

primarily, then, to highly motivated souls who have the stamina to rewrite the book they are reading and to supply its missing context in previous historical treatments. More general readers will want to turn to the now-classical interpretation by Klein and to the important new reinterpretation by Kuhn that are cited above.

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Sleep

Human Sleep and Its Disorders. WALLACE B. MENDELSON, J. CHRISTIAN GULLIN, and RICHARD JED WYATT. Plenum, New York, 1977. xiv, 260 pp., illus. \$19.50.

The recent development of a clinical, multidisciplinary approach to disorders of sleep has generated new concepts, techniques, and challenges. A major criticism leveled at biological and medical research is that proliferation of scientific studies does not ensure clinical usefulness and a hiatus often exists between research results and practical clinical application. This book attempts to bridge this gap with respect to sleep and its disorders.

The touchstone of any emerging medical discipline is the nosology of symptoms, syndromes, and "diseases," and in the history of medicine "pathology" has been a critical factor. The sleep disorders, however, are primarily "functional" in nature, and no unifying structural, anatomical, or biochemical abnormalities have been found. The discomfort and disturbances experienced are nevertheless very real. Clinical conditions such as narcolepsy-cataplexy affect social, economic, and emotional well-being. The hypersomnia-sleep-apnea syndrome is associated with major disturbances of daytime vigilance and leads to serious cardiorespiratory abnormalities. Such recurrent sleep-related disturbances as nocturnal seizures, night terror attacks, somnambulism, bruxism, enuresis, and nocturnal myoclonus can be puzzling and disturbing to the patient and to his or her family.

Although these specific clinical problems are discussed in the book, its major themes are drawn from the authors' own areas of research, the pharmacology and neuroendocrinology of sleep and the effects of alcohol and alcoholism on sleep. There is also an extensive and detailed account of the effect on sleep of the af-

fective disorders (depression and mania) and schizophrenia. These subjects are well reviewed and critically analyzed, but as an analysis of human sleep and its disorders the book is less comprehensive than the title might lead the reader to expect. The special sleep disorders of the aged and children are not discussed, and there is a notable lack of attention to the important developing view that disorders of human sleep are part of a more general disturbance of the sleep-waking rhythm.

Persistent and often profound abnormalities of sleep and sleep-stage patterns, such as decreased REM latency and variability and shortening of total sleep time, are typically present in patients with affective disorders and schizophrenia. In their discussion the authors emphasize the heterogeneity of the syndromes and the lack of correlation between specific abnormal sleep patterns and the subclassifications of these disorders. The chapter on alcohol and sleep reviews evidence that not only does alcohol ingestion acutely affect sleep but the "dry" alcoholic—for periods of up to two years—will often have disturbed sleep with multiple awakenings and altered sleep-stage patterns.

The book has an extensive bibliography but a skimpy index.

Although uneven in both coverage and quality, this book will be especially valuable to scientists and clinicians who are trying to relate findings of sleep research to the maladies that disturb daily sleep-wake periodic functions.

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The Architecture of Concurrent Programs. Per Brinch Hansen. Prentice-Hall, Englewood Cliffs, N.J., 1977. xviii, 318 pp. \$16.95. Prentice-Hall Series in Automatic Computation.

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Biology of Earthworms. C. A. Edwards and J. R. Lofty. Chapman and Hall, London, and Halsted (Wiley), New York, ed. 2, 1977. xviii, 334 pp., illus. \$17.50.

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Electric Vehicle Development. Papers from a conference. Peter Peregrinus, Stevenage, Herts., England, 1977 (U.S. distributor, ISBS, Forest Grove, Ore.). vi, 104 pp., illus. Paper, \$17.50.

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BOOKS RECEIVED

(Continued from page 1332)

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The First Relationship. Mother and Infant. Daniel Stern. Harvard University Press, Cambridge, Mass., 1977. x, 150 pp., illus. Cloth, \$7.95; paper, \$3.95.

Genes in Populations. Eliot B. Spiess. Wiley, New York, 1977. xiv, 780 pp., illus. \$19.95.

Handbook of Mutagenicity Test Procedures. B. J. Kilbey, M. Legator, W. Nichols, and C. Ramel, Eds. Elsevier, New York, 1977. xiv, 486 pp., illus. \$59.95.

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The Nutrition Cookbook. A Guide to Healthy Family Food with Gourmet Recipes Computer Analyzed for Your Specific Daily Requirements. Stephen N. Kreitzman and Susan L. Kreitzman. Harcourt Brace Jovanovich, New York, 1977. x, 500 pp. \$12.95.

Nutritional Aspects of Fats. Papers from a symposium, Paris. J. C. Somogyi and A. François, Eds. Karger, Basel, 1977. viii, 200 pp., illus. Paper, \$47.75. Bibliotheca Nutrition et Dieta, No. 25. Series of the Institute for Nutrition Research, vol. 25.

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The Study of the Future. An Agenda for Research. Wayne I. Boucher, Ed. National Science Foundation, Washington, D.C., 1977 (available from the Superintendent of Documents, Washington, D.C.). x, 316 pp., illus. Paper, \$4.75. NSF/RA-770036.



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