prehensiveness in the representation of important areas. One finds an excellent review by Palay of new knowledge of neuronal structure achieved through electron microscopy, which biochemists are beginning to realize must form the framework in which chemical systems contribute to function. The chemical structure of the nervous system is represented by papers on the chromatographic properties of sphingosine by Wittenberg, on the structure of ribonucleic acid by Rich, and on fractionation of brain copper protein by Porter and Folch-Pi.

Some fundamental aspects of intermediary metabolism are discussed by Roberts on the formation and utilization of γ-aminobutyric acid, on enzymatic thioltransacetylation by Brady and Stadtman, on acetal phospholipids by Korey. The relationships of biochemistry to development are discussed in papers on adaptive enzyme formation in morphogenesis by Gordon, on developmental changes in enzymatic activity by Jordan and his associates, and on studies of over-all cerebral metabolism in children by Kennedy.

Biochemical mechanisms and their role in the functional activity of the nervous system are treated by papers on the biochemical correlates of stress by Nurnberger and Gordon, on acetylcholine activity by Wilson and Altamirano, and on cerebral metabolism and mental activity by Sokoloff. A number of papers discuss the biochemical correlates of neurological disease, including Wilson's disease by Scheinberg, epilepsy by Tower, and allergic encephalomyelitis by Goldstein and Kies.

The organizers of this symposium are to be congratulated for the role that they are playing in the ever-widening acceptance of the important place that biochemistry occupies in modern neurology.

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Handbook of Scientific and Technical Awards in the United States and Canada. Margaret A. Firth, Ed. Special Libraries Association, New York, 1956. 491 pp. $10.

This selected listing of the most important awards presented by the leading scientific and technical societies in the United States and Canada is arranged alphabetically by names of the societies listed. The basic list used for the compilation was edition 8 of *Handbook of Scientific and Technical Societies of the United States and Canada,* 1948. All societies listed as presenting awards were reviewed. Awards granted by foundations, publishers, universities, and companies are not included in this compilation.

Under each society listed the names of that organization's awards are arranged in alphabetical order. A brief description of each award is given, and information is included on the criteria for selecting recipients and the nature of the award (monetary, a medal, a citation).

An index to the listings of the United States and Canadian societies, a subject index of the awards, and a combined index of award titles and recipients are included. This compilation will fill a useful place on many reference shelves.

Alcoholism as a Medical Problem. A conference held under the auspices of the Committee on Public Health of the New York Academy of Medicine and the New York State Mental Health Commission. H. D. Kruse, Ed. Hoeber-Harper, New York, 1956. 102 pp. $3.

This small book represents the material presented at a conference held under the auspices of the Committee on Public Health of the New York Academy of Medicine and the New York State Mental Health Commission. The material is edited by the executive secretary of the Committee on Public Health, and he also writes the preface to the book. There are eight chapters, which are the eight different papers presented at the meeting; included also is a certain amount of discussion by the 30 participants of the conference.

The purpose of this volume is best stated by quoting from the preface: "The sponsors of the conference had definite objectives: to introduce the problems of alcoholism to the physician; to create in him an appreciation of the magnitude of the disease with its frightening and tragic consequences; to direct his attention to his new responsibility to the alcoholic and to encourage him to assume it; to acquaint him with the basic medical facts and principles about alcoholism; and to stimulate research on the causes of this disease, and on the care and treatment of the patient."

This book has much excellent material in it, and it is difficult to decide which material to emphasize in a review of it. Chapter 1, "The epidemiology of alcoholism," is by John E. Gordon, professor of epidemiology, School of Public Health, Harvard University. Gordon's approach is somewhat different from the conventional approaches on the subject, and it is worth discussing in some detail. He maintains that alcoholism should be studied in the same manner as other diseases, such as tuberculosis. He would therefore approach the problem by dividing the population into those who use alcohol as a beverage and those who do not use it at all. This he feels corresponds more properly with the public-health approach to such problems as tuberculosis and poliomyelitis. He compares it in this respect with poliomyelitis, nine-tenths of the cases of which he feels do not produce clinical recognition and are not actually medical problems.

He concludes: "A majority of adults in this country use alcohol. Abstinence is therefore not the norm. What part corresponds to infection and what part to disease? The more significant consideration is what part of infection is truly latent, ending benignly or conceivably even with benefit to the host, and what part is merely incubatory infection, destined to evolute into actual disease. More directly, what proportion of users of alcohol will eventually become alcoholics and what are the factors of host and environment that determine that result?"

Then follows an interesting discussion of the biologic gradient of alcoholism, the ecology of alcoholism, and control. Under this last heading he states: "No mass disease of man has ever been adequately controlled by attempt to treat the affected individual. Some progress can be made, there are ethical reasons for that approach, but if the objective is control of the condition in a population the fundamental approach is through definition of the nature and extent of the problem, the recognition of causative factors, and prevention. A program based on treatment of the exaggerated illness is temporizing and with no great promise of productive result; it is good clinical medicine but poor public health."

This conclusion seems to me to be of the greatest importance. At the present time there are many who wish to attack the problem of alcoholism merely by setting up more treatment facilities for the care of extreme cases of alcoholism. It is most important to emphasize the public-health approach and to warn all those who are now trying to do something about alcoholism that simply setting up more facilities for the treatment of alcoholics is never going to solve the problem of alcoholism.

Chapter 2, "Views on the etiology of alcoholism—I, The organic view," is by Harold E. Himwich, director of research, Galesburg State Research Hospital, Galesburg, Illinois. Himwich presents an interesting discussion of the theories of organic etiology, of the pharmacology of alcohol, and then attempts to discuss the organic basis for addiction. He points out that there are physiological mechanisms which are changed as a reaction of the organism to various substances and states: ". . . enzymatic changes in response to alteration of diet have also been found in mammals as well as in rats

and dogs. The part played by alcohol is further demonstrated because these disturbances can be corrected by taking more alcohol. The abstinence syndrome reveals that a pharmacologic substance, alcohol, assumes the role of a dietary requirement. Such a viewpoint places delirium tremens in the category of a withdrawal syndrome." Himwich therefore thinks of alcoholism as much more akin to opium. He likewise believes that these findings indicate that the presently generally accepted idea of immediate and complete withdrawal of alcohol is undesirable and may even throw the patient into delirium tremens. He agrees that this concept is not generally accepted, but wishes to advocate it again. Whether or not one agrees with him, it is worth while having this question brought up again and reevaluated. He concludes: "The physiologic factor is regarded as structural and active when the cells of the body and particularly those of the brain appear to function better in the presence of alcohol than in its absence."

Chapter 3, "Views on the etiology of alcoholism—II, The psychodynamic view," is by Franz Alexander, clinical professor of psychiatry, University of Illinois. Alexander's approach is primarily the orthodox psychoanalytic viewpoint, quoting heavily from Knight. He emphasizes the disinhibiting effect of alcohol which reduces repressions and permits a freer expression of ego-alien, mostly infantile cravings. He mentions oral dependent needs, latent homosexuality, repressed or inhibited heterosexual and hostile impulses, as the most important of these.

Chapter 4, "Views on the etiology of alcoholism—III, The behavioristic view," is by Edward Joseph Shoben, Jr., associate professor of education, Teachers College, Columbia University. He holds that alcoholism can best be studied as maladaptive behavioral adjustment. He agrees to the apparently universal viewpoint of the participants that alcohol reduces anxiety. He questions whether drinking releases lower functions and suggests that it rather releases impulses that have been inhibited by anxiety. He believes that important material can be obtained by studying the availability and first drinking experiences of the alcoholic in learning how alcohol has been chosen as a defense against anxiety.

Chapter 5, "Views on the etiology of alcoholism—IV, The Sociologic View," is by August B. Hollingshead, professor of sociology at Yale. He points out that sociologists have shown little interest in the etiology of alcoholism but have studied mostly the use and abuse of alcohol in particular cultures. Although he feels that there is evidence of varying use of alcohol with different cultures, he does not believe that such studies have shown what is the specific factor operating in a given situation that led to alcoholism in an individual. He also criticizes the sociological studies for seeking etiology factors in social and cultural situations and largely overlooking the individual.

Chapter 6, "The natural history of alcoholism—I, Its onset and course," is by Arnold Z. Pfeffer, assistant clinical professor of psychiatry, New York University School of Medicine. This chapter is a rather orthodox medical and psychiatric discussion of alcoholism.

Chapter 7, "The natural history of alcoholism—II, Its psychopathologic manifestations," is by S. Mouchly Small, professor of psychiatry, University of Buffalo School of Medicine. Here we get a fairly textbooklike description of the different types of alcoholic mental disorders.

Chapter 8, "Evaluation of the treatment of alcoholism," is by Hugo Muench, professor of biostatics, School of Public Health, Harvard University. Muench points out that up to 50 different treatments are listed for alcoholism and that medical schools commonly teach that the more and more varied the treatment for a disease, the less likely that any one of them has any particular value. He goes on to a discussion of simple statistical criteria for dealing with such a study. There is further discussion of the meaning of "effects of treatment" and a plan for setting up a life-table study.

There are many interesting discussions of these papers by other members of the conference. On the whole, it can be said that this book is somewhat unique and different from any of the recent small books on alcoholism that have come out, that it emphasizes that alcoholism is a medical problem, and that it presents a great deal of interesting material by a number of extremely well-qualified persons. The book is recommended for anyone who wishes to keep up to date on the whole problem of alcoholism.

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Handbuch der Physik. vol. 47, *Geophysics.* I. S. Flügge, Ed. J. Bartels, Group Ed. Springer-Verlag, Berlin, 1956. 659 pp. DM. 118.

Fifty years ago, a student could become familiar with all major results of physics of the atmosphere, the ocean, and the earth's interior within a year; today, no geophysicist has detailed knowledge of more than a few fields of geophysics. The greatest progress in geophysics has been made since the preceding edition of this handbook appeared about 1930. The present volume is actually a completely new book. In the preceding edition, geophysical chapters were inserted with corresponding chapters of physics—for example, the one on seismic waves in the volume on mechanics of elastic bodies. Now, there are two volumes devoted entirely to geophysics. The first of them, volume 47, covers only problems of the solid earth and is entirely written by new authors. Several of its chapters deal practically entirely with findings unknown in 1930 or discuss new conclusions from rediscussion of older observations.

The volume contains the following major topics: H. Spencer-Jones, rotation of the earth including discussion of the unit of time and of changes in the length of the day (23 pp.); J. Coulomb, theory and types of seismographs (in French, 51 pp.); K. E. Bullen, propagation of seismic waves through the earth, earthquake energy, elastic constants and density in the earth (43 pp.); M. Ewing and F. Press, surface waves and guided waves; the latter were practically unknown 20 years ago but begin to form a separate field of seismology (21 pp.); J. Coulomb, microseisms (in French, 13 pp.); M. Ewing and F. Press, fundamental problems of refraction and reflection methods of seismic prospecting (16 pp.); H. Baule and E. Mueller, methods to determine in the laboratory elastic and nonelastic properties and wave velocities in rocks and effects of temperature and pressure (in German, 32 pp.); G. D. Garland, absolute and relative determination of gravity, reduction of gravity observations, gravity anomalies and their interpretation (44 pp); M. Ewing and F. Press, structure of the crust on the basis of seismic and gravity measurements (12 pp.); A. E. Scheidegger, forces in the crust, which can be deduced from surface features, faulting, folding, distribution of continents and oceans, without "fantastic postulates" (30 pp.); J. T. Wilson, R. D. Russel, and R. M. Farquhar, radioactive decay, isotopes, radioactivity of rocks, age of minerals, duration of geologic periods, and age of the earth (76 pp.); J. A. Jacobs, the earth's interior, deduced from seismological data, expected effects of temperature, pressure, magnetic and electric properties (42 pp.); L. Cagniard, electric currents in the earth and electric prospecting (in French, 63 pp.); S. K. Runcorn, magnetization of rocks and paleomagnetism (28 pp.); S. K. Runcorn, the earth's magnetic field and its variations (36 pp.); K. Jung, figure of the earth, potential theory of the gravitational field, the geoid, gravity in the earth's interior, polar movement; extensive equations and tables (in German, 105 pp.). The book is highly recommended to everybody interested in geophysical problems.

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