it was used with very good results. The immediate effect of "nailing" is to produce a complete cessation of pain. In the greater number of cases anesthetics were not used. Eight men and thirteen women were treated by this method.

Influence of Race on the Variations of Memory.—Mr. Colegrave, an American psychologist, proposes the following questions: "Given a white, an Indian, or a negro, a man or a woman, which has the longest memory? Do we remember more perfectly pleasant or sad events? What school happenings are graven on the memory most easily and for the longest time?" Mr. Colegrave prepared a list of fourteen questions, which were submitted to human beings of every race, every age, and of both sexes. The replies received give the following results: Human beings remember pleasant events better than sad ones. The negroes form the only exception to this rule. The descendants of Ham write their joys on sand and their misfortunes on marble. Their ideas appear to be essentially of the same color as their skin. Uncle Tom is the arch type of the pessimist. Mr. Colegrave has discovered among whites, blacks and Indians, both men and women who have preserved the recollection of events which occurred in the first year of their existence. A strange observation is, that of the 1,658 persons who have recorded their impressions, a large majority have the clearest recollection of their eighteenth year. The subjects connected with an educational course which old scholars recollect best are history, geometry, French, German, and a thrashing, in the order named.

Crime in Italy.—We notice in *Debats* the following "Statistics of Crime in Italy": Crime appears to prevail extensively in Italy. From 1890 to 1895, 624,127 men and 129,158 women were condemned to different penalties by the tribunals of King Humbert. Each sex shows its activity in particular directions, and confines itself to particular crimes. Thus infanticide and desertion of children are peculiarly feminine crimes. Of 100 infanticides, only eight having been committed by men. Defamation of character is common to both sexes, who practise it in about equal proportion. Robbery is principally done by men, 100 men having been convicted of simple theft, to twenty-four women. The number of women is still less in cases of commercial fraud. The number of women is extremely small in assassinations, quarrels and assaults of all kinds. Feminine mildness holds these crimes in horror, but prefers poison. Out of 100 cases of poisoning, seventy were committed by women. These Borgia crimes flour-

ish principally in the peninsular part of Italy. In the Abruzzi mountains, out of 100,000 women, 554 are annually condemned by the courts for the crime of poisoning; in Campagna, the Basilicate, and Calabria, about 400. But the number of culprits decreases progressively toward the north: 372 in Romagna, 99 in Tuscany, only 70 in Lombardy. The honesty of Italian women is influenced by latitude, with the exception of the women of Venice. The latter come before the courts much more frequently than their distance from the equator would induce one to suppose. But it appears that the crimes of which they are accused are principally small thefts of the products of the field and the forest, in which many of them are engaged in working.

Behavior of Diphtheria Toxin, as influenced by the Condition of the Organism.—F. Volagussa and Raneletti (*Annali d'igiene Sperimentale*, 1899, No. 1, p. 118) state, that the principal factors in creating a predisposition to diphtheria are: food poor in quality and insufficient in quantity, muscular fatigue, overcrowding, dampness, darkness and bad ventilation, all of which are closely connected with poverty. When animals, which have been subjected to the action of any one of these conditions, receive an injection of diphtheria toxin, they show less resistance than the control animals which are well kept; they die sooner and present greater *post-mortem* lesions. The prolonged use of alcohol and coffee, the injection of filtered cultures of saprophytic or pathogenic germs (streptococcus, staphylococcus) make the guinea-pigs more sensitive to the diphtheria toxin. The Lœffler bacillus, when living in a symbiosis along with the streptococcus and the staphylococcus, makes a toxin of greater strength than a pure Lœffler toxin. The living cultures of streptococci and staphylococci, inoculated in a non-lethal dose along with the diphtheria toxin, produce a fatal septicemia. Experiments therefore go to show, that the individual and social causes, which produce intense poisoning in diphtheria, are the same as those which are active in infectious diseases generally.

The Physician's Library.

BOOK REVIEWS.

Chirurgie du Foie et des Voies Biliaires. Par J. PANTALONI (de Marseille). Avec 348 figures dans le texte. Paris: Institut de Bibliographie Scientifique, 93, Boulevard Saint-Germain. 1899.

This somewhat elaborate volume of 564 pages is devoted to the operative surgery of the liver and bile-ducts. The author recognizes that those who have preceded him in writing upon the surgery of these organs, have devoted considerable attention to the pathology of the various affections met with; this volume, however, deals exclusively with operative procedures, and an attempt is made to describe in detail the technique of each operation. The work is written in a very systematic fashion, a chapter is devoted to each operation: the operation is defined, then an historical account given of it. If there are different methods of performing an operation these "*variétés*" are classified, then the operative technique is detailed *in extenso*. Each chapter is rendered the more valuable by adding a paragraph on the indications for the operation. The volume is profusely illustrated with excellent diagrams.

The work is divided into four parts:

1. Operations upon the liver itself.

2. Operations upon the annexes of the liver (suspensory ligaments, etc.) and upon the blood vessels of the liver.

3, 4. Operations upon the bile-ducts and gall-bladder. These are grouped: (*a*) Operations on the gall-bladder. (*b*) Operations on the cystic duct. (*c*) Operations on the common bile-duct. (*d*) Operations on the hepatic duct. (*e*) Operations on the intra-hepatic bile-ducts.

The first chapter is devoted to puncture of the liver either as a method of diagnosis or to effect a cure. The author describes a number of methods of puncture with or without drainage, and adds an interesting paragraph on "indications," in which he discusses practically the question regarding the advisability of the employment of this method of treatment. By extensive reference to the literature of recorded cases he shows that the method is useful as an aid to diagnosis in fluid tumors when the operation is done with strict asepsis and with a proper instrument, the operation being distinctly contra-indicated in malignant disease, and in traumatism, the danger being here that of causing fatal hemorrhage. As a curative agent numerous cases are recorded of thus curing hepatic hydatid cysts, but numerous accidents, too, are mentioned, and the operation is abandoned for more efficient methods, as it is also in abscess of the liver. An impressive commentary on the dangers of punctures is given in the reproduction of a diagram from Doyen, showing how one might readily transfix the gall-bladder or the colon in the endeavor to reach a large cyst of the liver.

The chapter on "Laparotomie parahepatique" is one of the most important in the book, dealing with the all-important questions of the best means of approaching the seat of trouble and of treating the abdominal wound, with or without drainage, subsequently. Pantaloni throughout insists on asepsis as the great secret of successful operation. He describes three routes for liver exploration, (1) the abdominal, (2) the transpleural, (3) the lumbar. In the abdominal method he recommends the oblique incision parallel to the lower

costal margin as the incision *par excellence*. Vertical incisions are also discussed. In the transpleural method six centimetres of two or three ribs (8th, 9th and 10th) are resected. The incision is carried through the pleura to the diaphragm, and subsequently the edges of the incision through the diaphragm, and the two cut margins of the pleural layers are sutured together. The pleural cavity is thus closed off and the liver exposed in the bottom of the wound. Defontaine is the great exponent of this method and has perfected the technique of operation. In the lumbar operation the incision is similar to that made for exploring the kidney.

For drainage the author describes and figures the rigid tubes of glass or metal, perforated laterally by holes and passing through them a rope of wick. This he believes to be a most efficient drain. Laparotomy in traumatism is dealt with in a special manner.

"Tamponnement parahepatique," as the author states, forms a veritable operation, as it is so frequently called for in hemorrhage which cannot otherwise be controlled; sterilized gauze is used for the purpose, or iodoform gauze. Methods of curetting the abscess cavities and of suturing the liver substance are detailed; the chapter on the various ingenious methods of suturing the friable and vascular liver substance is of special value. The author then proceeds to describe the methods of dealing with cysts and abscesses, and in sixty pages gives a most valuable account of the different methods employed under the main headings of Hepatotomie and Hepatostomie. The various means adopted for incision and drainage are described with or without fixation of the liver to the wall of the abdomen. The chapter on partial hepatectomy contains interesting accounts of what has been accomplished in that field of surgery. The first part of the work closes with an account of the comparatively new procedure of partial and total hepatopexie. In partial fixation, *i.e.*, fixation of a "floating lobe," of the liver to the wall of the abdomen, the first operation was performed by Billroth in 1884. Total hepatopexie was first attempted in France by Marchant, of Paris, in 1891, and more than twenty cases have been reported since. The procedure may be a comparatively simple one in which the liver is scarified over a definite area and this fixed by suture to the chondrocostal margin and the abdominal wall, or this may be done with, in addition, a resection of portion of the abdominal wall (laparectomie).

In the second part of the work the author deals with operations upon the annexes of the liver, including operation upon aneurism of the hepatic artery. The operation of "Phlébotomie hépatique" is described, and Howard Kelly is credited with the first operation carried out in cases of hypertrophic cirrhosis of the liver with ascites. He drew off as much as 20 ounces of blood at a time by puncturing the hepatic veins. The operation of extirpation of lymphatic glands from the hilus of the liver in tuberculosis, etc., is also described. Resection of the falciform ligament is an operation noted as of value in certain cases of prolapse of the liver.

The third part of the work is perhaps the most interesting, dealing with the operations upon the gall-bladder and the bile-ducts, but this review is already so long that one must not extend it further. Various methods of exposing these structures and of carrying out systematic examination of them are detailed in an elaborate fashion, the author's description being made very clear by excellent diagrams. The various operations for gall-stones are here described, and the author has succeeded in presenting a most valuable account of the methods which may be adopted in all possible conditions which present themselves in this fascinating field of surgery. Some 350 pages are devoted to this section of the work.

We consider this work on the operative surgery of the liver and bile-ducts the most valuable monograph existing on the subject. It will prove of great value to the surgeon who is working in this particular field, and presents a vivid picture of the great advances made in surgical technique within the last few years. The whole of this extensive volume is, in fact, devoted to an elaborate description of modern surgical methods applied in the treatment of a region of the body which has only of recent years been, to any great extent,

rendered accessible to the surgeon. The descriptions of operative technique are complete and clearly stated, whilst the historical accounts of the various procedures are of interest and of great value in demonstrating the lines along which such degree of perfection as exists in our present methods has been attained A. P.

Diseases of the Nose and Throat. By J. PRICE-BROWN, M.B., L.R.C.P.E.; Member of the College of Physicians and Surgeons of Ontario; Laryngologist to the Toronto Western Hospital; Laryngologist to the Protestant Orphans' Home; Fellow of the American Laryngological, Rhinological and Otological Society; Member of the British Medical Association, the Pan-American Medical Congress, the Canadian Medical Association, the Ontario Medical Association, etc., etc. Illustrated with 159 engravings, including 6 full-page colored plates and 9 colored cuts in the text, many of them original. Philadelphia, New York, Chicago: F. A. Davis Company. 1900.

It may appear presumptuous for a general practitioner to review the work of a laryngologist; but our excuse must be that Dr. Price-Brown has written for the benefit and instruction of the general practitioner. Furthermore, as he is a man, who, since his student days, has been remarkable for industry and devotion to study, it is pleasing to his friends, among whom we claim a place, to see, in his maiden effort, how strong and well-cut a stone he has placed on the rising edifice of Canadian medical authorship.

Under the category of diseases of the respiratory system many works on the practice of medicine treat of acute and chronic rhinitis. The use of reflected light, the head mirror, rhinal mirror and a suitable speculum enable a practitioner to obtain accurate notions of the pathological conditions present in such cases, and to apply appropriate treatment, instead of following a less rational course founded on certain signs and the subjective symptoms of the patient. A similar observation applies to the diagnosis of acute and chronic laryngitis, edema of the glottis, etc.

If general practitioners were to accustom themselves to the use of suitable instruments in diagnosing diseases of the nose and throat they would certainly have more accurate ideas of their pathology, and, after considerable practice, would acquire the needed dexterity in applying local treatment to them.

In city practice, owing to the number of professional men engaged in nose and throat work, this is probably unnecessary; in the rural districts, however, a practitioner could with advantage to himself and relief to his patients devote time to the use of the necessary instruments, and to him this work should be most useful. It is also reasonable to think that physicians, more particularly those practising in country districts, should be prepared to practise intubation as well as perform tracheotomy. These operations, as well as the necessary instruments, are fully described in this work. The description of the various rhinal, pharyngeal and laryngeal diseases is given in a lucid and attractive style We are also of the opinion that this work would be very useful to students in the final year.

The use of the metric system in the formulæ is a step in the right direction, though, for the benefit of those unfamiliar with it, a translation into the present system of prescription-writing is also supplied.

Operations for nasal deformities and operations for cleft palate are described in the last two chapters.

The work is handsomely printed and deserves a large sale. J. J. C.

Text-Book of Medical and Surgical Gynecology. For the use of Students and Practitioners. By R. W. GARRETT, M.A., M.D., Professor of Obstetrics and Gynecology in the Medical Faculty, Queen's University, Kingston; Gynecologist to the Kingston General Hospital. R. Uglow & Co., Kingston, Ont.

This excellent little work more than fulfils the somewhat unpretentious claim made by the author, as an uncumbersome yet efficiently comprehensive

text-book for students and general practitioners. It takes up the entire field of gynecology and diseases of women, from a succinct yet quite complete description of the development of the female genitals to a proper consideration of the various affections of the mammary gland. The chapter on the anatomy of the pelvis and female organs of generation is clear and notes all important points. His gynecological technique is quite modern, and describes the most recent and advanced details for the necessary preparation of successful operative gynecology. Several methods of sterilizing catgut are given, but no mention is made of that prepared by Vanhorn & Co., of New York, used in many of the hospitals of that city, and which bacteriological tests have invariably proved sterile, which is put up conveniently for use, not expensive, and saves the busy general practitioner much labor in attempting to properly sterilize it. In the excellent chapter on post-operative treatment no mention is made of Clarke's postural method, which is one of the most valuable additions of recent years to the after treatment of laparotomy. The gynecological therapeutics, not only in the special chapter devoted to that subject, but throughout the book, could not be excelled, and will be found invaluable to the general practitioner.

The descriptions of the various operative procedures advised are lucidly given and usually the best and most successful methods only described, showing the author to be not only a successful teacher but a practitioner of large experience, who is practically familiar with the most recent and progressive surgical means of treatment. Kelly's successful and rapid method, however, of removing fibroids of the uterus is not referred to, nor is any mention made of Kelly's operation for complete repair of the perineum, although the methods described are good.

The work reflects great credit, not only upon the author himself, but also upon the old and respected school of medicine of which he is a most worthy representative. Evidently gynecology is taught scientifically and exhaustively at Queen's, as the work is apparently an extended compilation of the author's lectures and demonstrations. The book is profusely illustrated, which materially elucidates the text, and the author is deserving of the highest praise for the manner in which the various subjects have been presented.

As a text-book for students it will be found a model work, clear, comprehensive and sufficiently exhaustive, whilst general practitioners will find it a most readable, useful and practical work. G. T. M'K.

Venereal Diseases: Their Complications and Sequelæ. By EDWARD L. KEYES, A.M., M.D., late Professor of Dermatology and Genito-Urinary Surgery in Bellevue Hospital Medical College; Consulting Surgeon to Bellevue Hospital, etc., etc.; and CHAS. H. CHETWOOD, M.D., Professor of Genito-Urinary Surgery in the New York Polyclinic College and Hospital; Visiting Surgeon to Bellevue Hospital, etc. Illustrated by eight full-page plates in black and colors and 107 engravings. New York: Wm. Wood & Co 1900.

This work is the outcome of the combined wide experience of Dr. E. L. Keyes, who nearly a quarter of a century ago wrote a somewhat similar book, and Dr. C. H. Chetwood, who, though younger than his partner, has given a great deal of attention to Urethral Surgery. The book is divided into two parts, the first dealing with acute and chronic urethritis, with their complications and sequelæ, the second with chancroid and syphilis. Dr. Pearce Bayley, Neurologist at St. Luke's Hospital, New York, has contributed a most interesting chapter on Nervous Syphilis. The section on syphilis by Dr. Keyes carries out the same ideas and teachings as were conveyed in the author's book of a good many years ago, laying principal stress upon that treatment of the disease by the prolonged and yet mild use of mercury, the drug being administered in such a way as not to salivate the patient, or prove at all noxious, but at the same time conquer the malady. A chapter which afforded us considerable interest in reading was that on stricture of the urethra, covering fifty pages and freely illustrated. The author does not particularly favor rapid dilatation as adopted by Tuttle, Oberländer and Kollman. He considers it too

rough, and that a great objection to it is that it exercises its extreme distention on a large portion of the urethra not included in the stricture. He thinks that rapid dilatation is but a compromise measure between the mild and slower means of progress in dilatation and the rapid immediate means of divulsion. Internal urethrotomy seems to meet with the greatest favor for the treatment of strictures, at least those far forward in the urethra. We think that Keyes and Chetwood's work will meet with considerable favor. W. A. Y.

International Clinics: On Medicine, Neurology, Surgery, Gynecology, Obstetrics, Ophthalmology, Laryngology, Pharyngology, Rhinology, Otology, and Dermatology, and specially prepared articles on treatment and drugs. Edited by JUDSON DOLAND, M.D. Vol. IV. Ninth Series, 1900. Philadelphia: J. B. Lippincott Company. Canadian Agent: Charles Roberts, Montreal.

In Volume IV. there are so many able articles that one hardly knows where to begin to discuss the more important ones. That by Sir Dyce Duckworth on "Morbid Proclivities or Diatheses" is good. Not only is it instructive in itself but it sets one thinking, a secret that but a few writers have learned. The article on "The Heart in Chronic Interstitial Nephritis," by Dr. Arthur H. Elliott, is well worth perusing. It calls attention to some facts that are too often lost sight of, and gives some useful hints as to the general hygiene of the patient. An article on "The Treatment of Acute Conjunctivitis," by Dr. Jackson, is rather too flippant in style to carry much weight, though there are some points in it of practical value. Dr. Ludwig Hekbaen contributes a valuable article on "The General Etiology of Actinomycosis." "Some of the Technical Points for Abdominal Section," by Chauncy D. Palmer, is a well-written article, founded on personal experience, and contains nothing that can be interpreted as dangerous practice, though the same may hardly be said of the article following it.

While the present volume contains much that is useful, it is hardly as full of practical information as some of the former volumes. F. N. G. S.

A Pocket Medical Dictionary, giving the pronunciation and definition of the principal words used in medicine and the collateral sciences, including very complete tables of clinical, eponymic terms, of the arteries, muscles, nerves, bacteria, bacilli, micrococci, spirilla and thermometric scales, and a dose list of drugs and their preparations, in both the English and metric systems of weights and measures. By GEO. M. GOULD, A.M., M.D., author of "The Illustrated Medical Dictionary" and "The Student's Medical Dictionary;" editor of the *Philadelphia Medical Journal*; President, 1893-94, American Academy of Medicine. Fourth edition revised and enlarged, 30,000 words. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1900.

To get 30,000 words into so small a space, and give in addition their pronunciation and exact meaning, the whole forming a pocket dictionary selling at one dollar, is a triumph of the publisher's art. The fourth edition of Dr. Gould's "Pocket Medical Dictionary" is *a daisy*, and should be on the desk of every practitioner.

Letter-, Word-, and Mind- Blindness. By JAMES HINSHELWOOD, M.A., M.D. London: H. K. Lewis, 88 pp., cr. 8vo. Price, three shillings.

"We are apt to forget that we see with our brains as well as with our eyes," says Dr. Hinshelwood. This is the keynote to his booklet. Memory is not an entity. We seem to possess a visual memory, an auditory memory, as well as memory for form, color, taste, muscular movement and so on. These forms of memory are no doubt intimately connected yet each is independent of the other, for any one may be completely lost, or may be abnormally developed, without any corresponding change in the others. The mathematical prodigy in whom the visual memory for figures is developed abnormally without a corresponding development for words is an example. More interesting to the physician are

those rare cases where one form of memory is lost, as in cases where the man can read figures correctly but is unable to recognize printed words.

The book can be recommended as most readable and interesting, bringing the literature of the subject up to date. J. M. M.

The Nervous System of the Child, its Growth and Health in Education. By FRANCIS WARNER, M.D. (Lond.), F.R.C.P., F.R.C.S. (Eng.), Physician to and Lecturer at the London Hospital, etc.; author of "The Study of Children and their School Training," etc. New York: The Macmillan Co.; London: Macmillan & Co., Limited. 1900. Toronto Depot: Tyrrell's Book Shop, 8 King Street West.

This book is not a large one, consisting of but two hundred pages, but it contains some material which must interest the medical practitioner. The author holds that by far too little study has been devoted to children and their habits, and to the great problems concerning the relation of mind and body in the child, laying stress also upon the fact how important it is to know what to look at and what to look for in the child as facts to be studied and aids to sound conclusions. The book will be the means of disseminating facts which ought to be more widely known, and we recommend it to all of our readers.

General and Local Anesthesia. By AIME PAUL HEINECK. Chicago: G. P. Engelhard & Co. 1900.

This small work consists of chapters on (1) General Anesthesia, and (2) Local Anesthesia. The first is subdivided into considerations of such subjects as Anesthetics in Childbirth, Selection of Anesthetic, Nature of Operation, Preparation of Patient, Precautions, Respiration of Patient, Condition of Circulatory and of the Central Nervous System, Accidents, Vomiting after Anesthesia, Post-Anesthetic Paralysis. The section on Local Anesthesia is devoted to such as the Advantages of Local over General Anesthetics, the Method of Application, Anesthesia by Refrigeration, the use of Cocaine in various operations, Cocaine as a Therapeutic Agent, Precautions for Cocaine Anesthesia, Accidents in Cocaine Anesthesia, and closes with a few pages on Infiltration Anesthesia. The book contains some good practical points.

Dr. Berkeley's Discovery. By RICHARD SLEE and CORNELIA A. PRATT. New York: Putnam's.

"Uncanny as it seems, it's the very chivalry of science, the knight-errantry of Pathology." It is in these words that one of the characters of this story addresses Berkeley of the title. As one will suspect, therefore, the attempt has been here made to utilize medical science in a literary plot. The attempt is not altogether a new one. Hall Caine, Ian Maclaren, Tolstoi, and others, have, with technique more or less faulty, made medicine a feature of their stories; but with what success the present writers have ventured on the experiment must be left to the judgment of those physicians who have an inclination to and the leisure for books of this sort. E. H. S.

Mentally Deficient Children: Their Treatment and Training. By G. E. SHUTTLEWORTH, M.D. 200 pages. London: H. K. Lewis. 1900. 5s.

This is an admirable little volume upon a subject which has received but scant attention from alienists, and less, if any at all, from the public. The chapter upon the pathological classification of forms of mental deficiency presents this feature of the subject in a very clear and concise manner. Especially timely is such a book in Canada, where the present system of education seems unable to cope with the conditions described in the present volume. The chapters upon treatment are full of very useful hints which could be applied either by the physician in private practice or by parents when they choose to undertake the cure of their unfortunate offspring. A number of appendices containing a large mass of information will be found very useful for reference.

E. H. S.

La Peste et Son Microbe: Sérothérapie et Vaccination. Par le Dr. Netter, Professeur agrégé à la Faculté de Médecine de Paris, membre du Comité Consultatif d'Hygiène Publique de France. One volume in 8o couronne de 124 pages, avec 5 planches hors texte et 2 tracés en couleurs, cartonné à l'anglaise. Prix, 4 francs. Georges Carre et C. Naud, Editeurs, 3 rue Racine, Paris.

Every physician, particularly if he be devoted to public health, should read this book; for it contains the very latest information about the etiology, clinical history, prevention and treatment of the plague. The merits and demerits of Yersin's anti-plague serum and Hoffkine's anti-plague injections in the prevention and cure of this disease are fully described. J. J. C.

Consumption: Its Nature and Treatment. With a chapter on Bacteria and Antiseptics. By Wm. H. Spencer, M.A., M.D. (Cantab.), M.R.C.P. (Lond.), Consulting Physician to the Bristol Royal Infirmary; formerly Lecturer on the Principles and Practice of Medicine, and on Pathology, at University College, Bristol Medical School. London: Henry J. Glaisher, 57 Wigmore Street, Cavendish Square W. 1900.

This pamphlet of eighty pages is composed of six lectures as delivered by the author at Bristol Royal Infirmary, and gives in a short, succinct manner information regarding the White Plague and the precautions which should be used to prevent and check its progress.

The Year-Book of the Nose, Throat, and Ear. The Nose and Throat by G. P. Head, M.D.; The Ear, by Albert H. Andrews, M.D., of the Post-Graduate Medical School of Chicago. Chicago: Medical Book Co.

The literature on the Throat, Nose and Ear has become so extensive that it is practically impossible for the busy practitioner to keep abreast of it. What the "Medical Annual" and the "Year-Book of Medicine and Surgery" do for general medicine, this volume seeks to do for these special branches. A welcome addition to one's library, it will, no doubt, as the other annuals mentioned, become more valuable with each appearing volume. J. M. M.

Kit Kennedy—Country Boy. By S. R. Crockett. Toronto: William Briggs.

To be a Scotchman is to be interested in Crockett's description of rural life in Auld Scotia. Of course, his point of view seems limited, but his characters are quaint and almost natural, seen amid their "ain surroundings. In this, as in other of his stories, there is a villain standing out as black 'as he makes them,' and rather out of proportion to the other psalm-singing portion of the community. However, surely the majority of Crockett's readers will say 'Kit Kennedy' is his best story."

MAGAZINES RECEIVED.

The leading article of the March *Scribner* was H. J. Whigham's second article on the Boer War, this one dealing with the fights made by Lord Methuen's division in its progress from the Orange River to the Modder River. Mr. Whigham described three battles, and this is the first continued magazine account of that campaign to be published. His own photographs and his own maps make perfectly clear to the general reader what has heretofore appeared as merely fragments of news in the daily press. The strategy, as well as the adventure of the campaign, appear clearly in Mr. Whigham's writings.

The third "Cromwell," by Theodore Roosevelt, deals with the second Civil War and the death of the King. The chief battle described is Preston, and the most dramatic event is the death of the King. Governor Roosevelt makes an interesting comparison between the conditions prevailing at the end of the

English Civil War and those after the American Civil War when even the Republican party was divided. The author also points out how the religious element entered into everything done by Cromwell, "mixing curiously with his hard common-sense and practical appreciation of worldly benefits." The illustrations are on an elaborate scale, and represent some of the very best work of English and of American artists.

The recent numbers of *Scribner's* have had articles exhibiting new developments in photography (notably the articles by Mr. Elmendorf and Mr. Stieglitz). This number contains an article, "New York at Night," by James B. Carrington, showing what can be done with the camera in reproducing night scenes in a great city. The illustrations are chosen from a series of night photographs made during several years, and they represent those picturesque scenes, many of them taken on dark and rainy nights, which are familiar to all New Yorkers, but are here for the first time reproduced photographically. Mr. Carrington's letterpress gives a vivid impression of the same scenes.

The International Monthly for March was of exceptional interest. It contained an article on "Degeneration: A Study in Anthropology," by W. W. Ireland, of Edinburgh; another entitled "John Ruskin, as Economist," by Patrick Geddes, of Edinburgh; "Some Recent Balzac Literature," by W. P. Trent; "Henry Irving," by Clement Scott; and "The Southern Question," by E. P. Clark, of New York.

PAMPHLETS RECEIVED.

"The Test of Time and Experience." We have received a most interesting pamphlet from Mr. Fellows, 48 Vesey Street, New York, the manufacturer of the well-known Syrup Hypophosphite bearing his name. The pamphlet is worthy of perusal, showing as it does that, in spite of the battle and the breeze, his preparation occupies the vanguard in steady advancement.

LITERARY NOTE.

R. L. Polk & Co., Detroit, Mich., publishers of *Polk's Medical and Surgical Register* of the United States and Canada, request that all practising physicians notify them of removals, new-comers, deaths, physicians retiring from practice, new medical societies, hospitals, asylums, sanitariums and mineral springs in their vicinity. This information will materially aid in revising the *Medical and Surgical Register*.

A Medical Woman on the Corset.—Among the Paris theses for the year 1898-99 is one by Mme. Tylicka, entitled *Du corset, ses mefaits au point de vue hygienique et pathologique.* From a brief summary in the *Gazette hebdomadaire de Medecine et de Chirurgie* for March 26th, we learn that Mme. Tylicka lays stress upon the respiratory, circulatory, and digestive troubles that the corset produces in the long-run. She would do away with it entirely, and substitute a waistcoat of heavy linen adjusted to the stature, reaching only to the waist, buttoned in front, and fortified with two whalebones on each side to sustain the breasts.

Selected Articles.

THE NEW HIGHWAY TO THE ORIENT.

PROBABLY there is no journey, certainly none in Canada, which presents a greater diversity of scene than that of the Canadian transcontinental railway.

The voyage up the Great Lakes impresses one above all with the vastness of the great Dominion in which we live. In a couple of days one walks the deck of an ocean steamer out of sight of land —upon a Canadian lake!

Then comes a day in the wilderness. Interminable forests stretch away upon every side. Mountains which have not been named even, loom up in the distance; roaring cataracts and great silent rivers come pouring down from the regions of the unknown; solitary lakes without number shine upon every side, with no sign of life or habitation upon their lonely shores.

Then come the plains. Level, without a tree, unbroken by hill or valley, the prairies with their untrampled verdure stretch away for a thousand miles.

A couple of days the Pacific Overland Express thunders westward, when at last the plains gradually break into vast undulations like a gigantic tidal swell, and then in the west one beholds the foothills of the Rocky Mountains, whose peaks in the pellucid western air are clearly discernible, hours before even the first outworks are approached.

Hidden in the midst of the silent mountains, whose snowy ramparts of glimmering pearl rise into the upper sky upon every side, Banff, like some enchanted stronghold of mediæval legend, lies deep in the warm and sunny valley.

The marvels of this mountain scenery have so often been described that more need not be attempted here. The climate is Alpine, and has an atmosphere of such ethereal clearness, freshness and purity as at times to transport the visitor into an almost supernatural region. For the convenience of tourists and invalids there is a beautiful hotel, located conveniently to the Hot Springs, in the midst of splendid scenery, fitted up with all modern conveniences and open from May to October. In addition, there is the mountain sanitarium near by, under expert medical supervision. The springs are strongly sulphurized, and have been

supplied with bathing houses and attendants under the care of the Government. The effect of this climate and these hot springs on rheumatic affections and diseases of nutrition have now for years been favorably proven by hundreds of invalids, and medical men know full well also that the air and climatic surroundings of Banff are such as to be of great value to sufferers from hay fever, asthma, and like diseases.

The character of the water of these springs is gathered from the following analysis of a gallon, or 70,000 parts, with a temperature of 123 degrees Fahr.:

Chlorine (in chlorides)	0.42 grains.
Sulphuric Acid (SO_3)	38.50 "
Silica (SiO_2)	2.31 "
Lime (CaO)	24.85 "
Magnesia (MgO)	4.87 "
Alkalies (as Soda, NaO_2)	0.62 "
Lithium	A decided trace.

In and around here the gigantic architecture of nature, like some fabric raised at the beginning of all time by the hands of the Titans, greets the eye upon every side, and ever changing, ever new, fills the soul with a feeling of awe not unmixed with exultation.

Thirty-four miles west of Banff is Laggan, the station for the "Lakes in the Clouds." We must not fail to visit these lakes, which are of singular beauty, and are situated one above the other among the mountains, within easy reach of the station. On the margin of Lake Louise, the first reached, is a picturesque little chalet for tourists, and from here radiate easy paths to the Upper Lakes—Mirror and Agnes—and the aptly-named Paradise Valley and other picturesque spots. Two hours from Banff our train stops at a little station, and we are told that this is the summit of the Rocky Mountains, just a mile above the sea; but it is the summit only in an engineering sense, for the mountains still lift their white heads five thousand to seven thousand feet above us, and stretch away to the north-west and south-east like a great back-bone, as indeed they are—"the back-bone of the Continent."

Two little streams begin here from a common source. The waters of one find their way down to the Saskatchewan and into Hudson Bay, and the other joins the flood which the Columbia pours into the Pacific Ocean. Passing down the Wapta or Kicking-Horse Pass, ten miles below the summit we round the base of Mount Stephen, a stupendous mountain rising directly from the railway to a height of more than eight thousand feet, holding on one of its shoulders, and almost over our heads, a glacier whose shining green ice, five hundred feet thick, is slowly crowded over a sheer precipice of dizzy height and crushed to atoms below.

MOUNT STEPHEN, FIELD, B.C.

BANFF HOTEL AND CANADIAN NATIONAL PARK.

From the railway, clinging to the mountain-side, we look down upon the river valley which, suddenly widening here, holds between the dark pine-clad mountains a mirror-like sheet of water, reflecting with startling fidelity each peak and precipice.

Still following the river, now crossing deep ravines, now piercing projecting rocky spurs, now quietly gliding through level park-like expanses of greensward, with beautiful trees, pretty lakelets and babbling brooks, with here and there a saw-mill, a slate-quarry or some other new industry, we soon enter a tremendous gorge, whose frowning walls, thousands of feet high, seem to overhang the boiling stream which frets and roars at their base, and this we follow for miles, half shut in from the daylight.

Two hours from the summit, and three thousand feet below it, the gorge suddenly expands, and we see before us high up against the sky a jagged line of snowy peaks of new forms and colors. A wide, deep, forest-covered valley intervenes, holding a broad and rapid river. This is the Columbia. The new mountains before us are the Selkirks, and we have now crossed the Rockies. Sweeping around into the Columbia Valley, we have a glorious mountain view. To the north and south, as far as the eye can reach, we have the Rockies on the one hand and the Selkirks on the other, widely differing in aspect, but each indescribably grand. Both rise from the river in a succession of tree-clad benches, and soon leaving the trees behind, shoot upward to the regions of perpetual snow and ice. The railway turns down the Columbia, following one of the river benches through gigantic trees for twenty miles to Donald, where, crossing the Columbia, and following it down through a great canyon, through tunnels and deep rock-cuttings, we shortly enter the Beaver Valley and commence the ascent of the Selkirks, and then for twenty miles we climb along the mountain sides, through dense forests of enormous trees, until, near the summit, we find ourselves in the midst of a wonderful group of peaks of fantastic shapes and many colors. At the summit itself, four thousand five hundred feet above tide-water, is a natural resting-place—a broad level area surrounded by mountain monarchs, all of them in the deadly embrace of glaciers. Strange, under this warm summer's sky, to see this battle going on between rocks and ice—a battle begun æons ago and to continue for æons to come! To the north, and so near us that we imagine we hear the cracking of the ice, is a great glacier whose clear green fissures we can plainly see. To the south is another, vastly larger, by the side of which the greatest of those of the Alps would be insignificant. Smaller glaciers find lodgement on all the mountain benches and slopes, whence innumerable sparkling cascades of ice-water come leaping down.

Passing westward, the air grows balmy with the breath of the

Pacific, whose tidal-waters are soon approached. Far away at the south-east, Mount Baker looms up all white and serene. At the north, and rising directly from the sea, is a beautiful group of the Cascade Mountains, bathed in a violet light and vividly reflected in the glassy waters of the inlet. Looking toward the west, out over English Bay and the Straits of Georgia, we see the dark blue mountains of Vancouver Island, and at the south-west, beyond the broad delta of the Fraser River, is the Olympic Range —a long line of opalescent peaks fading into the distance. At our feet is a busy scene. The city of Vancouver is new indeed; only one or two of its many buildings were here seven years ago— a forest stood here then. The men who built the town could not

GLACIER STATION AND HERMIT RANGE, B.C.

wait for bricks and mortar, and all the earlier houses were built of wood; but fire swept all of these away, and solid, handsome structures of brick and granite took their place. Down at the water's edge are long wharves where steamships from China and Japan, Australia, New Zealand, Hawaiian and Fijian Islands, from California, Puget Sound and Alaska, are discharging or taking in cargoes; and at the warehouses along the wharves are lines of railway cars loading for the Atlantic sea-board with teas, sugar, silk, seal-skins, fish, fruit and many other commodities. Here and there all around the inlet are great saw-mills, where steamships and sailing vessels are taking in timber and deals for China and Australia, South America, South Africa, and for Eng-

land. The great white steamship that catches the eye first among all the shipping in the harbor is one of the three swift and magnificent twin-screw steamships that have been placed on the route between Vancouver and Japan and China, by the Canadian Pacific Railway Company, the like of which has never been seen in Pacific waters—great steel steamships like the best of the Atlantic Liners, but more perfect and luxurious in their appointments. Think of it. We are within ten days of Yokohama—of wonderful Japan! Near by is another fine steamship of the first class; one of the new line to Honolulu (Hawaii), and Brisbane, and Sydney, Australia. And over against Vancouver Island are other columns of smoke, indicating the great coal mines from which nearly all the steamships of the Pacific are supplied.

Northward for twelve hundred miles through the Gulf of Georgia and the wonderful fiords of Alaska, where the mountains are embraced in a thousand arms of the sea, ply numerous steamers, crowded with tourists and with gold-seekers bound for the great mining regions of the far north. Southwestward the Straits of Fuca lead out past the entrance to Puget Sound, and past the city of Victoria to the open Pacific. All these waters, from Puget Sound to Alaska, hardly known a few years ago, are now dotted with all kinds of craft from the largest to the smallest, engaged in all manner of trade.

Something of interest always to physicians is the subject of climate. As to the Pacific Coast climate, Canada has the best example of an "Island climate" as known to Englishmen. Extremes of temperature, and especially of daily extremes, are almost unknown. This applies to all the islands and the coast line from Puget Sound northward through the Gulf of Georgia to Queen Charlotte Island, even to the 54th parallel. In all this country the fruits of temperate climates grow well, and farm animals live outdoors the year round. The rich bottoms of the Fraser delta have long been famous for their great hay crops and pasture lands; but here the extreme of rainfall is met, the mean for six years being 59.66 inches at New Westminster. The climate of the great Island of Vancouver, running north-west across two degrees of longitude and two degrees of latitude, presents every variety from that at the sea coast, with, as at Esquimalt, a very low daily range, and no annual extremes—the lowest temperature in two years being 8 degrees F., the lowest monthly average being 20 degrees F., and the highest in summer being 82 degrees F.—to that as above Alberni on the west coast, where the Vancouver range rises first into a plateau to 4,000 feet, and even to 7,500 feet in Victoria Peak.

By a comparison of Kamloops with Toronto we again see two climates, with almost the same annual mean, very different in the

important health elements of daily range and the number of rainy days. When the comparative low daily range, the very great number of days of bright sunshine and the high annual temperature, and especially the early advance of spring—as where the mean for March is 8 degrees higher for Kamloops as compared with Toronto—are noted, we see that in Kamloops we have a climate which possesses in a degree, probably not excelled in any climate in the world, the several elements which theory, as well as the experience of hundreds of persons, has proven to be of the greatest importance in the reconstruction of tissue and the rapid restoration to health of those persons suffering from consumption and other diseases due to defective nutrition. This country, described by a great Canadian statesman as a "sea of mountains," has golden treasures, not more for the adventurous spirits who delve deep into her granite mountain-sides, than for him who has wasted his energies in the gloomy counting-houses of some densely populated English city. To such a person, and to all continental readers, the comparison with the temperature of Birmingham, England, for 1896, must be of interest, as showing either that "Our Lady of the Snows" has transatlantic sisters, or that Canada, with her brighter skies, her drier and more stimulating air, may well lay claim to all the good qualities, and more, of climate, which all loyal Britons claim for their "Merrie England." Notably colder in November and December, Birmingham can claim to be milder than Victoria only in January and February, while the dry country of the inland plateau, with its eleven inches of annual rainfall, has a lower temperature only in January and February, with an atmosphere so dry and stimulating and a sunshine so bright that the snow is dry and fluffy and only serves to add a still greater purity to a climate which, like old wine, has been kept to the last to bestow its benefit upon mankind.

CHRONIC DYSPEPSIA SUCCESSFULLY TREATED WITH H_2O_2.

BY GEORGE A. GILBERT, M.D., DANBURY, CONN.

THE case herewith subjoined is one of interest on account of its typical character, its long-standing, and its speedy recovery on the adoption of a rational treatment.

Peter H., aged 40, Hungarian, farm laborer, applied for treatment at my office on July 1st, 1899. He was a strapping fellow, mostly skin and bones, of about 170 pounds weight, and would not have been thought ill except for the prominent dark rings

under his eyes, his injected conjunctivæ, and a drawn, hunted expression on his countenance, indicative of past trouble or imminent danger. The history he gave was somewhat as follows:

Six years previously, on his voyage to this country, he suffered from an attack of acute gastritis, attendant with retchings of the most violent character. Soon after landing he recovered sufficiently to attend to his work; but he says he has "never been the same man since." In all this long period he has not eaten "a good square meal," nor enjoyed what he has eaten, the burning pain in the epigastrium, after meals, becoming so great occasionally that for fear of its repetition he has gone without food for two or three days at a time. Belching of enormous quantities of gas, too, is common with him soon after eating, thus evidencing the presence of undigested food with its resultant fermentation. The patient states, that in order to get relief he has spent all of his wages upon various doctors, specialists, quacks, nostrums, etc., and swears that he is worse to-day than on the day he first landed in this country.

On examination it was found that he was slightly feverish, pulse rapid, tongue flabby and heavily coated, while the teeth and entire cavity of the mouth were covered with a foul-smelling sticky mucus. That the stomach received, in the process of starch digestion, little or no assistance from the salivary glands of the mouth was plainly apparent. In deciding on the mode of treatment it was obvious that lack of the usual amount of gastric secretion must be met by restoring the physiological conditions upon which the secretion depends. In other words, in order to relieve the inflammatory condition of the gastric mucous membrane and restore the function of the peptic glands, antiseptics were required. The patient therefore was furnished with a flask of Ozonized water, made of one part Hydrozone to four parts of water, and directed to wash out his mouth every night and morning, thoroughly cleansing the tongue, teeth and gums of the unhealthy mucus and any pathogenic germs it might contain. To destroy the microbic elements of fermentation in the stomach and dissolve the tenacious mucus there, a mixture of one ounce of Hydrozone with two quarts of sterilized water was made, and half a tumblerful directed to be taken half an hour before meals. Having thus procured a clean surface in the stomach, the patient was advised to take immediately after meals, a drachm of Glycozone, diluted in a wineglassful of water, for the purpose of enhancing cellular action and stimulating healthy granulations. Of course he was ordered to select his food with care and eat regularly.

The result of this simple procedure was magical. Although for the first two or three days there was some discomfort after

eating, this soon disappeared, and at the end of a fortnight the patient reported that for the first time in six years he was enabled to eat his meals without dread of subsequent distress and eructations of gas. (In the opinion of the writer the fermentation was thus quickly subdued by the active oxidation resulting from the liberation of nascent oxygen.) The treatment was continued in this manner for another month and then gradually abandoned. On September 1st the patient came to the office, expressed his eternal gratefulness, said that he weighed 185 pounds and believed himself to be completely cured.—*New Eng. Med. Monthly.*

MARK TWAIN ON CHRISTIAN SCIENCE.

THIS last summer, when I was on my way back to Vienna from the Appetite-Cure in the mountains, I fell over a cliff in the twilight and broke some arms, and legs, and one thing or another, and by good luck was found by some peasants who had lost an ass, and they carried me to the nearest habitation, which was one of those large, low, thatch-roofed farm-houses, with apartments in the garret for the family, and a cunning little porch under the deep gable decorated with boxes of bright-colored flowers and cats; on the ground floor a large and light sitting-room, separated from the milch-cattle apartment by a partition; and in the front yard rose stately and fine the wealth and pride of the house, the manure-pile.

There was a village a mile away, and a horse-doctor lived there, but there was no surgeon. It seemed a bad outlook; mine was distinctly a surgery case. Then it was remembered that a lady from Boston was summering in that village, and she was a Christian Science doctor, and could cure anything. So she was sent for. It was night by this time, and she could not conveniently come, but sent word that it was no matter, there was no hurry; she would give me "absent treatment" now, and come in the morning; meantime she begged me to make myself tranquil and comfortable, and remember that there was nothing the matter with me. . . .

It was a night of anguish, of course—at least, I supposed it was, for it had all the symptoms of it—but it passed at last, and the Christian Scientist came and I was glad. She was middle-aged, and large and bony, and erect, and had an austere face, a resolute jaw and a Roman beak, and was a widow in the third degree, and her name was Fuller. I was eager to get to business and find relief, but she was distressingly deliberate. She unpinned, and unhooked, and uncoupled her upholsteries one by one, abolished the wrinkles with a flirt of her hand, and hung the articles up; peeled off her gloves and disposed of them, got a book out of her hand-bag, then drew a chair to the bed-side, descended into it

without hurry, and I hung out my tongue. She said, with pity but without passion:

"Return it to its receptacle. We deal with the mind only, not with its dumb servants."

I could not offer my pulse, because the connection was broken; but she detected the apology before I could word it, and indicated by a negative tilt of her head that the pulse was another dumb servant that she had no use for. Then I thought I would tell her my symptoms and how I felt, so that she would understand the case; but that was another inconsequence. She did not need to know those things; moreover, my remark about how I felt was an abuse of language, a misapplication of terms—

"One does not *feel*," she explained; "there is no such thing as feeling; therefore, to speak of a non-existent thing as existent is a contradiction. Matter has no existence; nothing exists but mind; the mind cannot feel pain, it can only imagine it." . . .

"I am full of imaginary tortures," I said, "but I do not think I could be any more uncomfortable if they were real ones. What must I do to get rid of them?"

"There is no occasion to get rid of them, since they do not exist. They are illusions propagated by matter, and matter has no existence; there is no such thing as matter." . . . In her compassion she almost smiled. She would have smiled if there were any such thing as a smile.

"It is quite simple," she said; "the fundamental propositions of Christian Science explain it, and they are summarized in the four following self-evident propositions: 1. God is All in all. 2. God is good. God is mind. 3. God, Spirit, being all, nothing is matter. 4. Life, God, omnipotent Good, deny death, evil, sin, disease. There—now you see."

It seemed nebulous; it did not seem to say anything about the difficulty in hand—how non-existent matter can propagate illusions. I said with some hesitancy:

"Does—does it explain?"

"*Doesn't* it? Even if read backward it will do it."

With a budding hope, I asked her to do it backward.

"Very well. Disease sin evil death deny Good omnipotent God life matter is nothing all being Spirit God mind is God good is God all in All is God. There—do you understand now?"

"It—it—well, it is plainer than it was before; still—"

"Well?"

"Could you try it some more ways?"

"As many as you like; it always means the same. Interchanged in any way you please it cannot be made to mean anything different from what it means when put in any other way. Because it is perfect. You can jumble it all up, and it makes no difference; it always comes out the way it was before. It was a marvellous mind that produced it. As a mental *tour de force* it is without a mate; it defies alike the simple, the concrete and the occult." . . .

Under the powerful influence of the near treatment and the absent treatment together, my bones were gradually retreating inward and disappearing from view. The good work took a brisk start now, and went on quite swiftly. My body was diligently straining and stretching, this way and that, to accommodate the processes of restoration, and every minute or two I heard a dull click inside, and knew that the two ends of a fracture had been successfully joined. This muffled clicking, and gritting, and grinding, and rasping continued during the next three hours, and then stopped—the connections had all been made. All except dislocations: there were only seven of these: hips, shoulders, knees neck; so that was soon over; one after another they slipped into their sockets with a sound like pulling a distant cork, and I jumped up as good as new, as to frame-work, and sent for the horse-doctor.

I was obliged to do this because I had a stomachache and a cold in the head, and I was not willing to trust these things any longer in the hands of a woman whom I did not know, and in whose ability to successfully treat mere disease I had lost all confidence. My position was justified by the fact that the cold and the ache had been in her charge from the first, along with the fractures, but had experienced not a shade of relief; and, indeed, the ache was even growing worse and worse, and more and more bitter now, probably on account of the protracted abstention from food and drink. . . .

The Christian Scientist was not able to cure my stomachache and my cold; but the horse-doctor did it. This convinces me that Christian Science claims too much. In my opinion it ought to let diseases alone and confine itself to surgery. There it would have everything its own way. The horse-doctor charged me thirty kreutzers, and I paid him; in fact, I doubled it and gave him a shilling. Mrs. Fuller brought in an itemized bill for a crate of broken bones mended in two hundred and thirty-four places—one dollar per fracture.

"Nothing exists but mind?"

"Nothing," she answered. "All else is substanceless, all else is imaginary."

I gave her an imaginary check, and now she is suing me for substantial dollars. It looks inconsistent.—*Mark Twain in October Cosmopolitan*

DR. PETTYJOHN, OF ALMA, MICH., TO GO TO EUROPE FOR A YEAR'S REST AND STUDY.

Owing to the effect on the Doctor's health of exhausting, steady and continuous work at the Alma Sanitarium for the past seven years, and eighteen years in the practice of medicine (the anniversary of which the Doctor celebrated on February 22nd by a

dinner to the clergymen of the village and to his medical friends) with no vacation during this period, Dr. Pettyjohn has decided to relinquish his lease of the institution, and his medical practice, for a year's rest, travel, and study abroad. He will retain his interest in the Sanitarium and remain a member of the Board of Directors and Vice-President of the Company.

During the Doctor's medical management of the institution in these past years, having placed it on a highly scientific and medical basis, both to the satisfaction of the profession and the public, the reputation and patronage of the institution has gradually and constantly increased until it is now considered the foremost ethical, medical institution in this country, and Dr. Pettyjohn the FIRST sanitarium physician in America." Under the Doctor's direction a thoroughly scientific and complete system of hydrotherapeutics has been developed and maintained, with regular sets of treatment for gastric neurasthenia, liver troubles, rheumatism, nervous diseases, tonic and nutritive effects. A training-school has been established, and applications are made by experienced nurses under the physician's direction. The institution has so won the confidence of the profession that nearly every patient is referred to its care by the home physician, whose diagnosis is considered and whose interests are conserved.

During his stay abroad the Doctor will continue the study of sanitarium methods at Matlack Banks in England, Nauheim and Carlsbad, and also as "Commissioner to visit the hospitals of the insane in Germany, Austria and France," appointed by the Governor of the State of Michigan. The Doctor will attend the thirteenth International Medical Congress in Paris, being a member of this organization, where he will present a paper before the section of Internal Pathology. The Doctor intends studying in Berlin, Paris and Vienna, following the lines in which he has attained distinction, those of Internal Medicine and Neurology.

During the past few years the Doctor has written, and they have been given wide publicity through the medical journals, the following articles: "Rheumatism, its Pathology and Modern Treatment;" "Erb's Primary Muscular Atrophy" (illustrated); "Chronic Internal Cerebral Meningitis;" "Functional Gastric Diseases and their Treatment;" "The Differential Diagnosis of Neurasthenia and its Treatment;" "Constipation, Some of its Effects, and its Non-Medicinal Treatment;" "Sleeplessness, its Cause and Treatment;" "Diabetes and its Constitutional Treatment;" "The Profession of Nursing," etc.

The Doctor will combine the pleasure of travel with his rest and study, and be accompanied by his entire family. The trip will be by the north of Ireland, across Scotland, through the east of England, Abbotsford, Durham, York and London, thence to

Brussels and the Paris Exposition. He will go with the medical excursion, leaving June 30th by the Anchor Line on the *City of Rome*. The Doctor and family will then leave the party and travel in Switzerland, down the Rhine, and locate for the winter in Berlin, where Mrs. Pettyjohn will pursue her musical studies, and his son Wallace continue his illustrative art. The Doctor will be in Chicago during the greater portion of May in attendance on the Methodist General Conference, to which he is a delegate. His Chicago address will be The Stewart Building, 92 State St. While it is not yet definitely decided, it is the wish of the Doctor's many medical friends that he take the college professorship he has been offered and locate in Chicago in consultation practice in his specialty.

Dr. and Mrs. Pettyjohn will be greatly missed socially in this village, where their pleasant and sociable ways have made them a host of friends who will join us in the best of wishes for their future. Our loss will be others' gain, and we prophesy that, wherever they locate, friends will flock to them as they always do to those whose companionship is so agreeable.—*Alma Argus* (Mich.)

DIONIN: A NEW MORPHINE DERIVATIVE.

A NEW morphine derivative has recently been introduced to which the name "dionin" has been given. It is described by Ludwig Hesse (*Pharm. Centralh.*, XL., p. 5) as the hydrochlorate of morphine mono-ethyl ether, or ethyl-morphine, having the composition

$$C_2H_5O\atop HO>C_{17}H_{17}NOHCl\times H_2O.$$

It occurs as a white, somewhat bitter, micro-crystalline powder, which, under the microscope, is seen to consist of fine needles. It melts at 123 to 125 degrees C. and decomposes at the latter temperature. Dionin appears to be very serviceable, therapeutically, because it affords neutral solutions which may be advantageously employed subcutaneously. It is soluble in about seven parts of water, in about 1.4 parts of alcohol, and in about 20 parts of syrup; while it is insoluble in ether and in chloroform. It is precipitated from its solutions by most of the alkaloidal reagents. The pure base, morphine mono-ethyl ether or ethyl-morphine, is readily liberated by alkalies, and crystallizes from water also with one molecule of water of crystallization. It is quite insoluble in water, 1 part dissolving in 286 parts of the latter; it is very soluble, however, in alcohol, 100 parts of the latter dissolving 140 parts of the base. It is also easily soluble in ether, but

difficultly so in benzene, and is almost insoluble in benzin. Dionin has been employed by Dr. O. Schroder and by Dr. J. Korte (*Therap. Monatsh.*, XIII., p. 33) in a score or so of phthisical cases, and from the results obtained, the author believes that the preparation is of unquestionable value therapeutically. It appeared to be an excellent and reliable means in the treatment of cough due to irritation in the early stages of pulmonary phthisis; and he recommends it to be used instead of codeine and morphine in all cases of this disease that are not far advanced, as well as in chronic bronchitis, pulmonary emphysema, and bronchial asthma. Not a single failure was observed by the writer among the cases so far treated by him. The dyspnea and cough were always relieved, the asthmatic attacks cut short, and expectoration favorably influenced. Compared with morphine, dionin is more mildly narcotic in action, has scarcely ever any noticeable effect on the digestive tract, and has no noteworthy by-effects. Compared with codeine, on the other hand, it is found to be more powerful generally, and more persistent in action; it affords better and quieter sleep, and increases expectoration considerably. As a general analgesic, dionin is not as reliable as morphine, but it may, nevertheless, be employed in chronic, painful affections, either internally or subcutaneously, and as no tolerance or habit is ever established, may shield many patients from acquiring the morphine habit. Its particular sphere of action will, however, doubtless be in the treatment of coughs due to irritation, and those of bronchitis of every origin; in phthisical subjects, as it affords, besides, general quiet and good sleep, stimulates expectoration, and appears to exert also a beneficial influence on the night-sweats.

Dionin may be given in doses of 0.015 Gm. (¼) several times daily, or in one dose of 0.03 Gm. in the evening, in solution, syrup, or pill form.

Liquid Air as a Cautery.—According to the *Tri-State Medical Journal and Practitioner* for March, the use of liquid air as a cautery is already spoken of favorably. It having a temperature of 312 degrees F. below zero, its action is, to all intents and purposes, the same as that of the most powerful actual cautery. It does not really burn, but utterly kills the tissues, leaving a blister not unlike a burn. Hence it has been suggested for cauterization in surgical practice. It is not only a good deal cheaper than the ordinary cautery, but it is much more efficient, and its action can be absolutely controlled. Indeed, a well-known surgeon has already performed a difficult operation on a cancer case with liquid air, and he has reported the case as cured.