In each chapter the subject matter of the relevant engineering science is clearly set out and illustrations, including worked examples, are given from clinical topics of interest to the orthopaedic surgeon. Thus, in the chapter on Energy and Work, energy absorption is illustrated in relation to a patient falling sideways, possibly fracturing a bone in her arm or leg, while in Design, the considerations of general relevance are illustrated by its relation to bone screws and devices for the internal fixation of the proximal third of the femur.

This book should prove a valuable introduction to engineering science for orthopaedic surgeons having no previous knowledge of the relevant physics and mathematics. The basic facts are clearly and accurately set out, whilst the use of clinical examples displays their practical importance. The book does not, however, present any of the recent observations concerning the mechanical properties of the musculo-skeletal system, nor of many modern implants. Thus it would perhaps have been better entitled "An Engineering Introduction to Orthopaedic Biomechanics" rather than, as is the case, *Orthopaedic Biomechanics*. As the former the book is to be welcomed, for there is no other comparable text available.—M. A. R. FREEMAN.

Lubrication and Wear in Joints. Proceedings of a symposium organised by the Biological Engineering Society and held at the General Infirmary, Leeds, on April 17, 1969. Edited by Dr Verna WRIGHT, Director of the Rheumatism Research Unit and co-director of the Bio-Engineering Group on Human Joints at the University of Leeds. With a Foreword by Professor Sir Ronald Tunbridge, Head of the Department of Medicine, University of Leeds. 25.5 cm. × 16 cm. Pp. 152, with many figures and plates. 1970. London: Sector Publishing Limited. Price 53s.

There are sixteen papers on various aspects of joint properties and mechanics with fairly equal representation by biologists and engineers. Regrettably orthopaedic surgeons are in a minority.

The participants have been well chosen to give wide range coverage of recent developments in this important field. Most of the papers are rather tentative, offering theories rather than facts. The reader may be impressed by the obvious gulf which still exists between the two disciplines, despite the collaborative efforts reported in this book. For example, attempts to explain the remarkable efficiency of the human joint in terms of engineering concepts of lubrication have proved inadequate and an entirely new theory of lubrication is proposed. Likewise, the difficulties of simulating *in vitro* the mechanical demands put upon an artificial joint, due to the lack of the lubricating fluids which exist *in vivo*, are emphasised.

Several papers describe the fascinating physical properties of synovial fluid, and the surface scanning electron microscope has been used to demonstrate the surface of articular cartilage in health and disease.

These and other topics are discussed and will interest all who are concerned with the functioning of human and artificial joints. The symposium poses more questions than it answers, but in the present state of knowledge this is inevitable and healthy. It will undoubtedly stimulate and direct further research. It is to be hoped that further such symposia may be reported from time to time and that more orthopaedic surgeons will participate.—J. CHALMERS.

Das Skelet des Kindes. (The Skeleton of the Child.) By Walter SWOBODA, Vienna. 27.5 cm. × 19.5 cm. Pp. xii+260, with 408 illustrations in 328 figures. Index. 1969. Stuttgart: Georg Thieme Verlag. Price DM 88.

This book, first published in 1956 as a manual of x-ray diagnosis for the paediatrician, has been extensively revised, enlarged and brought up to date in text, illustrations and reference-index.

The normal skeletal growth and its countless variations, the abnormal development and the pathology of the skeleton in childhood, as revealed by radiography, form a limitless field of study. To compress the most essential part of this knowledge into 259 pages was a task which demanded a careful selection of subject matter and a concise and well illustrated text. The frequent author references, especially to John Caffey's *Paediatric X-Ray Diagnosis*, 1967, will help the reader in the search of any special matter where Swoboda's self-imposed limitation of space precluded its mention or its more detailed description. *Das Skelet des Kindes* is a book short enough to be read systematically from beginning to end and yet sufficiently comprehensive—also by its frequent mention of further reading matter and generous illustration—to make it a handy book of reference.

It can be recommended especially to the paediatrician, for whom it was originally intended, also to the radiologist, orthopaedic surgeon and general practitioner with a special interest in the various growth disturbances in children. Perhaps a word of warning is justified: for a profitable study of