

Book Reviews

Physical fitness appraisal and guidance. Thomas Kirk Cureton, Jr. St. Louis: C. V. Mosby, 1947. Pp. 566. (Illustrated.) \$6.00.

This book represents an ambitious and laudable attempt, sponsored by the University of Illinois, to appraise physical fitness and to lay down principles for its improvement. A battery of fitness tests was applied to students entering the University's Colleges of Medicine, Dentistry, and Pharmacy. The techniques and results are presented, and the author, who administered the study, interprets the results and provides hints for the guidance of physical educators.

The study signifies a growing interest in fitness and health; the "Committee on Physical Fitness" that supported the study and encouraged the publication of results is to be congratulated. Since other universities are alert to the problem, *Physical fitness appraisal and guidance* may well stimulate interest in other quantitative studies designed to evaluate the author's new techniques.

It may be appropriate to refer to certain sections of Chapter 5, since these seem rather superficial. The author refers briefly to the major role played by excess fat deposition in lowering fitness and favoring degenerative disease. Convincing graphic evidence might well have been prepared from the morbidity records of insurance companies. Seven methods are recommended for reducing, but these do not include a clear statement of the basic principle: *caloric intake must be less than caloric output*. Further, the idea that sweating and reduced water intake modify fat deposition is, unfortunately, perpetuated. Finally, some readers will question the recommendations that the fat person should eat more bread and less dry cereal, more turkey and less cheese.

But these are minor points that can be corrected in later editions. The important fact is that the author has attempted to provide a basis for greater physical fitness and health. The crucibles of experience and of physiological research will determine the soundness of his approach.

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Hearing aids: an experimental study of design objectives. Hallowell Davis, et al. Cambridge, Mass.: Harvard Univ. Press, 1947. Pp. viii + 197. \$2.00.

With the development of the miniature vacuum tube and the crystal microphone in the late 1930s, pocket-size hearing aids of relatively wide frequency response and high fidelity became commercially available. In view of these technical advances, it became practicable as well as desirable to ask: "How nearly should the characteristics of the hearing aid compensate for the detailed deficiencies

of the individual impairment?" The report under review proposes an answer to this problem.

To make the study, an instrument known as a "Master Hearing Aid" was constructed which could be set to give one of several patterns of frequency response and suitable limits of maximum acoustic output. Tests were then made on 18 hard-of-hearing listeners to determine the relative value of various frequency patterns. From the results obtained, the following tentative design objectives for hearing aids were drawn up: (1) a uniform frequency response, i.e. without marked resonant peaks or valleys, covering the range from 300 to 4,000 CPS with a tone control adjustment to give a flat or a moderately rising response; (2) a smoothly graded gain control approximately logarithmic over a 40-db range; (3) a choice of models, the lowest powered to have at least 40-db acoustic gain available, the highest powered a maximum of 80-db, with provision for limiting the maximum acoustic pressures by compression or peak clipping as required by, and as acceptable to, the wearer. The above recommendations were based on the conclusion that "regardless of the nature of their particular defect, most patients hear best with an instrument which amplifies all frequencies uniformly, or with moderate emphasis of the higher frequencies."

The term "most patients" leaves the few for whom some deviation from high fidelity must be provided for best results. The report does not cover this aspect of hearing aid "fitting." Further information on the scope of the problem undoubtedly would have been secured had the original plan of validating the laboratory studies by large-scale clinical testing been carried out. The challenge of recognizing and providing for this type of hard-of-hearing individual remains one of considerable significance to the designer, to the manufacturer, to the otologist, and to the hearing aid dealer.

In general, the conclusions reached in the Harvard study are substantiated by the recently published Report No. 261 of the British Medical Research Council.

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The engrammes of psychiatry. J. M. Nielson and George N. Thompson. Springfield, Ill.: Charles C. Thomas, 1947. Pp. xix + 509. (Illustrated.) \$6.75.

Included in this moderate-sized book is a careful, clearly expressed effort to relate the known facts of brain structure and function to behavior. The somewhat unfamiliar word "engramme" is used to emphasize a conviction that each pattern of personality function is controlled or produced by residual traces—engrammes—of events or inborn tendencies which remain in the brain on call in the service (or disservice) of the individual, and which are subject to various disruptions and other

disabilities. Thus, the "engramme" is in reality a construct erected to explain the facts of personality and behavior; it remains to be seen whether or not the utility of this concept will be greater than that of other concepts currently in use. It is affirmed that the brain is the organ of the mind, and that all psychology is cerebral physiology. Experimental work in neurology and neuropathological evidence bearing on such matters as conation, consciousness, perception, recognition, concept formation, and judgment are discussed in an easy-to-read manner. After laying this foundation the various clinical states are described and discussed largely from the point of view of the possible neuroanatomical and neurophysiological lesions involved in causation. Of interest especially are the chapters dealing with cerebral function with reduced awareness, mental disturbances due to cerebral neoplasm, and the chapter on mental symptoms due to general somatic diseases.

The authors' major interest in experimentally verified material may have outweighed the discussions of environmentally and psychodynamically determined aspects of mental disease, much of which cannot yet be examined experimentally. Occasional assertions of opinion, particularly on psychological and sociological points, are made in a manner that does not reflect the uncertainty of usually informed authorities, e.g. in the discussion of group differences in the chapter on personality. Problems of intensive psychotherapy such as the relationships between patient and therapist, the dealing with resistances, the planning of interviews, and much of symbolism are treated lightly. Hereditary and constitutional factors are emphasized, as in the discussion of schizophrenia, to an extensive degree and at the expense of the discussion of those dynamic factors which have been found frequently vulnerable to attack by various psychotherapeutic methods.

An attractive feature of the text is the historical introduction to each new subject and the sense of perspective which the wide clinical experience of the authors gives. The case material is illuminating and of rich variation and interest.

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Scientific Book Register

- CLARK, W. MANSFIELD. *Topics in physical chemistry: a supplementary text for students of medicine*. Baltimore: Williams & Wilkins, 1948. Pp. xv + 738. (Illustrated.) \$10.00.
- DEAN, ROBERT B. *Modern colloids: an introduction to the physical chemistry of large molecules and small particles*. New York-Toronto-London: D. Van Nostrand, 1948. Pp. xi + 303. (Illustrated.) \$3.75.
- FAIRBROTHER, R. W. *A text-book of bacteriology*. (5th ed.) New York: Grune & Stratton, 1948. Pp. viii + 480. (Illustrated.) \$6.00.
- FOLLIS, RICHARD H., JR. *The pathology of nutritional disease; physiological and morphological changes which result from deficiencies of the essential elements, amino acids, vitamins, and fatty acids*. Springfield, Ill.: Charles C. Thomas, 1948. Pp. xii + 291. (Illustrated.) \$6.75.
- GREY, MARION. *Catalogue of type specimens of fishes in Chicago Natural History Museum*. (Fieldiana: Zoology, Vol. 32, No. 3.) Chicago: Chicago Natural History Museum, 1947. Pp. 109-205. (Illustrated.) \$1.25.
- KRANZ, LEON G. *Kinesiology laboratory manual*. St. Louis, Mo.: C. V. Mosby, 1948. Pp. 177. (Illustrated.) \$2.75.
- LEVINSON, SAMUEL A. (Ed.) *Symposium on medico-legal problems under the co-sponsorship of the Institute of Medicine of Chicago and the Chicago Bar Association*. Philadelphia-London-Montreal: J. B. Lippincott, 1948. Pp. xviii + 255.
- LLAVERO, F. *Thromboendangiitis obliterans des Gehirns: neurologischpsychiatrische Syndrome*. Basel: Benno Schwabe, 1948. (Imported by Grune & Stratton.) Pp. 248. (Illustrated.) Fr. 24-.
- M McNAIR, JAMES B. *The analysis of fermentation acids*. Los Angeles: Westernlore Press, 1947. Pp. 290. (Illustrated.) \$7.50.
- MENZEL, DONALD H. *Elementary manual of radio propagation*. New York: Prentice-Hall, 1948. Pp. xii + 222. (Illustrated.) \$7.65.
- PETERSEN, WILLIAM F. *Man, weather, and sun*. Springfield, Ill.: Charles C. Thomas, 1948. Pp. xxx + 463. (Illustrated.) \$10.00.
- PRICE, WILLIAM E. *Laboratory chemistry*. Yonkers-on-Hudson, N. Y.: World Book Co., 1947. Pp. x + 133. (Illustrated.)
- REINDEL, F., and ANSCHÜTZ, LUDWIG. *Richter-Anschütz. The chemistry of the carbon compounds*. Vol. IV: *The heterocyclic compounds and Organic free radicals*. (Translated by M. F. Darken and A. J. Mee.) (3rd English ed. from 12th German ed.) New York: Elsevier, 1947. Pp. xv + 498.
- SHERFF, EARL EDWARD. *Further studies in the genus, Dodonaea*. (Botanical Series, Vol. 23, No. 6.) Chicago: Field Museum of Natural History, 1947. Pp. 317. \$75.
- SHERFF, EARL EDWARD. *A preliminary study in Hawaiian species of the genus Rauwolfia and Additions to the genera Scaevola and Hedyotis*. (Botanical Series, Vol. 23, No. 7.) Chicago: Field Museum of Natural History, 1947. Pp. 321-336. (Illustrated.) \$25.
- SHERINGTON, SIR CHARLES. *The integrative action of the nervous system*. (6th ed.) New Haven, Conn.: Yale Univ. Press, 1948. Pp. xxiv + 433. (Illustrated.) \$6.00.
- VENABLE, WILLIAM MAYO. *The interpretation of spectra*. New York: Reinhold, 1948. Pp. v + 200. (Illustrated.) \$6.00.