

The benzodiazepines. — S. Garattini, E. Mussini and L. O. Randall (Editors). (Raven Press, New York, 1973, 707 p., \$35.00).

This is an excellent research monograph on the pharmacology of the benzodiazepines, sponsored by the Mario Negri Institute for Pharmacological Research in Milan, Italy. It has been 16 years since the discovery of chlordiazepoxide, the first benzodiazepine to be used clinically. Since then, these agents have become widely used throughout the world. Although much has been written on the subject of benzodiazepines, the uniqueness of this book is that much of the pertinent scientific literature is in one volume. Medicinal chemists, pharmacologists and interested clinicians will find this book of great interest. Areas which are discussed include structure activity relationships, biotransformation, neural and behavioral pharmacology, biochemical effects and clinical efficacy of these compounds. Each of the 43 chapters summarizes specific research contributions of some of the leading investigators in the field. After various sections like Pharmacokinetics and Metabolism, Neurobiochemistry, Antiaggression Effects, Sleep Studies and Interaction With Other Drugs is a discussion summary prepared by a well known investigator. Anyone interested in the subject of the benzodiazepines as their primary interest surely should own a copy of this important book.

The chief deficit of this book is a lack of material regarding neurophysiology and sites of action. Only two research groups have contributed chapters to this area. Furthermore, no significant clinical electroencephalographic material is presented. I personally find this a serious shortcoming of this volume but it probably reflects the personal biases of the editors.

On the positive side the editors have assembled a remarkably sophisticated group of investigators in a symposium that surely must have been very worthwhile to attend. For those of us not privileged to attend the symposium in person, this monograph serves as a unique and most useful compendium of knowledge. It is recommended that this book be bought by all medical libraries and those individuals especially interested in this subject.

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The EEG Handbook. — Alice R. Craib and Margaret Most, (Ed. Morton Low.) (Beckman Instruments, Inc., Shiller Park, Ill., 1973, 181 p., \$6.00).

The EEG Handbook was written "to provide easy and concise reference notes on the practical, technical, and clinical problems facing technologists in the field of Electroencephalography". Its 8.5 x 11 inch format, soft cover, and price are appropriate to this purpose. The 21 chapters range from 1 to 36 pages in length and are grouped into Part I (Chapters 1-8) and Part II (Chapters 9-21).

The relationship of subdivisions to subject matter often appears arbitrary. Thus, Chapter I, "Role and Responsibility of the Technologist in the Care and Handling of the Patient",

discusses personal cleanliness and patient relations for the beginning technologist. Also included are outlines of emergency care during a seizure, what to look for during a seizure, and care during cardiac arrest. Then lumbar puncture, pneumoencephalography, arteriography, and ventriculography are described and the effects of these procedures on the electroencephalogram are noted.

Chapter 2, "Taking a Patient History", is a three-page outline using the headings of General Information, Children, Seizures, Headaches, and Head Injury. Observation of the patient during recording is included in this section.

Chapter 3 is devoted to marking and measuring the head and provides a good description and diagrams of the 10/20 system. Techniques of electrode application are well detailed. Subdermal electrodes are strongly discouraged, even to the point of including "disadvantages" which are unreal ("Needles, unless insulated well to very near the tip, cause trouble from oozing of the tissue fluids"?) or which are not practically different from other types of electrodes ("Electrodes inserted to varying depths can cause poor contact and create misleading asymmetries").

The Guidelines in EEG prepared by the American Electroencephalographic Society are reprinted in Chapters 4 and 18 and are useful information for technologists and electroencephalographers alike.

Chapters 5-8 deal with the meat of EEG technology, including the effects of filters and change of sensitivity (Ch. 5), EEG terminology, patterns, and artifacts (Ch. 6), polarity and montages (Ch. 7), and activation, special electrodes, and electrocorticography (Ch. 8).

The section on filters begins with an important misconception, namely that one electrode is considered "active", the other is considered as reference". This is guaranteed to confuse the beginner. The rationale offered for filtering, "because unwanted 60 Hertz pickup, muscle potentials, and other biological potentials are within the EEG frequency range", is also not exact. Filtering is necessary to reduce unwanted signals *outside* the EEG frequency range for the most part.

The text concerning filters is written around 15 figures previously published by Beckman Instrument Company as a handout under the title of "Electronics for EEG Technologists". Correspondence between the text and these figures is irregular. Thus one is required to turn four pages to find Fig. 9 after seeing its reference in the text and then to turn three more pages the text resumes. The figures themselves are attractive but require further editing. In Fig. 2 values for 35 and 70 c/sec are reversed as are the values for 0.35 and 0.70 V and the values for 70 and 35 μ V. In Fig. 3, 12 c/sec is printed instead of 10 on two occasions and the high frequency roll off in 35 c/sec is closer to 6 dB than 3 dB. In Fig. 3, 4, 5, and 15, arbitrary non-linear scales are used for the X axis and make frequency response curves difficult to interpret accurately. In Fig. 14, the low frequency response of the Beckman Instrument and that of "another manufacture" are compared without noting that Beckman responses represent 3 dB roll off figures (70%) while those of the other manufacturer represent 2 dB (80%) roll off points.

The use of the term "time constant" for the low frequency filter does not parallel the term "high frequency filter" and does not take into account the fact that time constants are