

Because of his convincing emphasis upon the regressive emotional experiences of the patient, it is somewhat perplexing when the author reconfirms the thesis—which, to be sure, is still shared by a considerable number of analysts—that cognitive insight supported by the interpretations of the therapist is the primary and most specific factor in psychoanalytic theory. Menninger gives a clear picture of both the significance of the emotional experiences and the cognitive processes which take place during treatment, but he gives no thorough evaluation of the interaction between these two basic therapeutic factors.

All in all, the book represents a valiant effort to bring order into the complexity of the psychological processes which take place during a psychoanalytic treatment. It will stimulate the student's urge to understand the principles of what he is doing and discourage the tendency to rely simply on practical rules and regulations. Although he will not receive final or even always correct answers, it will challenge his own thinking and make him try to fill out the gaps.

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**Alcohol and the Jews.** A cultural study of drinking and sobriety. Monographs of the Yale Center of Alcohol Studies, No. 1. Charles R. Snyder. Yale Center of Alcohol Studies, New Haven, Conn.; Free Press, Glencoe, Ill., 1958. 226 pp. \$5.

Alcoholism is one of the most frequent forms of social pathology. Drunkenness, as a single cause, is responsible for almost half of the total number of arrests of men in our country. It causes incalculable damage to property and a high loss in human lives. No wonder that its causes and effects are the subject of much research and study. Within recent years studies in alcoholism have emphasized three aspects of the phenomenon: the psychiatric (the personality of the alcoholic), the physiological (the constitutional "craving" for alcohol), and the sociological (alcoholism as a symptom of social disorganization).

Snyder, in this stimulating monograph, contributes findings derived from a cultural study of drinking among the Jews, who seem to be free, to a marked degree, from the pathological manifestations of alcoholism, despite relatively frequent drinking. These findings are

very explicit indeed: "[they] suggest that the emergence of drinking pathologies where drinking is prevalent cannot be explained by exclusive reference to individual psychology or to a mysterious 'craving' for alcohol presumed to be physiologically determined. The possible role of psychophysical processes is not denied but social and cultural phenomena, especially those related to normative or cultural traditions regarding drinking, appear to be essential for the emergence of these pathologies" (page 202).

Snyder's study is based on data collected in a series of interviews with a large number of Jewish men (students and nonstudents) in New Haven, Conn. These data are interpreted in the light of information derived from studies of drinking in non-Jewish groups (Irish Catholics and British Protestants) as well from Jewish traditional (religious) literature pertaining to drinking and other more general sources on Jewish culture. The author's interpretations and conclusions are well illustrated by tables and diagrams. A most helpful and stimulating form of supportive material, which adds a great deal to the value of the monograph, is the use of verbatim quotations from interviews.

The author demonstrates very convincingly the close correlation between Jewish drinking patterns and religious affiliation. Though an orientation toward sobriety is manifest throughout the material, this is found to be strongest among Jews affiliated with the Orthodox group, and it decreases in intensity among the Conservative, Reformed, and "Secular" Jews. The more the Jews become secularized, the more they tend to adopt the drinking patterns—including drunkenness—of the larger society.

The data speak for themselves. However, in my opinion the author attaches too much weight to the significance of the formal affiliation of his respondents with one or another religious group. There are reasons to believe that when Jewish respondents identify themselves with the Orthodox, the Conservative, or the Reformed groups they are actually indicating not so much their adherence to specific religious practices as the degree of their identification with the Jewish culture and its system of values. In other words, the terms *Orthodox*, *Conservative*, or *Reformed* are frequently used as symbols of cultural identification. Hence, the observed changes in the drinking patterns are in fact associated not with changes in religiosity but with changes in the intensity of cultural identification, which, in turn, are expressed in the movement from the Orthodox to the Reformed congregation.

In order to determine the true significance of the religious element, it would be helpful to view Jewish attitudes to-

ward drinking not only in the light of specific ritual practices but also in conjunction with consideration of other cultural values which are looked upon by Jews as being "Jewish"—values such as a positive attitude toward enjoyment (in moderation) of other good things in life (food and sex), concern with mental and physical health, attitudes toward violence, and so forth.

This suggestion, however, is not intended to detract from the actual merits of Snyder's study. He has proved, in a most satisfactory fashion, the significance of the social science contribution to the understanding of problems in the field of mental health, and his monograph is highly recommended to all those interested in the field of social pathology.

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**Elephants.** A short account of their natural history, evolution, and influence on mankind. Richard Carrington. Basic Books, New York, 1959. 272 pp. Illus. + plates. \$5.

To most men elephants are gigantic mammals that may be seen occasionally by going to a zoological park or to a circus, where they can be admired and marveled at because of their huge size and their very obvious intelligence. We are apt to forget, and perhaps many of us are even unaware of the fact, that elephants and men have been closely associated for untold thousands of years, back through human history and prehistory. Indeed, the evolutionary and social history of Man was inextricably interwoven with the history of the elephants and their mastodont cousins throughout the great Pleistocene ice age, and it is only within the past few millennia that Man has emerged as a completely dominant mammal in a world where once the great proboscideans ranged widely and in great numbers across all of the continents.

This book by Richard Carrington will find a welcome niche on the shelves of all who may be interested in elephants and who have not had the opportunity to make first-hand studies of the enormous literature concerning these wonderful animals. Succinctly, and in very readable prose, Carrington sets forth much that is interesting and important about elephants. The reader will find this volume an absorbing account about elephants and a useful reference book for future consultation.

The book is divided into three major sections. The first deals with living elephants—their anatomy, physiology, and ecology; the second, with the long and

highly complex fossil history of the Proboscidea, the great order of mammals of which the modern Asiatic and African elephants are the sole survivors; and the third, with a brief survey of the relationships between elephants and Man. Each of these three sections presents a well-balanced treatment of a very large subject.

In a book such as this it is necessary for the author to condense the material a great deal, and Carrington has handled this difficult task in admirable fashion. It would have been nice if there could have been more illustrations, especially in the first two sections of the book, but considerations of space and economy obviously would not allow this. A good, selected bibliography at the end of the book supplies ample references for the reader who may wish to pursue the subject of elephants beyond this "basic" presentation.

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**Handbuch der Physik.** vol. 51. *Astrophysics*, II. Stellar structure. S. Flügge, Ed. Springer, Berlin, 1958. viii + 830 pp. Illus. DM. 175.

Though this book is prosaically subtitled "Stellar structure," it is concerned mainly with the latest theories and hypotheses of stellar evolution. Nothing like it could have been written 10 years ago, and most of its ideas would have been described a generation ago as the outpourings of a group of scientific cranks. I remember vividly an incident at the Yerkes Observatory when a distinguished professor of the University of Chicago—a man well known for his own scholarly research—assured me that it was a waste of time to read an article by A. S. Eddington which purported to show that the central temperature of the sun is 20 million degrees. I also remember an earlier occasion, in 1913, when two leading European astronomers argued that it would be hopeless to attempt to measure the gravitational displacements of star images during an eclipse of the sun because, in the first place, the effect predicted by Einstein probably did not exist, and, in the second place, even if it did, the amount of displacement would be too small to be ascertained.

Lulled by a century devoted to the painstaking accumulation of facts about the universe and the slow interpretation of these facts, we professional astronomers had become (with a few notable exceptions) unduly conservative and cautious in accepting new and revolutionary ideas. We enjoyed the books by Flammarion and Fournier d'Albe but rele-

gated to the domain of belles-lettres their flights of imagination. We recognized Arrhenius as a great chemist but smiled at his fanciful astronomical hypotheses. We failed to comprehend the enormous astronomical significance of cosmic rays, and we neglected to profit by Jansky's epochal discovery of cosmic radioradiation until the radio engineer Grote Reber had learned enough astronomy to show us the way.

All of this conservatism was wiped off the face of the earth in that flash of light which accompanied the first test explosion of the atomic bomb in New Mexico. Today we are no longer surprised when astrophysicists talk about billions of planets belonging to stars other than the sun, or when a radio astronomer seriously considers sending radio signals to a planet revolving around a star of solar type some 10 or 20 light-years away. We accept almost without protest a theory which predicts an internal stellar temperature (in giant stars) of several billion degrees or an average density (in a white dwarf) a million times greater than that of water. And we speculate about the formation of all chemical elements out of hydrogen in stellar interiors and even on the surfaces of many stars.

It may well be that a future historian will criticize us for having lost our balance between judicious conservatism and exuberant revolutionism. He may even paraphrase Martin Gardner's sentences [*Fads and Fallacies in the Name of Science* (Dover, New York, 1957), p. 3] and say: "One curious consequence of the current boom in science is the rise of the promoter of new and strange scientific theories. He is riding into prominence, so to speak, on the coattails of reputable investigators." If it should be true that we are riding on the coattails of our more conservative predecessors, one thing is certain: The ride is the most joyful and exhilarating experience that any scientist has ever had.

In a recent review of volume 50 of this *Handbuch* (*Astrophysik*, I. Sternoberflächen, Doppelsterne), I expressed the opinion that the purpose of an encyclopedia is to present a broad and comprehensive treatment of all fields of a particular discipline and of their interrelations, and that in this respect it should differ significantly from a series of unrelated summarizing articles. I felt that this particular purpose of the encyclopedia had perhaps not been fully achieved in volume 50, even though the quality of the individual contributions could, with very few exceptions be characterized as excellent [see *Z. Astrophys.* 45, 239 (1958)]. Volume 51 does not elicit this criticism. It is, without doubt, the most important book on general astrophysics that has ever been written, and it can be recommended to astronomers and physicists as the most authori-

tative account of observational and theoretical astrophysics.

The individual chapter headings are as follows: "Stellar interiors," by Marshal H. Wrubel (in English, pages 1-74); "The Hertzsprung-Russell diagram," by H. C. Arp (in English, pages 75-133); "Stellar evolution," by E. M. Burbidge and G. Burbidge (in English, pages 134-295); "The abundances of the elements in the planets and meteorites," by H. E. Suess and H. C. Urey (in German, pages 296-323); "The abundances of the elements in the sun and stars," by L. H. Aller (in English, pages 324-352); "Variable stars," by P. Ledoux and T. Walraven (in English, pages 353-604); "Stellar stability," by P. Ledoux (in English, pages 605-688); "Magnetic fields of stars," by A. J. Deutsch (in English, pages 689-722); "The theory of white dwarfs," by E. Schatzman (in French, pages 723-751); "The novae," by C. Payne-Gaposchkin (in English, pages 752-765); and "Supernovae," by F. Zwicky (in English, pages 766-785). The volume closes with a subject index in German-English, English-German, and French (the entries in French refer only to the article by Schatzman).

As an observational astrophysicist I was especially interested in the articles by Arp, Aller, Deutsch, and Zwicky, and by Walraven's section on the observational results on variable stars. But the "nucleus" of this volume is probably the magnificent chapter by the Burbidges. The theories of variable stars by Ledoux, of white dwarfs by Schatzman, and of magnetic stars by Deutsch will enable me (and probably many others) to interpret our observations in the light of modern physical theory. I believe that the chapter on "Stellar interiors" is somewhat too short to fully satisfy the reader. Perhaps the author was not given enough space to develop this field adequately.

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**The Fearful Choice.** A debate on nuclear policy conducted by Philip Toynbee, Wayne State University Press, Detroit, Mich., 1959. 112 pp. \$2.50.

Philip Toynbee has prepared an interesting debate on nuclear policy by throwing an almost-pacifist challenge to a wide assortment of his high-placed British friends and by collecting and commenting on the essays they sent in reply. He starts by recognizing the great changes that the nuclear scale of destruction has brought about, and most of his correspondents go along with him on that. To the ringing words, "It is inconceivable that the free peoples would sur-