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

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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 discusssion 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

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Mathematical foundations of statistical mechanics. A. I. Khinchin. (Trans. from the Russian by G. Gamow.) New York (19): Dover Publs., 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 statistic 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

makes the book very impractical to use. For instance, it is nowhere stated where one can find the important Birkhoff theorem—the center piece of the whole book, in my opinion. For the interested reader, the reference is: *Proc. nat. Acad. Sci.*, Wash., 1931, 17, 656.

Dr. Gamow's own Russian background at times peeps around the corner, e.g., when the name Birkhoff is also transcribed (from the Russian transcription) as Virkoff on page 27. To call the ideal gas law Clapeyron's law (p. 121) should not have been permitted by Dr. Gamow, who must know that Clapeyron was only 3 years old when Gay-Lussac first announced his law in 1802.

Rushbrooke's book can be highly recommended as a textbook for intermediate courses in statistical mechanics. It is comparable to Mayer and Mayer's book, but is not as extensive as this widely used text. The mathematics is kept simple and a great number of exercises at the end of each chapter greatly increase its usefulness.

For the sake of simplicity, the author has given up rigor. Characteristic of the tenor of the book is the author's statement in a footnote on p. 58: ". . . this naive statement is not seriously misleading, and conveys the correct idea."

It is a great pleasure to see a text on statistical mechanics which strongly advocates the use of Gibbs' grand ensembles. In this connection it is strange that on page 268 de Boer's work is not mentioned explicitly. The absence of Fowler's monograph in the list of standard treatises is rather surprising, since it is practically the only text referred to in British papers in the field. It is strange to me that the old quantum mechanical statistical mechanics is used, instead of the Fermi-Dirac and Bose-Einstein statistics, as the basis of this treatise and as a basis for the subsequent transition to classical statistics—but this is certainly a minor point, which does not affect the great value of Rushbrooke's text for those students who wish to get acquainted with the basic ideas of statistical mechanics.

D. TER HAAR

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Association Affairs

The New York Meeting, December 26–31, 1949

The Science Theater

The AAAS Science Theater, now a permanent feature of the Association's annual meetings, will show recent scientific films almost continuously throughout the meeting period. Hours are: December 26, 2:00 p.m. to 6:00 p.m.; December 27, 9:00 a.m. to 1:00 p.m. and 2:00 p.m. to 10:00 p.m.; December 28, 29, and 30, 9:00 a.m. to 1:00 p.m. and 2:00 p.m. to 6:00 p.m.; December 31, 9:00 a.m. to 1:00 p.m. Seating is at any time. The schedule has been so arranged that programs given in the first half of the week are repeated in the second half, and shifted from morning to afternoon, to give registrants another chance to see films that interest them.

The Science Theater is on the 18th floor of the Hotel Statler, just back of the express elevators. The capacity of this room is limited, so that admission, although free, is restricted to registrants. Showing a registration receipt will do, but wearing a badge will save time.

The Association is greatly indebted to all those who made these pictures and lent them for showing. Special appreciation is due the First District Dental Society of New York for making available its lecture room and screen.

The schedule follows:

Program 1

Monday afternoon, December 26

2:00 p.m.–6:00 p.m.

1. *Nagana*—South African Scientific Liaison office. Sound, color, 25 minutes.
2. *Anterior Dislocations of the Shoulder*—Davis & Geck, Inc. Silent, color, 41 minutes.
3. *Meiosis*—Arthur T. Brice. Sound, black and white, 19 minutes.
4. *Safety in the Chemistry Laboratory*—Indiana University. Sound, black and white, 15 minutes.
5. *Solar Prominences*—University of Michigan. Sound, black and white, 11 minutes.
6. *Conquest of the Hudson*—Port of New York Authority. Sound, black and white, 20 minutes.
7. *Then It Happened*—U. S. Forest Service. Sound, color, 10 minutes.
8. *Avian Cecal Coccidiosis*—Ohio State University. Silent, color, 30 minutes.
9. *Bound for the Caribbean*—Royal Dutch Air Lines. Sound, color, 45 minutes.

Program 2

Tuesday morning, December 27

9:00 a.m.–1:00 p.m.

1. *Amputation Prostheses and Their Uses. I*—Medical Section Headquarters, 1st Army, Governor's Island, New York City. Sound, black and white, 34 minutes.
2. *Story of DDT*—British Information Services. Sound, black and white, 25 minutes.
3. *Radar Detection of Storms Occurring in the New England Area*—Massachusetts Institute of Technology. Silent, black and white, 20 minutes.
4. *Stepping Along with Television*—American Telephone and Telegraph Company. Sound, black and white, 11 minutes.