one of the most lucid and accurate descriptions available. Since the various osteoporoses have different radiologic appearances, Siegelman well illustrates three of the most important types: that of immobilization, that produced by excess glucocorticoids (with its pathognomonic eburnation of the vertebral endplates), and that of osteogenesis imperfecta. While the most common postmenopausal type is not illustrated, it is clearly described.

Rose makes a most valuable clinical point, well known to students of bone diseases, but poorly popularized and essential for evaluation of therapy. He points out that in adults loss of bone is irreversible. Thus, it is too much to expect to see restoration of bone substance, even by the most sensitive techniques. Since bone restoration is not accomplished by any form of treatment, methods for demonstrating that a proposed treatment can stop bone loss are an important part of any discussion of osteoporosis. Neither the Meemas nor Cameron have a chapter on their elegant, objective methods of measuring bone density, though Erik Meema participated in discussion.

The Cameron technique is described by Davis et al., from the University of Chicago, who review their published evidence that estrogens retard bone loss after the menopause. Bauer's review of the epidemiology of fractures, previously published elsewhere, also emphasizes the sex-linked nature of bone fragility, as evidenced by the increased incidence of fractures in postmenopausal Swedish women. Ethnic susceptibility is also described. Several authors comment on the relative lack of osteoporosis in Negro populations. Makin et al. confirm the more frequent occurrence of hip fractures in women over the age of 50 and show that in Israel this excess is limited to women of European or American origin, while the Afro-Asian group shows no significant increase.

Unfortunately, the chapter on the role of fluorides was not included in the final publication. It would be of interest in view of suggestions that induced fluorosis may be effective in treating some types of osteoporosis. The discussion, however, emphasizes the seriousness of endemic fluorosis, the fact that the bone is abnormally brittle, that neurologic complications are frequent, and that a fall on a rigid spine of breakable bone can be fatal in a person with endemic fluorosis.

It is of interest that the proponents of calcium therapy have changed the rationale of this investigational treatment from deposition of calcium in bone to inhibition of bone resorption, possibly by stimulation of endogenous calcitonin. Looking at James Arnold's beautiful vertebral preparations in this volume, it is obvious that osteoporosis is characterized by a dearth of bone tissue to be calcified. The concept of calcium deposition has long been untenable since, as Ernest Schwartz points out, it is not accompanied by phosphate retention.

It is apparent from this volume that each expert rides his own hobby, that osteoporosis is a heterogeneous group of conditions, and that no single treatment for these various conditions can be expected to provide a panacea. It is also clear that several currently investigational therapies can be expected to carry their own toxicity. The clinician will have to decide in each case whether the hazard is worth the possible benefit.

The volume has been beautifully printed on glossy paper with excellent reproduction of x-ray films and charts. As the editor points out, it is not intended as a textbook. The clinician will find the well-written chapters by Urist et al., by Siegelman, by Davis et al., and by Rose, well worth reading.

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GENERAL PATHOLOGY—Fourth Edition—Edited by Lord Florey, Provost of The Queen's College, University of Oxford, W. B. Saunders Company, West Washington Square, Philadelphia, Pa. (19105), 1970. 1259 pages, with 575 illustrations on 484 figures, 7 color plates, $24.00.

This book, as in earlier editions, has a distinctive character through its focus upon the interpretation and understanding of tissue changes in disease. With this approach to "General Pathology" it has no sections on diseases of organs, and relatively few specific diseases are segregated, although atherosclerosis and tuberculosis have special chapters. Tumors and viral diseases are considered as groups of related conditions. This type of presentation is not encyclopedic, but, together with the readable style, it provides interesting reading, and reference to a specific subject brings the reader in touch with a variety of well-presented related material. Using the book is like making a trip. The primary purpose is expanded by the many points of interest along the way.

The book is presented by its 20 co-authors as a memorial to Lord Florey who died as it was nearing completion. This edition retains the form of its predecessors but has been rewritten in some sections. Two chapters have been eliminated and one on "Pathological Consequences of Chromosomal Abnormalities" has been added. With these successful moves toward updating the book, it is unfortunate that the ambiguous term, hyaline degeneration, has been perpetuated. This includes such unrelated processes as aging of scars, deposits of resorbed protein in renal tubular cells and changes associated with injury to liver cells.

The subject of the book is general pathology in the broadest sense. The volume should be of value to anyone who has a fundamental interest in disease.

ALVIN J. COX, M.D.

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SURGERY—Principles and Practice—Fourth Edition—Jonathan E. Rhoads, M.D., D.Sc. (Med.), John Rhea Barton, Professor of Surgery, School of Medicine, University of Pennsylvania, Philadelphia; J. Garrott Allen, M.D., Professor of Surgery, Stanford University Medical School; Attending Surgeon, Stanford University Medical Center, Stanford; Henry N. Harkins, M.D., Ph.D., Late Professor of Surgery, University of Washington School of Medicine, Seattle; and Carl A. Moyer, M.D., Formerly Bixby Professor of Surgery, Washington University School of Medicine, St. Louis. J. B. Lippincott Company, East Washington Square, Philadelphia, Pa. (19105), 1970. 1864 pages, 758 illustrations, $24.00.

With publication of the fourth edition, *Surgery—Principles and Practice* becomes even more firmly established as one of the basic surgical texts for the student and House Officer. The fourth edition is also the end of a cycle in which each one of the four original editors has now had the opportunity to leave his particular mark as the senior editor. The excellent chapters on Nutrition, Parenteral Alimentation and Fluid, and Electrolyte Balance reflect the ongoing interest and continuing contributions of this edition's senior editor, Dr. Rhoads.

There are several factors distinguishing this edition from its predecessors:

A notable loss is the History of Surgery chapter, parts of which have been incorporated under the individual sub-topics which make up the book's chapters. Although the surge for new knowledge and new areas of surgical application has blunted the interest in surgical tradition and history, it seems that this is the place where the student should be oriented to the continuity of surgical experience and the evolution of surgical techniques and research. New disciplines, as reflected in the new chapter Tissue and Organ Transplantation, do not arrive *de novo* but are inexorably linked with each step that went before it. Introducing the student to the history and methodology of surgical innovation is still study of the History of Surgery.