nerves from the affected portion of the cord, and paralysis of the sphincters from the first.

If the hæmorrhage be outside of the cord he held that the pain is more extended, and tetanic convulsions are present.

In my case slight involuntary jerkings of the limbs took place, and yet the hæmorrhage was into the tissue of the cord.

As to the treatment—if one were certain that hæmorrhage had not taken place, I have no doubt ice to the spine might be of service, combined with the administration of ergot, but once hæmorrhage has taken place I imagine treatment is useless.

ART. X.—*A Case of Osseous Ankylosis of the Knee, operated on by Barton's Method.* By MALACHY J. KILGARRIFF, F.R.C.S.I., M.R.I.A.; Surgeon to the Mater Misericordiæ Hospital, Dublin; formerly Surgeon to Jervis-street Hospital.

IN faulty ankylosis of the knee, when the angle at the joint approaches or reaches that of a right angle, the crippled limb is useless in locomotion, and not merely useless, but becomes a serious impediment and troublesome burden.

While practical surgeons are thoroughly familiar with the usual operations suitable to such cases, it occurred to me that the heroic proceeding devised by Dr. John Rhea Barton in 1826, and afterwards successfully executed in 1838 by Professor Gibson, and repeated by a few other surgeons, has been lost sight of in this country, and to all intents and purposes has become obsolete.

Having myself performed the operation, and being forcibly impressed with the splendid success which resulted, and believing the procedure to be applicable to numbers of cripples left unrelieved and thought to be beyond the reach of surgery, I have deemed it my duty to publish this case:—

CASE.—M. H., aged thirty, unmarried, the subject of faulty bony ankylosis of the knee, was admitted into Jervis-street Hospital on the 4th Sept., 1877, having been advised by my friend, Dr. Burton Jackson, of Milford Causeway, Tralee, to place herself under my care. Fifteen months previous to admission a fowling piece, in her master's hands, accidentally exploded, the charge shattering the front and sides of her left knee, carrying away the patella and fragments of the femur and tibia. Amputation through the thigh was proposed by the surgeons summoned to her aid, but to this measure she resolutely refused to submit. The injured

part was then attended to, and healed after many weary months of suffering. She soon improved in health and strength, but, being unable to walk, owing to the faulty position which the leg had acquired, she was sent to Jervis-street Hospital, to be treated by me.

On examination I found the leg bent at a right angle, the knee immovable, the anterior and lateral aspects being rough and irregular, and covered with a thin slate-coloured cicatrix. With the aid of crutches she could move forwards slowly, but awkwardly—the weight and position of her crippled leg considerably retarding her progress. The deformity is faithfully depicted in Plate I.

Resection of the joint I considered inadmissible, there being no skin left to cover the wound which I should have to inflict. I therefore proposed Barton's operation, and the proposal had the full concurrence of my colleagues. Professor Gibson, and others who imitated and followed him, cut from the lower portion of the femur a wedge, the base being in front, the thin plate left untouched behind being subsequently fractured in the act of extension. A triangular flap was made of the soft parts in front of the limb, consisting of the integument and the extensor muscles, the lower incision being close to the patella, the base of the flap being to the *inside*.

The patient—who placed herself unreservedly in my hands—was in vigorous health, plump, and strong, endowed with high courage and strong hope, and in excellent condition of mind and body to pass favourably through the ordeal of a serious operation.

On the 16th September, assisted by my colleagues, I proceeded to operate. Dr. MacSwiney having administered ether, I cut on the lower portion of the thigh a triangular flap, with the base on the *outside*, exposing the femur. I then passed carefully under the bone a curved metallic spatula, and with a saw removed a wedge-shaped piece, which had its base in front, and measuring vertically three-quarters of an inch. The dotted lines in Plate II. indicate the direction of the incisions. The piece of bone removed is represented in the drawings full size. I then straightened the limb without difficulty and placed it in a splint made to my order by Messrs. O'Neill and Thompson, of Henry-street. The outside piece of the splint, like Liston's, reached the axilla, while the inner part fell short of the groin, the lower portion of the apparatus being a box, the thigh part joining that which supported the leg at a *very obtuse angle*. There was on the outside a hinged piece corresponding to the knee, so as to enable the wound to be seen and dressed without disturbing the limb. The dressing, which was applied daily, consisted of lint saturated with carbolic oil, a weak solution of permanganate of potash being also squirted into and on the part to correct the fœtor and prevent septicæmia. She suffered for some days from sickness of stomach, but this complication was successfully met by Schacht's solution of bismuth with prussic acid.

Front & Side views of wedge of Bone.
[Natural Size]

MR KILGARRIFF
on Osseous Ankylosis of the Knee.

Tombs & Wogan, Lith.

56, William St Dublin.

MR KILGARRIFF.
on Osseous Ankylosis of the Knee.

The wound suppurated for a few weeks, then closed in, and the divided surfaces of the bone were early united by a firm osseous bond.

In somewhat less than three months she was able to lean on the leg, and, aided by crutches, she could without difficulty walk about the ward. From this onward her progress was continuous and satisfactory; and she was daily paraded for walking exercise before the students, who marked with evident satisfaction her steady improvement. The leg and thigh not being in the same straight line, but meeting at a very obtuse angle, salient anteriorly, she had the advantage of the spring of the foot, which imparted to her gait an elasticity that was truly surprising.

My operation differed from Barton's in two particulars: he left the posterior portion of the bone uncut by the saw—I effected its complete severance; the base of his flap was on the inside—mine on the outside.

By cutting quite through the bone, I left no spiculæ to pierce the fascia behind, thus preventing the passage of pus to the popliteal space, and, having the base of the flap on the outside, averted the possibility of the bagging of matter, and made the wound more accessible for dressing.

Plate II. shows the result of the operation on her limb, the sketch having been made just prior to her return home.

There was no shortening, or, if any, not more than the tenth of an inch.

She is now strong and robust, able to discharge her domestic duties free from lameness or pain, and as favourably circumstanced as the most enthusiastic advocate of Barton's operation could desire.

ART. XI.—*A Boot which allows Walking and Maintains the Foot in good position during the Treatment of Equino-Varus.* By R. L. SWAN, Fellow and Member of Surgical Court of Examiners, R.C.S.I.

ONE of the most important considerations in the treatment of club-foot is (while stretching abnormally contracted structures) the restoration of the tonicity of over-extended muscular tissues, and their development, as well as that of the entire limb. An indulgence of the patient in exercise of the disused muscles during treatment, is a powerful element in the fulfilment of those ends. Nevertheless, unless what is gained in the restoration of symmetry be maintained, a rapid recurrence of deformity is inevitable. In most cases, then, Mr. Barwell's appliance is truly