BOOK REVIEWS

The Salicylates. Edited by M. J. H. SMITH and PAUL K. SMITH (1967). Pp. 306, many figs. Wiley, London. (£4).

Those of us who were brought up on Gross and Greenberg's classical monograph with the same title will welcome with open arms its successor, edited by the Professors Smith of King's College Hospital Medical School, and of the George Washington University School of Medicine. 19 years have elapsed between the publication of the two books. It says much for the resilience of the salicylates that they remain the leading analgesics in their field despite the almost weekly introduction of possible rivals and despite, one might add, the almost weekly discovery of new ways in which they can interfere with human metabolism. The salicylates are here to stay. After a brief historical introduction, the work opens with a chapter by Levy and Leonards on absorption, metabolism, and excretion. An extraordinary number of factors affect the rate at which a tablet of aspirin is absorbed into the body and the final concentration which the drug achieves in the tissues. These factors are treated mathematically, but a good "A" level pass in mathematics will see the reader through this without seriously interrupting the flow of the argument. "Tablet dissolution time" turns out to be the thing which most governs the effect of any particular preparation when solid dosage forms are used, whilst the major influence in the rate of elimination of salicylates is the pH of the urine.

R. K. S. Lim contributes the chapter on "Salicylate Analgesia" which includes a discussion of test systems in which analgesia can be assessed. He concludes that unlike morphine (which has a central action) aspirin relies for its pain-relieving effects on its ability to block impulse generation at the chemo-receptors mediating deep pain, for example bradykinin-evoked pain. In the past, assessment has been complicated by the fact that cutaneous

pain is not blocked by this type of analgesic. All the remaining chapters are contributed by M. J. H. Smith. The metabolic effects of salicylates are many and have mostly been studied *in vitro* on isolated enzymes systems. No single unifying concept emerges. Rather it has been found that salicylates (in concentrations roughly equal to those encountered in therapy) inhibit the activities of three groups of important and ubiquitous enzymes. These are those concerned with oxydative phosphorylation, those concerned with dehydrogenation, and the aminotransferases. Another chapter reviews the interactions of salicylates with endocrine systems, in particular with the adrenal cortex and the anterior pituitary. This includes an extensive discussion of the evidence for and against the direct stimulation of corticosteroid production by salicylates. When cortisone was first introduced, it was described by some as a "super aspirin" and, conversely, many believed that the action of aspirin could be explained as exerting its effects through the pituitary-adrenal axis. Discussing this issue now is rather like flogging a dead horse, since it is generally accepted that such similarity as has been observed experimentally is due to the non-specific "stress" of toxic doses rather than to a specific metabolic chain of events. Re-reading the arguments some 10 to 15 years after the main debate, it is easy to see how, if cortisone could be regarded as a super aspirin, aspirin could also be regarded as a poor man's cortisone. Since that time the interactions of salicylates with thyroid hormones, with diabetes mellitus, and with the metabolism of cholesterol have also become important and these matters are here reviewed. Also reviewed are the ways in which salicylates exert anti-inflammatory action, particularly their ability to block the increased capillary permeability of experimental acute inflammation. Smith concludes that, here again, salicylates have multiple sites of action but these include inhibition

of the release of, or action of, the chemical mediators of inflammation. The final chapter on "Toxicology" is of particular interest to clinicians. In therapeutic doses, aspirin causes toxic effects, due to hypersensitivity. Under this heading, Smith brilliantly reviews the enormous amount of work which has been done on the mechanism of the lesion responsible for gastro-intestinal bleeding following salicylate therapy. In toxic doses, salicylate poisoning causes an average death rate of approximately four per million persons in England and Wales, and approximately three thousand admissions to hospital every year. It is a favourite mode of suicide and a common medical emergency. In infants, hyperthermia and disorders of acid-base regulation predominate; in adults and older children one sees the more familiar hyperventilation and alkalosis followed by hepatic and renal damage and bleeding disease. The book closes with a summary of the methods of treatment available to correct the biochemical abnormalities of salicylate poisoning and to force the elimination of the drug from the body, either by increased renal excretion or by extra-renal techniques, including exchange transfusion, peritoneal dialysis, and the artificial kidney.

This book, like its distinguished predecessor, should remain the standard work of reference for another 19 years.

A. ST. J. DIXON

Rheumatology: An Annual Review. Edited by J. ROTSTEIN. 1967. Pp. 243, 35 figs, 14 tables. Karger, Basel. (Sw.Fr./D.Mk 55).

One of the most difficult problems facing a worker in any branch of medicine is that of keeping up to date with progress in practice and research. Within his own field this is of course mandatory if he is to achieve and maintain his individual standard of competence, but it is becoming increasingly desirable to acquire as wide and as critical an outlook as possible upon the various basic sciences which have a bearing on his work. This means much more reading than most of us can manage and we have a rising output of Abstracts, Summaries, Reviews, Synopses, Recent Advances, Modern Trends, Current Progresses, Reports of Colloquia and Symposia, and so on. The number of these is now becoming formidable, and the digests are themselves causing dyspepsia.

Room must, however, be made for "Rheumatology, an Annual Review". It is the first of a series which is planned to extend over a period of years in an attempt to provide the rheumatologist and his allied workers with "a readily available critical discussion and complete bibliography in areas of

established endeavour which are of current interest", as Dr. Rotstein remarks in his introduction. The subjects selected in this volume are the structure and function of lysosomes (G. Weismann), the role of lysosomes in rheumatic disease (D. P. Page Thomas), mycoplasmas and rheumatic disease (J. T. Sharp and S. Riggs), experimental arthritis in rats (G. Jasmin), the subcellular control of protein biosynthesis (J. L. Starr), and immunologically-induced models of connective tissue disease (P. Stastny and C. M. Ziff).

It is true that some of these subjects are of a very general biological nature with no specific relation to rheumatic disorders in particular, while others of them may in time be shown to have less relevance to human disease than is thought at present. Nevertheless this is a valuable book for the rheumatologist because the topics are interesting and important and they are presented by experts in an authoritative and concise manner. The bibliography contains nearly 1,100 recent reference, and the book will no doubt be the first of a very successful series.

J. T. SCOTT

Bréviaire de rhumatologie à l'usage du praticien (Synopsis of Rheumatology for the Practitioner). Edited by S. DE SÈZE and M. CAROIT. 3rd ed., 1967. Pp. 674, 254 figs. Expansion Scientifique Française, Paris.

Despite the word "Bréviaire" in the title, this book is, in its third edition, almost a text book. There are chapters describing the commoner variety of inflammatory rheumatism, but most of the book—and in this it differs from the text-book approach—is taken up with chapters dealing with individual practical clinical problems: the painful hand, the diagnosis of low back ache, acroparaesthesia in the arm, meralgia paraesthetica, the treatment of sciaticas, bone diseases likely to masquerade as "rheumatism", etc., etc. It is well illustrated and clearly set out.

A. ST. J. DIXON

L'ostéochondrose synovial (Ostéochondromatose d'Henderson). (Synovial Osteochondrosis (Osteochondromatosis of Henderson).) By M. DE PONTVILLE, C. PERREAU, F. CABANNE, and G. PIGANIOL, with a preface by F. COSTE. 1966. Pp. 132, 62 figs. Masson, Paris. (Frs 34).

The authors begin by broadening the definition of osteochondromatosis to include all intra-articular loose bodies where there is no evidence of previous trauma, arthrosis, or osteochondritis dissecans. They believe, with good evidence, that all gradations