The book is well printed. There are very many well reproduced radiographs, though in some a detail, such as the outline of a psosas abscess, has to be shown by superimposed white dots. This is a pity, as are such carelessness as the occasional reversal of films taken before and after operation or the insertion of prints upside down. It is a slim volume to cover all that could and should come from a study of such a massive series. Moreover, much space is taken by excursions into pathology or rather speculative immunology, not really relevant to the author's métier. In consequence, many questions are left unanswered. Apart from the thirty-six sinuses of soft-tissue abscesses demanding further operation, were there no relapses? Some of the illustrations show results such as others have seen with or without operation and certainly without Dr Kastert's special instillation technique. Many of the films show a result stated to be one of several years after operation: how soon in fact was this result obtained? Is this the first film in which it showed itself? We are not told. The difficulty in assessing the value of a method applied by one man to all his patients is that we are still left guessing, and having to reply from our own experience as to which would have done as well with less. Detailed analysis of the results is not given, even of the approximately forty "failures" other than the fifteen who died. What were their ages, lengths of history, or types of lesion? One would like to have similar information about the 962 "successes," and the type of result with speed of fusion, fibrous or bony. There are graphs showing the general scatter of age, length of history, frequency of involvement of individual vertebrae and sex distribution, but there is nothing individual.

The reviewer favours early operation for many patients with Pott's disease; the author's record of the application of operation and instillation chemotherapy to all his patients may be too uncritical for those of us who do not wish to follow a rule of thumb but to do all that is necessary though not more than is required to produce the desired result. One would like to see the method tried first in cases with ramifying and sclerotic disease of some standing or in patients with considerable destruction where it may well be felt that some extra effort is required. The method obviously "works" and, though we may feel some evidence of uncritical enthusiasm, that should not blind us—as it so easily can—to the real value in selected circumstances.—F. Harwood Stevenson.


In the first section of his monograph Dr Tarlov discusses an experimental method of producing paraplegia in dogs. By means of an inflatable balloon inserted in the vertebral canal the spinal cord or cauda equina can be subjected to known pressure for a definite time. He found that "functional recovery after acute extradural compression of the cord depends upon the magnitude of the compressive force as well as its duration." With large forces acting for longer than five minutes, recovery did not occur. With minimal force recovery can occur after much more prolonged compression, especially if the force is applied gradually by slow inflation of the balloon. His experiments showed that the nerve roots of the cauda equina are much more resistant to pressure than the cord itself. Very high compression forces applied to the cauda equina for many hours were followed by complete recovery from paralysis and anaesthesia. Histological examination of spinal cords subjected to pressure causing irrecoverable paraplegia showed gross vacuolation and distortion of the long tracts extending over several segments. From these examinations, from clinical observations and from a study of the action potentials recorded from the dorsum of the spinal cord after stimulating a dorsal root Dr Tarlov concludes that paraplegia from compression is due to mechanical distortion of the cord and not to ischaemia. These experiments are ingenious and the results most interesting. In general, they agree with the clinical and pathological findings in paraplegia from compression of the cord or cauda equina in man.

The second section is devoted to a clinical study of compression paraplegia in man, and emphasises the lack of accurate knowledge of the clinical manifestations of acute traumatic paraplegia. Little, if any, clinical evidence is produced to support Dr Tarlov's contention that immediate laminectomy should be performed on all patients suffering from complete traumatic paraplegia with a demonstrable thecal block. This is contrary to the experience of many authorities.

The third section is devoted to the early management of acute paraplegia and is frankly disappointing. The treatment advocated for fractures of the spine associated with cord damage is not in accord with modern practice. Most authorities would condemn as highly dangerous closed reduction of dorso-lumbar fracture-dislocations by hyperextension, and all paraplegia centres have abandoned plaster fixation. Again, Dr Tarlov states that, in unstable dislocations of the cervical
spine, traction by skull tongs should be continued for six weeks to allow time for "firm fibrous union between the injured vertebrae," and that the patient may then be got out of bed and be fitted with an adjustable brace for about three months. Most orthopaedic surgeons have seen redislocation with external fixation continued twice as long as this. The problems of bedsores, bladder and bowel are dismissed in two pages. The monograph would have been better with these omitted.

The importance of this monograph lies in the first section. Further knowledge of the effects of compression of the cord and cauda equina is badly needed, and Dr Tarlov's book is a step in the right direction. The book is beautifully produced and the illustrations are excellent. The publishers are to be congratulated.—F. W. HOLDSWORTH.


This admirable little book is intended for "physiotherapists, medical students and housemen, and to be an aide-mémoire to their seniors." It gives the first three groups all they need to know of the subject, and it gives it to them clearly, readably, in commendably few pages, and for a remarkably small price. It is, indeed, a model of what could and should be done about other orthopaedic subjects that lend themselves to this type of presentation. A concise handbook intended for junior people may fairly be criticised on points of detail. Is Professor Bowden convinced that either causalgia or tardy ulnar palsy should be called an "irritative lesion" or that nerves divided in amputations should be injected with gentian violet or "inserted into a hole drilled in the neighbouring bone"? Is she happy in accepting the theory that the intermuscular septum may cause "secondary lesions" after anterior transposition of the ulnar nerve? Ought she to teach the young that causalgia "may be relieved by removal of neighbouring foreign bodies"? These are minor criticisms but, I hope, neither unimportant nor pedantic in a book whose admirable brevity means that it will be read. The author's account of conservative treatment is excellent, and her views on the principles of operative treatment are fairly presented. I enjoyed this little book, and I am recommending it to my students.—D. L. LI. GRIFFITHS.


This useful monograph does much to advance and clarify our knowledge of the reactions of articular cartilage to injury. These were studied by inflicting damage on the patellar articular cartilage in rabbits. The depth of injury, which was confirmed by histological section, never extended beyond the radiate stratum. Avoidance of damage to the subchondral bone ensured the pure reaction of cartilage to injury. The subsequent changes were observed during several months by morphological, histological and autoradiographic techniques.

Because of the absence of mitoses, evidence of regeneration was sought by observing morphological abnormalities in the chondrocytes. Some were regenerative, others degenerative, and the correctness of the conclusions was tested by 35S uptake and by metachromatic staining with toluidine blue. There was reasonably good correlation between the two methods, 35S uptake being assumed to represent active chondroitin sulphate synthesis and metachromasia the actual presence of the substance. It was considered that uptake of 35S (administered as sodium sulphate) was the more accurate method, and the results confirmed the current views that the chondrocytes synthesise chondroitin sulphate and subsequently pass it on to the intercellular substance.

It was apparent that no extensive regeneration took place, because the site of damage was still visible to the naked eye as long as even one year after the operation. As compared with repair in vascular tissues, the whole process is much slower. It is well known that damage to the subjacent bone often produces granulation tissue, and mesenchymal cells from the bone marrow cause considerable regenerative change by undergoing metaplasia into chondrocytes and fibrocartilage. In damage confined to cartilage there was no such change. Degeneration appeared in relation to the damaged area as expected, but regeneration was visible throughout the cartilage, and particularly at the periphery. This peculiarity was ascribed to the better nutrition of the periphery of the articular cartilage, which lies near to the vascular supply of the adjacent synovial membrane. The autoradiographic studies