The Treatment of Pes Cavus. By Gwilym G. Davis (American Journal of Orthopedic Surgery, October, 1913).—The author divides this condition into two classes according to etiology, viz., paralytic and non-paralytic.

Paralytic type.—This is most frequently a result of anterior poliomyelitis. When the extensors are paralysed, drooping of the anterior part of the foot takes place, and when the flexors are affected the heel drops, with the common result of shortening the length of the foot, and thus raising the arch. There may be, of course, lateral deviations of the valgus or the varus type, producing more complicated deformities. Treatment by operation should never be adopted until all the palliative measures have failed. When surgical procedure has been decided upon, the slighter cases may be met by simple tenotomy of shortened tendons. More marked deformities may require, in addition, the insertion of silk strands as artificial ligaments; while extreme cases, particularly those in which the heel is lowered, may call for arthrodesis of the subastragaloid joint along with tendon transplantation.

Non-paralytic type.—The pathology of these cases is obscure. Careful examination shows that there is lack of balance in using the muscles. Irritative factors have been at work producing over-exertion on the part of the muscles responsible for the deformity. Treatment consists in performing tenotomy of the plantar fascia, and, if necessary, of the flexor longus hallucis. Following this, the foot is forcibly stretched, either manually or by instrumental means. Recovery from these measures takes place in a few days, and then specially constructed shoes are applied.—CHARLES BENNETT.

The Mechanical Treatment of Fractures. By Frank E. Peckham (American Journal of Orthopedic Surgery, October, 1913).—During the past year or so many articles have appeared advocating the open operation method of treatment of fractures, but only very recently have words of caution been issued against this procedure. Writers have pointed out the danger from sepsis when metallic plates are used, have accused these plates of retarding union, and have cited fatal endings to treatment, by plating, of fractured femurs.

The author thinks that ultimately fewer fractures will be operated on, because surgeons will be able not only to obtain fairly accurate reduction, but to display sufficient mechanical ingenuity to hold it. He describes, and shows pictures of, several cases of fractures of the humerus and of both bones of the leg, which were treated mechanically. It is absolutely essential to make complete use of the x-rays; the exact condition of the fracture is first to be made out, setting is then accomplished, and the correctness of this is immediately confirmed by the rays.—CHARLES BENNETT.
Lengthening Shortened Bones of the Leg by Operation.
By Paul B. Magnuson, M.D. (Surgery, Gynecology, and Obstetrics, July, 1913).—The conditions in which such an operation would be of decided benefit are the shortening as a result of anterior poliomyelitis, shortening after fracture, and cases in which injury to an epiphysis has taken place before maturity has been reached.

The method employed by the author was to make a median longitudinal incision in the bone, and join it to the periphery with transverse incisions, approaching the opposite ends from opposite sides. In this way the bone could be kept in line. In order to hold the two fragments of bone in apposition ivory screws were used. Silver wire was tried, but was not sufficient to hold against the pull of the muscles. Silver screws tended to produce softening of surrounding bone. Ivory pegs were also tried, but the callus growing from the medullary cavity separated the ends of the bone in less than three weeks. Finally, ivory screws, with deep V-shaped thread and removable brass heads, to which enough force could be applied to drive the screw in solidly, were tried, and found satisfactory.

By these means it was found that a shortened femur may be lengthened from 2 to 3 inches without any interference with blood and nerve supply. Ivory, being an animal matter, is entirely absorbed by the tissues, does not act as a foreign body in bone, and does not cause necrosis.—Roy F. Young.

The Function of the Periosteum in Bone Transplants, Based on Four Human Transplantations Without Periosteum, and Some Animal Experiments. By C. A. Williams (Surgery, Gynecology, and Obstetrics, February, 1914.—In view of the results of his experiments, Williams agrees entirely with neither Macewen nor Murphy. He holds that the future life of an autogenous, living bone-graft depends on an efficient blood-supply, irrespective of the periosteum or its contact with living bone. If minute fragments of a living graft be transplanted, then the periosteum may be disregarded, because the osteoblasts in the fragments will not die as they receive a sufficient blood-supply. If a larger piece of bone be transplanted, then it is safer to leave the periosteum attached to the graft, as otherwise the osteoblasts in the bone of the graft may die because cut off from their nutrient artery; the periosteum survives because of its sufficient blood-supply from the surrounding tissues, and its inner surface forms osteoblasts, which reform the bone of the graft. In 16 transplantations of bone with periosteum, 93 per cent were successful; in 25 without periosteum, 48 per cent were successful. Thus, it is advisable that bone-grafts should be transplanted with as much of their periosteal covering as possible.

In his experiments on animals he found that periosteum, when transplanted alone, may produce living bone; also, that bone, with or without periosteum, when transplanted into the soft parts, and not in contact with living bone, does not necessarily become absorbed.—Roy F. Young.

The Possibility of Preserving the Integrity of Potential Body Cavities by the Use of a Foreign Body to Prevent Adhesions. By F. Prime, M.D. (Surgery, Gynecology, and Obstetrics, November, 1913).

The Mobilisation of Ankylosed Joints. By N. Allison and D. Brooks (Ibid., December, 1913).

The End Results of Attempts to Mobilise Stiffened Joints. By R. B. Osgood (Ibid., December, 1913).

Prime considers that the ideal material to prevent fibrous adhesions should be a non-absorbable, non-irritative foreign body, which can be handled and sterilised readily. Celloidin best answers these purposes, that which he uses being an etherous solution of German celloidin (Schering). His experiments were carried out on the brains, joints, and nerves of rabbits and dogs.
The celloidin was found to prevent the formation of new adhesions and the re-formation of old ones.

Allison and Brooks, on the other hand, maintain that experience has proved that better results are obtained in the case of organic rather than inorganic substances, and in their experiments have used organic substances only. The knee-joint of the dog was used on account of its easy access. The joint surfaces of the patella and the anterior surfaces of the femoral condyles were denuded of cartilage. The substance to be studied was then placed over the denuded femur and sutured in place. They found that Cargile’s membrane persisted in joints less than ten days, and that the opposed joint surfaces became united by granulation tissue, as in experiments where no substance was interposed. With free fascia transplants, in no case did the entire transplant persist in the joint; in the experiments where the transplant had entirely disappeared there were no adhesions between the denuded surfaces. Pedunculated fascia transplants act in the identical manner of free transplants, save that the pedicle persists and checks joint movement. Chromicised pig’s bladder always led to marked local reaction about the joint, and to a large formation of fibrous tissue, with resulting ankylosis. Fascia impregnated with silver prevented the union of denuded surfaces.

Osgood, giving the results on his own patients, has found that in the majority of his cases the results of the attempts at the mobilisation of stiffened joints have been far from satisfactory. He thinks that unilateral, painless, bony ankylosis of a joint should be submitted to arthroplastic operation only after free discussion, and a realisation on the part of the patient of the prolonged and often painful after-treatment, and the uncertain nature of the result. In his cases he used chromicised pig’s bladder, free fascial strips from the fascia lata, and pedunculated flaps and tissue. Using pig’s bladder, in one case considerable inflammatory reaction followed, and in every case there was a slight discharging sinus; in three cases the membrane, in whole or in part, was extruded. With free fascial strips the wounds all healed by first intention.—Roy F. Young.

Congenital Dislocation of the Hip. By H. M. Sherman, M.D. (Surgery, Gynecology, and Obstetrics, January, 1914).—After a considerable experience of congenital dislocation of the hip, the writer finds that the chief factors which prevent satisfactory reduction of the dislocation are the incompetent acetabulum, the imperfectly formed femoral head, which is frequently twisted so that the head is directed forward, and an elongated and contracted capsular ligament. Any operations on the head or acetabulum fail in relieving the condition.

The most essential point is the opening of the capsular ligament, with replacement of the head in the acetabulum. Should the head be twisted forward, he performs an osteotomy below the trochanters, and brings the leg into the proper line. In 29 hips reduced by incision, with no osteotomy following, he has had 41.3 per cent of successes; in 27 hips reduced by incision, with an osteotomy following, he has had 70.3 per cent of successes.

—Roy F. Young.