Injuries to the Cervical Spine and Cord in Man. By B. R. SELECKI, M.D.Cand.Med.Sci., M.S., Honorary Neurosurgeon, The Prince Henry Hospital and the Prince of Wales Hospital, Sydney; Honorary Clinical Teacher, School of Surgery, the University of New South Wales. With the collaboration of H. B. L. WILLIAMS, M.A., M.D., M.R.C.P., M.R.C.S., D.M.R.D., D.R., F.C.R.A., Chairman, Department of Radiology, The Prince Henry Hospital and the Prince of Wales Hospital, Sydney; Associate Professor of Medicine (Diagnostic Radiology), the University of New South Wales. Foreword by J. LUDBROOK, Ch.M., F.R.C.S., F.R.A.C.S., Professor of Surgery, University of Adelaide. 25 × 18 cm. Pp. 191, with many figures. Index. 1970. Sydney: Australasian Medical Publishing Company Limited. Price \$A5.40.

This book is a curious mixture but appears to be basically a vehicle for reporting in great detail a series of experiments on the effect of compression on the cervical spine prefixed in various positions of flexion, extension, lateral flexion and rotation. These experiments are open to criticism on many counts. Twenty-two cervical spines were used from cadavers of known age, mostly from patients much older than those commonly affected by cervical injuries. There is no information about the time interval between death and removal of the specimen. The specimens were then deep-frozen and thawed out for ten or twelve hours in tepid water before use. Some of them were then refrozen for later experimentation. The compression force was applied step by step with apparently long pauses between each load addition for radiographs to be taken. The degree of "compression" was recorded in pounds per square inch from the gauge on a hydraulic jack used to elevate a plate sliding up four uprights, thus compressing the specimen between this plate and a fixed member above it. There is no record of the cross-sectional area of the jack's hydraulic cylinder, and apparently no appreciation that the gauge pressure did not express the pressure applied to the specimen. Furthermore, the method of fixing the cervical spine with metal spikes must have produced unnatural forces in both lower and upper parts of the specimen, and this does not end the list of potential objections to the method used.

While admittedly experiments to reproduce natural stresses on the cervical spine are very difficult to set up and the facilities available to the authors were limited, one cannot but be left with the opinion that the results obtained have little valid application to the interpretation of the results of sudden violent trauma. It was notable that in no case did the author produce a dislocation of the posterior joints.

This section is followed by another by Professor Williams in which he interprets at great length the changes seen in the cervical spine after trauma, especially in relation to the intervertebral discs, and some of this makes interesting reading. Unfortunately throughout the book the radiographic reproductions are of very low quality, often too small, and even when full size so poor as to make interpretation of the legends nearly impossible, while throughout the book a number of references in the text are not to be found in the bibliography.

Lastly comes a chapter which appears to be a general review of the author's experience in cervical trauma and disc degeneration involving the cord or nerve roots based on a paper given two years ago. I could find little of scientific value in it.

Much hard work has gone into the production of this book and others who are considering research into this important field will find much to interest them and perhaps learn what to avoid, but to the working surgeon this book cannot be commended. The cost of publication was borne by the Mervyn Archdall Medical Monograph Fund and one must hope that later publications will better fulfil the fine objects of the moving spirit behind its foundation.—T. J. FAIRBANK.

The Orthopaedic Management of Spina Bifida Cystica. By Malcolm B. MENELAUS, F.R.C.S., F.R.A.C.S., Deputy Chief Orthopaedic Surgeon, Royal Children's Hospital, Melbourne, Australia. Foreword by H. Jackson BURROWS, C.B.E., M.D., F.R.C.S. 25 × 19 cm. Pp. ix + 116, with many figures and tables. Index. 1971. Edinburgh and London: E. & S. Livingstone. Price £3.

This book is a timely publication because of the increasing importance to many orthopaedic surgeons of this now common problem. It is not only timely but has been written and published to a very high standard, which makes it doubly welcome. Spina bifida has become a major problem for orthopaedic surgeons because these children are surviving in large numbers following the advances resulting from early closure of the myelomeningocele, valvular control of hydrocephalus and the diversion of urine from the incontinent bladder. Each year a new group of crippled children begin their long pilgrimage to orthopaedic clinics, requiring much surgery and bracing for the rest of their lives if they are to use their potential to the maximum. The full force of this problem will be upon us within a few years.

Menelaus has taken care of more than 400 of these patients and has produced a very balanced monograph. Although basically somewhat similar to crippling from poliomyelitis, the similarity is not close for the muscle pattern and resulting deformities are more regular; not rarely muscles are spastic and there are the many added complications of skin anaesthesia and urinary sepsis.

The best of many good chapters is the appendix drawn up for the guidance of parents. This very full explanation of spina bifida and its problems is an example of what might be done in other realms of crippling and is worth reading even if the contents of the book do not come otherwise within the interests of the individual surgeon.—J. I. P. JAMES.

Limb Development and Deformity: Problems of Evaluation and Rehabilitation. Edited by Chester A. SWINYARD, M.D., Ph.D., Professor of Rehabilitation Medicine, New York University Medical Center; Staff Associate, Association for the Aid of Crippled Children, New York City; with fifty-three contributors. 26×18.3 cm. Pp. xvii+672, with many figures and tables. Index. 1969. Springfield, Illinois: Charles C. Thomas, Publisher. Price \$19.25.

This book gives a very full account of the development of the limbs, both normal and abnormal. Particular emphasis has been given to the role of thalidomide. The book is based on a colloquium at The Hague in 1963 and has fifty-three authoritative contributors dealing each with his own special aspect. There are nine main sections, each devoted to a particular aspect of the problem.

Chapters 1 and 2 give an excellent review of current thought and research on normal and experimental limb development. In Chapter 3 there is a comprehensive account of known causes of limb deformities. While the most striking cause of limb deformity in the human embryo has been thalidomide, there has been a failure to produce similar effects in experimental animals, another warning to those who seek to relate the results of animal experimentation too enthusiastically to clinical practice. Epidemiological studies covering the incidence of limb malformations and various factors which may have played a part are covered in Chapter 4. Chapter 5 deals with the biochemistry and metabolism of thalidomide and has an excellent comprehensive bibliography.

Chapter 6 includes a review on the radiological aspects of thalidomide embryopathy. Most of the classical deformities are illustrated. This is marred by some erroneous captions, for example, Figure 151*b* and Figures 153, 156 and 157 which are examples of aplasia of the tibia. This chapter concludes with a fascinating account of the cranial nerve paralyses particularly affecting the facial, palatal and external eye muscles which may be found in association with thalidomide-induced limb deformities. Chapters 7, 8 and 9 are of particular interest to the orthopaedic surgeon dealing with the limb deficient child. Chapter 7 covers orthopaedic and prosthetic considerations and there is a valuable contribution by the late Professor Hepp. This is unfortunately brief in view of his extensive knowledge of this problem. Amongst other things he stresses the prognostic value of the absence of skin folds in assessing the future function of fingers in the congenital hand anomaly. He recommends conservative management of the radial club hand and states that the stiff elbow may mobilise within the first three years of life if functional treatment is given.

Dr Marquardt gives his usual sensible advice on early management of limb malformations. There is the usual problem of difference in nomenclature, for example in Figure 200*a*, described as a phocomelia. Professor Kuhn, in a review on recent progress in prosthetic techniques, gives us a valuable reminder that body power can be used to provide movements such as pronation and supination which are usually considered only available by external power. Chapter 8 considers the psycho-social problems and parental counselling required in dealing with these difficult family and social problems and contains a valuable review by Fishman on "Behaviour and Psychological Reactions of Juvenile Amputees".

In the final chapter entitled "Post-Natal Growth of the Extremities and Related Surgical Problems", four important aspects for the orthopaedic surgeon are considered in detail. The first section by Jeannopoulos discusses some complications of post-natal human growth and emphasises that the usual criteria for estimating bone growth are quite inaccurate for the congenital limb deficiency problem. The next two sections are by G. T. Aitken, an acknowledged world authority on both subjects. The first is on the problem of bone overgrowth in the acquired amputation of childhood which still defies adequate prevention. The second of Aitken's sections and of great importance is proximal femoral focal deficiency. This is based on his experience in twenty-nine cases and includes his classification into four degrees of severity of the condition. While emphasising rightly that this condition is not to be confused with congenital coxa vara and hypoplasia of the femur, the classification into four types does not seem to have much practical importance in deciding treatment. Treatment should essentially be conservative by prosthetic management unless the hip deformity cannot be controlled, when osteotomy is indicated.