

Book Reviews

Economic geography of the USSR. S. S. Balzak, V. F. Vasyutin, and Ya. G. Feigin. (Eds.) New York: Macmillan, 1949. Pp. xlv + 619. (Illustrated.) \$10.00.

This is a volume which opens with a quotation from Stalin, and closes with reference to polar fliers who "are ready, if it becomes necessary, to transfer from civilian to military planes and destroy the enemy, wherever he may be." Between these two items, unusual in a volume of economic geography, are four comprehensive chapters on natural resources, industry, agriculture, and transport as seen by the geographer, plus three ideological treatises on the Soviet interpretation of production and population under tsar and socialism.

Economic geography of the USSR is nonetheless valuable if it combines excellent geography with partisan ideas, for the Soviet lands cannot be understood without both. With major reservations, this promises to be the definitive volume on Soviet geography. It was originally published in 1940, largely with 1935 data, and is here translated under the auspices of the American Council of Learned Societies with the editorship of Chauncy D. Harris. This is the only comprehensive geography of the Soviet Union ever to be published in Russian and its translation is a major event. Fifty-three tables, 83 maps, and six appendices provide a wide array of information nowhere else available; in fact, the American translators have materially enriched the original volume.

It is now clear that the USSR is second only to the USA in the wealth of its resources:

Thus, the USSR has diverse natural conditions and natural riches such as are possessed by no other country in the world. "From the standpoint of natural wealth, we are completely secure. We have even more than we need." But in order to put these natural riches completely into the service of the working people, in order to create an abundance of all kinds of products, "there must be a government with the desire and the power to direct the utilization of this huge national wealth for the benefit of the people. Do we have such a government? We do."

(Quotation from Stalin.) What is also clear, although not stated by the authors, is that limitations of cold, drought, and continentality place permanent restrictions on economic developments. One might suggest that in academic terms, the best "grade" the Soviet lands may hope to receive under any conditions of government is no better than an A-. This is, to be sure, a creditable rating, although not yet achieved.

Two sentences, chosen at random, reflect Soviet thinking:

The capitalist town subjugated the village and artificially retarded its cultural development. For this reason, in the eyes of the peasants the town was always the focus of their exploitation. . . . The Marxist-Leninist understanding of the role of the natural-geographic environment has nothing in common with crude geographic theories . . . as explained by bourgeois geographers and economists. . . .

GEORGE B. CRESSEY

Syracuse University

Veterinary helminthology. Banner Bill Morgan and Philip A. Hawkins. Minneapolis 15, Minn.: Burgess Publ., 1949. Pp. ix + 400. (Illustrated.) \$7.00.

Everyone who deals with animals knows that there is a whole world of parasitic life associated with them. Probably everyone but a specialist with a bulging reprint library, however, would be astonished to know what an extraordinarily abundant and diverse part of this fauna the helminths represent. Morgan and Hawkins, in their text and reference book, have undertaken the formidable task of digesting this literature with reference to "animals of veterinary importance in North America" for the first time. The result is an impressive 400-page volume of encapsulated information, concerning both hosts and worms, species by species.

Following a general introduction (36 pp.) there are chapters on the helminths of the horse (32 pp.), of cattle (38 pp.), of sheep and goats (55 pp.), of swine (36 pp.), of the dog and cat (57 pp.), of poultry (45 pp.), of fur bearers (44 pp.), and on diagnosis (20 pp.). There is an appendix, principally of host lists (13 pp.), and a comprehensive index (14 pp.).

The authors deal with over 130 genera and about three times that many species. Drawing on an extensive teaching experience, they present for each species selective information—so far as possible—on synonyms, common name, disease, morphology, life history, symptoms, pathology, diagnosis, treatment, and control. Supplementing the text are keys for identification of various groups and life history stages, and 63 plates of line drawings and maps. From the degree of attention accorded them, the parasites of greatest interest in this field in America are *Fasciola hepatica*, *Moniezia expansa*, *Oesophagostomum columbianum*, *Haemonchus contortus*, *Trichostrongylus colubriformis*, *Ascaris lumbricoides*, *Trichinella spiralis*, *Ancylostoma caninum*, and *Dirofilaria immitis*. Besides emphasis on the veterinary problem, as such, relationships between parasitized domestic and wild animals and helminthic infections of man are considered.

The volume is a useful encyclopedic work, although it shows, as a first edition, certain rough spots in phrasing and proofreading. One is tempted even in a general review to raise a few questions, however. An idea tacit throughout the presentation seems debatable in our present understanding of worm-host relations—namely, that "an animal infected with worms is suffering from helminthiasis" (italics by reviewer). The verb implies as a rule more than is frequently true physiologically. Immunizing infections with worms are briefly discussed, and whereas up to now artificial immunization has not been as fruitful a procedure with helminths as with certain other parasitic agents, it is scarcely correct to say that "the introduction of suspensions of helminths or dead helminths into the host has not resulted in the production of any immunity" (p. 7). One misses a chapter on the

ever present problem of cross infection of hosts capable of parasitization by the same helminthic species. Compartmentalization host by host is a marked convenience for discussion, but doesn't adequately reflect the way of nature. For instance, horses, cattle, sheep, and goats all harbor the minute *Trichostrongylus axei*, which may on occasion have its degree of pathogenicity obscured by attention centered on the larger helminths. Do these hosts "suffer" equally by infection with this nematode? If unequally, is the placing of horses in infested cattle or sheep pastures a danger, or means of control? Is the reverse order of pasturing advisable?

In regard to cross infections to man, the indication that *Taenia saginata* (p. 80) may cause human cysticercosis as a blind alley infection with a facility equal to that of *T. solium* (p. 167) is unwarranted, a point especially unfortunate as to cerebral cysticercosis, in which the pork tapeworm alone has been implicated. Moreover, the statement that for *Hymenolepis nana* "rodent and human forms are interchangeable" (p. 337) is counter to currently available evidence. If there were no other domestic animal reservoir of helminthic infection for man than the hog for *Trichinella spiralis* we would still have a challenging public health problem, and there is need for caution in emphasizing forms of no demonstrable threat.

Such errors have a tendency to emerge where authors so obviously strive toward simplification of statement in a complex subject. It is easy to overdo simplification and the unqualified declarative sentence strikes this reviewer as having been rather too freely employed. What is wrong with the occasional use of the interrogation point in textbooks?

The helminths of domestic animals are going to be with us for a long, long time. And, as an experimental area, veterinary helminthology offers unsurpassed opportunities to explore biological and practical angles of worm-host relationships. Not a few of these can contribute to central problems in which the human host has a very great interest indeed. Morgan and Hawkins have helped specifically to open these areas to further exploration.

NORMAN R. STOLL

Rockefeller Institute for Medical Research,
Princeton, New Jersey

Personal adjustment in old age. Ruth Shonle Cavan, Ernest W. Burgess, Robert J. Havighurst, and Herbert Goldhamer. Chicago: Science Research Associates, 1949. Pp. xiii + 204. \$2.95.

The purposes of this volume are (1) to define and analyze the nature, pattern, and problems of individual adjustment to aging; (2) to present certain facts about old age obtained from census data and a special survey by the authors; and (3) to describe two questionnaires used for measuring the adjustment of the senescent and senile. Its contents are of particular interest to physicians, psychologists, sociologists, and social workers. The authors have neither pioneered in an entirely new field nor have they produced a definitive work, but theirs is

a valuable contribution to the rapidly growing literature on geriatric sociology.

Problems of adjustment in old age and the techniques for developing a valid instrument for their measurement are discussed in considerable detail. Two instruments devised by the authors, an "Inventory of Activities" and an "Index of Attitudes," although admittedly imperfect, are the basis for much of the data in this study. The statistical treatment is thorough but a succinct summary of results is lacking. The check list for the detection of neuroses is of questionable value, since it lists many symptoms also characteristic of the organic disorders frequently found in elderly persons. In the discussion of adjustment cycles in old age it is assumed that during middle age the individual has been both personally and socially well adjusted. This assumption is, of course, entirely unwarranted and ignores the continuity of emotional difficulties from one period of life into the next. The "Index of Senility" is open to serious criticism, for it contains a large number of nonspecific items which might be misconstrued. In summary, *Personal adjustment in old age* is an interesting book, but it should be read critically rather than taken at its face value.

S. T. KIMBLE

Washington, D.C.

Mathematical foundations of statistical mechanics. A. I. Khinchin. (Trans. from the Russian by G. Gamow.) New York (19): Dover Publ., 1949. Pp. viii + 179. \$2.95.

Introduction to statistical mechanics. G. S. Rushbrooke. New York: Oxford Univ. Press, 1949. Pp. xiii + 334. \$5.50.

These two books stress different aspects of statistical mechanics, and they are written for two different groups of readers. Khinchin's book is written primarily for mathematicians, while Rushbrooke's text is intended for students of physical chemistry.

The main interest for a physicist in Khinchin's book will probably lie in two points. The more important of these is Khinchin's discussion of the ergodic problem. The second point is his discussion of the order of magnitude of the terms usually neglected. The importance of this can be seen from Schubert's recent criticism of Gentile's intermediate statistics (*Z. Naturforschung*, 1946, 1, 113).

It is, however, to be doubted whether Khinchin's book will find a wide audience, apart from mathematicians wanting to get acquainted with statistical mechanics, or physicists wishing to brush up their knowledge of the ergodic problem. The book is written without a physical background and deals only with classical statistical mechanics, while it might have been hoped that this treatise could have supplemented the masterly analysis of the Ehrenfests in the *Enzyklopaedie der Mathematischen Wissenschaften*. However, the typical quantum mechanical problems are not discussed at all, and the footnote on page 51 shows that Khinchin's understanding of these problems is limited. A nearly total lack of references