Friedrich Pauwels takes a very high place, if not the first place. These papers cover thirty years work, and commence with his best known, the work on the angle of fracture of the femoral neck, published in 1935. His conclusions that the more horizontal the fracture line the greater the stability under weight bearing remain true, but this is not the only factor influencing the healing of the fracture and his work is overlaid in importance by the influence of the blood supply. Nevertheless a study of his paper is a sound beginning to the study of the biomechanics of fracture healing. He has probably recognised this as the next paper in the book is on this very subject. The weight loading of the pelvic joints, the mechanical factors involved in elbow movement, the organisation of cancellous bone in joint ankylosis and the stress loading of the surface of the glenoid are among the subjects studied.

Pauwels has shown that while compression, tension and shear are factors in bone modelling after fracture, cellular distortion and hydrostatic pressure also play a part in the final distribution of callus. The text is only for the mechanically minded backed by some mathematical knowledge. It can I think only be taken in small doses, though much of the explanation is clarified by a series of excellent diagrams. Pauwels has carved himself an important position in this abstruse field. We orthopaedic surgeons are rather inclined to alter the loading of bones, about which we know little, or to change the stresses in joints about which we know less, having read nothing about the subject. However, as a potential examiner in orthopaedic surgery I cannot help feeling a little relief that this book is not likely to become prescribed reading.—J. G. BONNIN.

Physiologie Articulare. Schémas commentés de mécanique humaine. (Articular Physiology. Commentated diagrams of human mechanics.) By I. A. KAPANDJI. Preface by Professor F. POILLEUX. Fascicule I—Membre supérieur. (The arm.) Pp. 208 with 144 figures and 5 plates. Price 36 F. Fascicule II—Membre inférieur. (The leg.) Pp. 222 with 640 illustrations. Price 44 F. 9×11 in. Paris: Librairie Maloine S.A.

For all who are interested in biological engineering these two volumes provide a quite splendid outline of functional anatomy. A third volume is in preparation dealing with the trunk. The whole work provides a new approach to articular mechanics and does so with an enormous number of drawings of great beauty and ingenuity. Not only does the author describe normal function but he also expands the discussion into the mechanics of trauma. The text is relatively short and even in French is easily followed. The drawings provide the real interest and instruction. This work can be strongly recommended for every orthopaedic library. I found it very stimulating. The only slight objection is that French anatomists still persist in their peculiar terminology which flaunts international practice; for example, by using the term "grand palmaire" for the flexor carpi radialis and "petit palmaire" for the palmaris longus.—Norman CAPENER.

Essentials of Orthopaedics. By Philip WILES, M.S.(Lond.), F.R.C.S.(Eng.), F.A.C.S., Orthopaedic Surgeon Emeritus, the Middlesex Hospital; Honorary Member, the Faculty of Medicine, the University of the West Indies; Chairman, the Scientific Research Council of Jamaica; and Rodney SWEETNAM, M.A.(Cantab.), F.R.C.S.(Eng.), Orthopaedic Surgeon, the Middlesex Hospital, and King Edward VII Memorial Hospital, Ealing. Fourth edition. 10×7 in. Pp. xiv+584, with 416 figures. Index. 1965. London: J. & A. Churchill Ltd. Price 90s.

On reading the fourth edition of this valuable work we welcome Rodney Sweetnam who has joined Philip Wiles as joint author. The great amount of rewriting and remodelling has increased the text by less than 100 pages since the first edition. It is even slightly shorter than the third edition which shows an acute awareness by the authors of the speed of changed thought as well as a sense of respect for the reader's time.

There are additional sections on the etiology and early diagnosis of congenital dislocation of the hip and on the painful and stiff shoulder; benign tumours and blood and metabolic disorders affecting bone have been added to and altered. There are many other welcome new subjects to be found, such as stress fractures of the calcaneus, hallux valgus in adolescence, congenital skeletal defects, the nail-patella syndrome, peroneal muscular atrophy and arthrogryposis. Philip Wiles in the preface explains that the detailed accounts of diseases such as tuberculosis and poliomyelitis have been retained owing to the persistence of these conditions in some areas where this book is used. The references for further reading have been revised and form a most valuable conclusion to the seventeen chapters. The character of this work is unaltered, its clarity of prose, its high standard of illustration and, above all, its originality of thought remain, but its value has been enhanced by another author with experience in different fields and by its modernisation. Its continued wide circulation is assured by its value to orthopaedic surgeons, postgraduates and undergraduates throughout the world.—Philip NEWMAN.