reference book for the orthopaedic surgeon who cares for the physically disabled. Twenty-six contributors, mainly American and including several orthopaedic surgeons, have covered every possible aspect of this subject. The principles of bracing and its mechanics, the metals and other materials used are initially described in minute detail. Then each part of the body is dealt with in turn and its particular needs described. Finally, special attention is turned to the common skeletal diseases and conditions which may require such devices.

The first impression of this detailed work is one of irritation, for there is so much which seems obvious and the detail thus superfluous. It becomes evident on close reading, however, that the detail *is* necessary and one becomes aware, for the first time, of the gaps in one's knowledge of this subject. Shoe corrections (a mystery to some) are dealt with expertly. Wheel-chairs, automobile modifications, self-help clothing, beds, tables, crutches and respirators—all are described to the point of exhaustion. There is much to learn in this book, and if the orthopaedic surgeon can overcome a natural disdain of voluminous writing on subjects which may seem to be on a somewhat lower level than his surgery, orthotics can be enjoyed. It is perhaps unnecessary to learn that 600 million pairs of shoes were manufactured in the United States in 1960 (how many were sold?) and that in France 90 per cent of shoes manufactured were sold by length only and there was only one width per size. Surely the French orthopaedic surgeon must spend his life operating below the ankle joint if this is so.

If there is any criticism of this book it is that time does not permit the full appreciation of its content. So it must be for the orthopaedic surgeon a reference book, but easily accessible. References at the end of most chapters are compiled with care and indicate exhaustive research through the world's literature. A special mention of the sections on the spine and its problems is deserved, and to have the Milwaukee brace explained by the surgeon who designed it makes excellent reading.—Ian WINCHESTER.

Intravital Measurements During Instrumental Correction of Idiopathic Scoliosis. By Theodore R. WAUGH. $9\frac{1}{2} \times 6\frac{1}{4}$ in. Pp. 87, with 34 figures and 3 tables. Acta Orthopaedica Scandinavica, Supplementum 93. 1966. Copenhagen: Munksgaard. Price Dan. kr. 22.00.

This monograph consists of two parts, the first being a good review of the literature. The comments, a little uncritical because the author speaks from a relatively small experience, as he states frequently, are followed by a brief review of results of surgical treatment of scoliosis at the New York Orthopaedic Hospital since 1958. The total number of fusions in that time was 150, and 100 cases had been followed up for at least two years after discarding support. It is not stated how many were, in fact, end-results at skeletal maturity. The second part of the monograph describes work carried out in the Biomechanics Laboratory in the University of Gothenburg under the auspices of Professor Carl Hirsch; first a study of hooks used for mechanical distraction, such as the Harrington method; or spring contraction, such as the Gruca alloplasty. The mechanical effect of local pressure with metal hooks of various shapes was compared with the more diffuse methyl methacrylate moulds—the findings being not unexpectedly in favour of the latter.

In three patients Harrington rod instrumentation was carried out with the insertion of strain gauges, and the axial strain assessed under varying conditions. An attempt was made to correlate the division of posterior elements both bony and soft tissue in the spine with the force required to maintain distraction. It was found that the bone failed at strains less than had caused hook failure in the extravital experiments, and as one would expect the weak point was the upper hook attachment. An interesting finding was the enormous increase in load caused by coughing and particularly vomiting, which was approximately four times that imposed by sitting or standing. It was found also that the Harrington compression device reduced the axial load by an insignificant amount.

This little book contains a very good bibliography of the best work in scoliosis, presented largely without comment, and a short description of some experimental assessment of the efficacy of metal internal fixation.—C. W. MANNING.

Muscles Alive. Their Functions Revealed by Electromyography. By J. V. BASMAJIAN, M.D., Professor and Head of the Department of Anatomy, Queen's University, Kingston, Ontario, Canada. Second edition. $9\frac{1}{4} \times 6\frac{1}{4}$. Pp. xi + 421, with 162 figures. Index. 1967. Baltimore: The Williams & Wilkins Company. Price £6, 2s.

The title of this book belies the nature and quality of its contents. To those uninitiated into the mysteries of electromyography it is simple and explicit. For the beginner there is an excellent introductory chapter on the nature of the electrical phenomena in muscles and a good practical chapter