

Detailed anatomical studies are used to impress upon the reader the common anatomical variants of nerve supply to the small muscles. The consequences of paralysis in terms of functional capacity of the hand are examined. Measurement of muscle power is recorded by means of a dynamometer devised by the author. A point is made that almost 50 per cent of the power of grip is contributed by the intrinsic muscles. A special technique for "blocking" the ulnar nerve is described.

Altogether, a careful, tidy and thorough piece of work, which will be of interest to those engaged in peripheral nerve surgery and injuries of the hand.—DONAL BROOKS.

An Introduction to Biomechanics. By H. M. FROST, M.D., Department of Orthopaedic Surgery, Henry Ford Hospital, Detroit, Michigan. The Henry Ford Hospital Surgical Monographs, edited by Conrad R. LAM, M.D., Department of Surgery, Henry Ford Hospital, Detroit, Michigan. $9\frac{1}{2} \times 6\frac{1}{4}$ in. Pp. vii + 161, with 62 figures and 10 tables. Index. 1967. Springfield, Illinois: Charles C. Thomas, Publisher. Price \$7.50.

This book, written by an orthopaedic surgeon who has given a great deal of time and thought to biomechanics and who has written other more specialised monographs on the subject, sets out "... to give the engineer enough of the bio-, and the physician enough of the -mechanics, to let both get some 'feel' ... should they wish to study further."

It undoubtedly succeeds in this, although the author has shunned the use of mathematics to avoid confusing the reader. The physics is therefore very elementary and known even to the reviewer. The radiographs are of indifferent quality, but the book is otherwise well printed and clearly set out. Many stimulating ideas about internal fixation are presented, and the need for further research by a combined team of surgeon and physicist emphasised.

There is a good index and an adequate bibliography. This is not a textbook but a welcome addition to any orthopaedic library as an introduction to further study.—R. C. F. CATTERALL.

The Bone Dynamics in Osteoporosis and Osteomalacia. By Harold M. FROST, M.D., Department of Orthopaedic Surgery, Henry Ford Hospital, Detroit, Michigan. The Henry Ford Hospital Surgical Monographs, edited by Conrad R. LAM, M.D., Department of Surgery, Henry Ford Hospital, Detroit, Michigan. $9\frac{1}{2} \times 6\frac{1}{4}$ in. Pp. xv + 176, with 41 figures and 12 tables. Index. 1966. Springfield, Illinois: Charles C. Thomas, Publisher. Price \$9.50.

The dust cover describes this volume as "a comprehensive version of an instructional course given to the American Academy of Orthopaedic Surgeons." Dr Frost advances a unifying hypothesis to link certain observations of cellular behaviour in bone, and to provide a description of the normal state by reference to which osteoporosis and osteomalacia can be explained. Unfortunately in spite of a large bibliography the hypothesis remains a hypothesis—albeit an attractive and stimulating one. Provided the effect of the book is to provoke further observational work it is to be recommended. It is, however, designed as factual instruction and ends with a section of thirty-six questions and answers, many of which can only be comprehended within the terms of reference and concepts used in this monograph. Since many of these concepts are not universally accepted, students would be misled if they believed that by studying this book they were acquiring a generally acceptable knowledge of bone physiology and histogenesis. There is already a tendency among those not familiar with the literature for Dr Frost's hypotheses to be accepted as statements of fact: the present work may reinforce this tendency. The belief is abroad, for example, that bone is hydraulically strengthened and that its structure is governed by its mechanical environment: the former suggestion—which is wrong—occurred in *The Laws of Bone Structure*; and the latter—which is very much open to question and which derives from the work of numerous investigators other than Dr Frost—is reiterated as if it were an established fact in this volume.

One of the suggestions advanced by Dr Frost in this book is that abnormal crack propagation may play a part in a variety of bone diseases. This hypothesis has occurred independently to at least three other workers and it underlies some of the work now in progress in two laboratories and at least one clinic. Here it is presented rather as if it were an original concept substantiated by observation. Neither of these claims is explicit (and in a bizarre "reference," number 115, which is in fact a 112 word aside, Dr Frost disclaims any rights of permanent ownership over ideas which he may express) but the idea is nevertheless presented as a fact, not a hypothesis. Dr Frost, for example, asserts that "If not repaired, microdamage progresses to 'spontaneous' clinically evident fractures" (page 53, lines 4 and 5). This statement is supported by two references but in neither of these are the subjects