ANTICONVULSANT DRUGS. Volume 1. International Encyclopedia of Pharmacology and Therapeutics, Section 19, J. Mercier (Section editor); Pergamon Press, Oxford, 1973. 402 pp. $28.50.

This volume is the first half of the anticonvulsant drug section of the I.E.P.T., which is sponsored by the International Union of Pharmacology and is intended to provide comprehensive compendia of basic and clinical information about major drug groups. In general, the goal is achieved here. The latter half of the book consists of four excellent chapters on laboratory–clinical correlations, structure–activity relationships, and pharmacokinetics in animals and man. These chapters are densely referenced, for the most part well organized, and contain adequate historical perspective; together they constitute a valuable reference for pharmacologists and clinicians. The book’s first four chapters are less satisfactory. The first of these is a review of the classification and presumed pathophysiology of epileptic seizures. The material presented is all available elsewhere, and much of it has been published repeatedly. One can question whether any useful purpose is served by presenting it again in a pharmacological reference work which is likely to be used most by people who have more extensive treatment of these subjects ready at hand. The three succeeding chapters on methods for assessing anticonvulsant activity of drugs are too long; one of them is filled with unpublished personal data and rambling discussions of matters remote from pharmacology.

This volume covers much of the same ground as Antiepileptic Drugs, Woodbury, et al. (eds.) and Experimental Models of Epilepsy, Purpura et al. (eds.). However, there is enough difference in content that a research worker in this area will want access to all three books. A clinician in need of a single work for occasional reference will be best served by the present volume.

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THE PERSECUTED DRUG. THE STORY OF DMSO. By Pat McGrady, Sr. Doubleday and Co., New York, 1973. viii, 372 pp. $7.95.

An inexpensive panacea repressed by a federal agency, a selfless dedicated physician dedicated to his patients. There are the ingredients of a book on the recent fortunes of dimethylsulfoxide. There are good guys (physicians), bad guys (the government, FDA), losers (patients), and winners (big business). The roles are as rigidly defined as in a Hollywood western but that is not to say that westerns are not entertaining. They are, and so is the book by Pat McGrady, a good story teller who was the science editor of the American Cancer Society. His métier is the essay—the short exposition, and the book would probably be best enjoyed as a series of interrupted readings. The book is divided into five sections. These divisions do not reflect any obvious attempt at organization in the usual sense; however, each of the five sections is lively, entertaining, and can be read as a free-standing essay. The book is less than the sum of its five parts. The only theme that integrates the parts are the too obvious type-cast roles described earlier. In the words of the author Pat McGrady (adjectives his) "... the purchaser of this book gets not a single, simple, straightforward account of a drug but three stories in one: the incredible performance of an unbelievable drug; the unlikely adventures of a fantastic government agency; and the
problems of a man so good in a wicked world that his virtues are regarded as vices.” For readers looking for a gee whiz account of a current scientific topic, this is a pretty good book.

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SELECTIVE TOXICITY (Fifth Edition). By Adrien Albert. Chapman and Hall (London), 1973. 597 pages. $19.75.

Selective Toxicity is an exposition of the many chemical and biological principles that allow drugs to act selectively. To incorporate both pharmacodynamics and chemotherapy into the discussion, a rather broad definition of “selective toxicity” is adopted (…“the injury of one kind of living matter without harming another kind. . . .”); thus propranolol is viewed as a reversible antagonist (injurer) of \( \beta \)-receptors and penicillin as an irreversible injurer of gram-positive bacteria. Chapters are built around the mechanisms of and principles behind selectivity, and examples are chosen from past and present pharmacopoeias to illustrate the reduction of theory to practice. For instance, the penicillins are discussed in the chapters on comparative cytology (structure of bacterial cell walls), principles of chemotherapy (problem of resistant organisms), covalent bonds (details of acylation of cell wall components), and steric factors (reactivity of the \( \beta \)-lactam ring).

Albert’s writing is crisp and remarkably jargon-free. The readability of Selective Toxicity is commendable, but occasionally mechanisms are summarized too tersely, neatly, and uncritically, and the novice may be led to believe that drugs are more selective than they really are. Cardiac glycosides are said to have a “direct and selective action on heart muscle”; no discussion of their neurotoxic side effects appears. Chloramphenicol is said to “specifically inhibit protein synthesis in bacterial ribosomes”; the occasional action on human bone marrow leading to aplastic anemia is not mentioned. As for drug design gone awry, thalidomide’s teratogenic action is only mentioned once, in passing, in one sentence in the book.

Specialists and careful readers will find a few technical errors in the text. Notable ones occur in the discussion of Lineweaver-Burk plots \( (K_m \) is not “shown at the intersection of slope and ordinate”) and in the chapter on steric factors (after a lucid discussion of the rectus/sinister convention, the structures of ephedrine and pseudoephedrine are drawn correctly, but the configurations are misassigned).

Selective Toxicity is not a comprehensive treatment of either medicinal chemistry or pharmacology and cannot be recommended as the principal text in a course in either discipline. But selected chapters are highly recommended as stimulating supplementary reading. Albert’s book illustrates, over and over again, how seemingly irrelevant work in organic chemistry and comparative biochemistry can lead to medical advances. In an era of diminished funds for basic research, this point cannot be made too often.

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