Book Reviews

Some Protozoan Diseases of Man and Animals: Anaplasmosis, Babesiosis, and Toxoplasmosis. Annals of the New York Academy of Science, vol. 64, art. 2, pp. 25–277. New York Academy of Science, New York, 1956.

This series of papers is the result of a conference on Some Protozoan Diseases of Man and Animals: Anaplasmosis, Babesiosis, and Toxoplasmosis, held by the Section of Biology of the New York Academy of Science, 17–18 Nov. 1955 and is published in book form by the academy.

In the first of the three parts of the book, present knowledge of anaplasmosis is summarized in four papers which deal, variously, with the clinical signs, diagnosis, transmission, prevention, and treatment of the disease. Among the diverse aspects of anaplasmosis discussed are, *in utero* transmission; the important role of the horsefly in transmission; the proposed eradication of the disease from the Hawaiian Islands with the use of the complement fixation test; and treatment with chlortetracycline and oxytetracycline.

The first paper of part II is a review and classification of the piroplasms of domestic animals, by Neitz. Two classificatory lists, one of the Piroplasmidea and another of the Leucosporidea, are given, as well as a series of tables which list the known arthropod vectors of the piroplasms. Babesiosis of domestic animals is reviewed by Malerbe, and cases in the dog are cited as representative of typical syndromes of all domestic animals affected with babesiosis.

In part III, toxoplasmosis, in man and animals, is discussed with respect to the propagation, morphology, and biology of the organism and the laboratory diagnosis and pathogenesis of the disease. The advantages and disadvantages of various methods of propagation, photomicrographs and detailed morphological descriptions, and the biology of Toxoplasma, are presented by Jacobs. Although the pathogenesis, discussed by Frenkel, deals mainly with the disease as it is seen in man and in experimental animals, the principles of the disease processes set forth are the same in the domestic animals, especially in the dog. Eyles mentions two groups of drugs—the sulfonamides and the 2,4′=diaminopyrimidines—which show promise in the treatment of toxoplasmosis. He points out, "Although possessing marked activity individually, perhaps the most outstanding characteristic of the sulfonamides and pyrimethamine is that they act together synergistically . . .," making therapeutic effects possible with lower doses of the drugs. Extensive bibliographies are listed by Frenkel and by Eyles.

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Handbuch der Physik. vol. XV, *Low Temperature Physics II.* S. Flügge, Ed. Springer, Berlin, 1956. 477 pp. Illus.

This volume, the second of two devoted to the subject of low temperature physics and comprising five sections in almost 500 pages, is a worthy companion to the first (volume XIV).

In the opening chapter, on "Low temperature magnetism," J. van den Handel has written a short review to serve as an introduction to more extensive individual treatments elsewhere in the *Handbuch.* It is mainly devoted to the topics of energy levels, susceptibility, and antiferromagnetism, with additional brief remarks on resonance and relaxation phenomena and the Faraday effect.

There follows a discussion of "Adiabatic demagnetization," by D. de Klerk, which covers in detail all aspects, pure and applied, of the subject. One defect of this chapter is the fact that the author has striven to summarize practically every investigation ever reported rather than exercise critical selection. For example, the inherent inaccuracy in absolute temperature determinations below 1°K is rather lost sight of in a plethora of tabulations for many substances, some significant but others less so. It is interesting to learn that the latest (and as yet unpublished) data remove long-standing discrepancies between temperature determinations using gamma-ray heating and those using alternating-current absorption heating and resolve the argument in favor of the former. This automatically raises the question of the validity of all determinations which have employed the alternating-current method, but this point is not discussed. These observations aside, the fact that the whole field of magnetic cooling, including application of the method to diverse investigations at very low temperatures, is so well covered (up to the end of 1954) makes this contribution a reference work of great value.

"Superconductivity" is dealt with in two chapters, one by B. Serin, which concentrates on experimental results, and another by J. Bardeen, which is devoted to theory. The former is very readable but a little uneven in emphasis, since half of the article is devoted to general properties, and the rest, to the specific topics of penetration depth, interphase surface energy, and thermal effects, with a few remarks about alloys and compounds. Bardeen describes in considerable detail the developments due, variously, to F. and H. London, Fröhlich, Pippard, Ginsburg, and Landau, and to himself. He deals with them under three headings: London theory and generalization, boundary effects and the intermediate state, and electron-phonon interactions. He ably demonstrates the large effort that has gone into the approach to an understanding of the superconducting state, while emphasizing the considerable distance that yet remains to be traveled. (One hopes that current rumors of a significant advance will presently be borne out by fact.)

In the final section, K. Mendelssohn discusses "Liquid helium." After an eloquent and at times philosophic introduction, the author deals authoritatively with the various thermal, mechanical, and rheological phases of the subject and with the "special" behavior of helium-3.

When viewing the volume as a whole, one can be enthusiastic, and grateful for its appearance. Perhaps other reviewers will find specific criticisms in the area of their special competence, but I am forced to believe that these will be minor ones.

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Youth in a Soundless World. A search for personality. Edna S. Levine. New York University Press, New York, 1956. 217 pp. $5.

This book is about the deaf. It discusses in the introductory sections the general problem of the effects of deafness on adjustment, as well as psychological studies on the deaf. The major portion of the book is devoted to an experiment on deaf adolescent girls.

The experiment reported in the book consisted of the administration of the Wechsler-Bellevue scale, form 1, and the Rorschach test to 31 girls at the

Lexington School for the Deaf. The girls were 15 to 18 years of age and were selected as normal girls by their teachers. The Wechsler results were compared with a sample of 100 records of 16-year-old subjects from the Wechsler standardization data.

The results showed no statistically significant difference between the deaf and hearing groups in the over-all Wechsler IQ. On the other hand, the hearing group was superior to the deaf on the verbal scale, while the deaf were superior to the hearing group on the performance scale. The author concludes, after an analysis of the subtests, that the deaf are quantitatively inferior to the hearing group in verbal abstract thinking and superior in reactions to the concrete type of test stimulus. The Rorschach results likewise showed in the deaf a "noncreative, reproductive type with lowered capacity for conceptual thinking and strong emphasis upon concrete, tangible stimuli."

The study as a whole suffers from the usual difficulties encountered by psychologists in obtaining a representative sample of deaf subjects. The author recognizes the difficulties of drawing conclusions from tests that utilize language responses in a group whose major disability is language. She believes, however, that her experience with the deaf and the utilization of all forms of communication minimized this difficulty.

The fact that the average educational achievement of the deaf subjects used was approximately the fourth grade, as compared with a ninth- or tenth-grade achievement for the hearing control group, may furnish an explanation for the difference on tests requiring language responses. How to control this important variable is one that has stumped researchers in this field. The author implies that much more rigid experimentation is needed in this area.

The book is well written in a semipopular style, as represented by the title, *Youth in a Soundless World*. A more descriptive title would have been "A study of Wechsler and Rorschach scores of 31 adolescent deaf girls."

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Amino Acid Handbook. Methods and results of protein analysis. Richard J. Block and Kathryn W. Weiss. Thomas, Springfield, 1956. 386 pp. Illus. $10.50.

The first part of this handbook constitutes an excellent laboratory manual that gives, with experimental details, the procedures available for the analysis of proteins and determination of their component amino acids. Chemical, microbiological, and chromatographic methods are covered, and the results and limitations in typical cases are presented. Two short chapters cover dietary requirements for amino acid and protein consumption in the United States.

The latter half of the book is devoted to a very comprehensive tabulation of the amino acid composition of about 160 proteins. The tables list method and results in the analysis of each protein by a large number of investigators. The accompanying bibliography, which gives 1300 references to the original literature, through 1955, should be of great value to protein chemists, and the handbook itself should be extremely useful to those concerned with nutritional aspects of protein chemistry.

Archimedes. vol. 12, *Acta Historica Scientiarum Naturalium et Medicinalium*. E. J. Dijksterhuis. Ejnar Munksgaard, Copenhagen, 1956. 420 pp.

This book is an English version of the author's *Archimedes* [in Dutch (Groningen, 1938)] and of articles that appeared in the Dutch periodical *Euclides* between 1938 and 1944.

In setting forth the mathematical arguments, E. J. Dijksterhuis employs a notation of his own devising, which is somewhat between the modern symbolic notation of T. L. Heath's English version and the nonsymbolic verbal mathematics of Paul Ver Eecke's literal French translation. The bulk of the work is a discussion of all the writings of Archimedes, proposition by proposition. As a rule, only the enunciation of the proposition is actually translated; the rest is generally paraphrased, summarized, and commented on. In addition, there are chapters on Archimedes' life and works and on the basic concepts and lemmas that he employs.

With this book, Dijksterhuis has put all students of Greek mathematics in his debt. The modern reader who approaches an author as profound as Archimedes needs every help he can get, and he is indeed fortunate, now, to be able to consult Dijksterhuis along with the standard editions of Heath and Ver Eecke.

The new work is so very valuable for what it seeks to do—that is, to make more understandable the actual mathematics of Archimedes—that it may seem ungracious to ask for more. Yet a consideration of Archimedes' work suggests many topics (some of them outside the boundaries of technical mathematics) which have not been adequately dealt with in any of the standard treatises on Archimedes. Among these are the factors that determined the direction of Greek geometry and molded Archimedes' thinking; the peculiar insights that enabled him so decisively to break some (but not others) of the barriers of traditional geometry; the historical relations between numerical and geometric methods in applied science and the reason for the emphasis on the latter in the Greek development; the failure of Archimedes' followers, in antiquity, to advance his work (for example, with any quantitative treatment of specific gravity); the attitude of Archimedes (and antiquity, in general) on the sort of labor-saving machinery for which his work laid theoretical foundations; the preservation of Archimedes' thought in the Middle Ages, and the precise nature of the impact of his work on such men as Galileo and Newton at the beginning of the modern era.

Study on some of these topics is going forward; the fundamental work of Marshall Clagett in assessing the influence of Archimedes in the Middle Ages is a case in point. With the progress of such studies we shall have a clearer understanding of the position of Archimedes in the general history of science. Toward our understanding of Archimedes' achievement in the more restricted field of technical mathematics, Dijksterhuis has made a welcome and substantial contribution.

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They've Got Your Number. Robert Wernick. Norton, New York, 1956. 124 pp. Illus. $2.95.

That the *Zeitgeist* influences the course of scientific inquiry and occasionally the findings and theoretical constructions of scientists is a key proposition in the sociology of knowledge.

The most valuable thing about this little book is that, in its own gag-laden and irresponsible way, it may force upon those psychologists who happen to read it a recognition of the fact that psychological testing as a field is heavily influenced by some of the social imperatives of our time and place.

Robert Wernick is probably right in contending that the cultural compulsives toward conformity and against privacy have energized the boom in psychological testing. Unfortunately he gives no evidence of having carried his thought a step further to the connection between the demand for conformity and the development of a bureaucratized mass society whose functioning seems to require members governed by routinized needs and motivated to the execution of predictable patterns of interaction.