surprisingly revealed an increased ^{35}S uptake of the undamaged adjacent femoro-condylar articular cartilage; and it was suggested that stimulation by contact with the damaged patellar surface was responsible. It appeared that the greatest regenerative activity came from cells of the intermediate stratum. Previous workers had suggested that the presence of fat globules in chondrocytes indicated degeneration. The findings of the present paper suggest that this is not so and that the globules are frequently seen in normal chondrocytes.

This work will be most valuable in providing basic information for further studies on the abnormalities of articular cartilage in chondromalacia patellae and osteoarthritis. In these conditions the reactions may well be modified, because some fundamental change is probably present which leads to fibrillation of the cartilage and a decrease of chondroitin sulphate.

The author is to be commended on the clarity of his observations, and the work has been most ably translated. A few minor errors, such as "Domiaich" for "Doniach" on page 69 and "yong" for "young" on page 67, need not detract from the high standard of production.—George J. CUNNINGHAM.

FRACTURE OF THE UPPER END OF THE HUMERUS. Discussion based on the follow-up of 302 cases. By Fridrik EINARSSON. $9\frac{1}{4} \times 6\frac{1}{4}$ in. Pp. 215, with 94 figures and 64 tables. 1958. Acta Orthopaedica Scandinavica, Supplement 32. Copenhagen: Ejnar Munksgaard Limited. Price Da. kr. 35.

This is a painstaking monograph by an Icelandic surgeon, based on a detailed review of 302 cases of fracture of the upper end of the humerus treated by at least seven different surgeons in Denmark. The author has gone into every aspect of this problem and has compiled sixty-four tables to show the difference in results between treatment by abduction splintage and by collar and cuff sling. The book opens with thirty-six pages devoted solely to a study of the literature (seventy-nine references) and ends with forty-seven pages of individual case reports (forty-two), including radiographs. Dr Einarsson has proved without doubt that treatment by collar and cuff sling and exercises is followed by better results than by splinting in abduction. His summary on treatment, contained in a delightfully short chapter (two and a half pages) entitled "Suggestions for Therapeutic Schedule," should be read by every practising fracture surgeon, especially those who advocate operation or splinting. Postgraduate students who want to see how well a surgical problem can be investigated would be advised to read this book from cover to cover.—L. W. PLEWES.

OPERATIVE TREATMENT OF ANKLE FRACTURES. By Sverre VASLI. $10 \times 7\frac{1}{4}$ in. Pp. 74, with 20 figures and 8 tables. 1957. Stockholm: Acta Chirurgica Scandinavica, Supplement 226. Price Sw. kr. 10.

"The aim of treatment in joint fracture is the re-establishment of normal function in the injured joint." From this opening sentence the author proceeds to show that after fracture-dislocation of the ankle this aim is most likely to be achieved by internal fixation and early movement. He operated on 185 ankles (and treated 312 more by closed methods).

The anatomy of the various types of injury is described in clear detail and related to the radiological patterns. The author's recommendation that fragments of the tibia or fibula displaced by 2 millimetres or more should be reduced and fixed is supported by his finding that defective ankles were considerably commoner after incomplete than complete reduction. In the 185 operations the fibula was fixed most often (the figures are not clear), the medial malleolus in 105 and the posterior fragment of the tibia in thirty-seven. Properly used, cerclage wires, screws and marrow nails gave equally reliable fixation, and residual or recurrent displacement was due either to technical shortcoming or to delayed operation. The author does not favour operating on badly swollen ankles, and a third of the operations were put off for ten to fourteen days. He admits, however, that deliberate delay carries the risk of sores and blisters that may take weeks to heal and consequently reduce the ease and success of operation. It may be significant that three of the four deep infections occurred when operation was delayed for a week or more, and necrosis of the skin edges in one-fifth of the cases seems rather frequent. The author favours exercises as soon as possible after operation and, provided the reduction was secure, left the limb out of plaster until movement had been restored and swelling abolished. In a few cases plaster was not used at all.

This is a valuable contribution with clear conclusions and enough information to provide a standard by which other methods of treatment may be judged.—P. S. LONDON.