
Thermodynamics and Statistical Mechanics. *William P. Allis and Melvin A. Herlin.* International Series in Pure and Applied Physics. McGraw-Hill Book Company, Inc., New York, 1952. viii+239 pages. \$6.00.

The avowed purpose of this text for seniors is that of stressing "the principles involved and their application to the properties of matter." The book presents a text readily understandable to students. The material is limited to typical and fundamentally important examples, and its many figures, tables, and problems are its chief merit. A more critical reader will not be quite satisfied with the presentation and formulation of the fundamental laws. The chapter on the first law explains that a quasistatic process AB is reversible (or irreversible) when the work done can be gained back completely (only incompletely) on the way back from B to A—without specifying the conditions (adiabatic ?) prevailing on the two ways. Next, the heat concept is based on the definition $dQ = C dT$, implying that one already knows what heat capacity is—after defining the latter by way of temperature differences levelling out, presuming that one has a temperature scale. Again: "Heat is therefore equivalent to irreversible work" (p. 67) and further: "When work is performed *reversibly* on a cycle then the quantity of work which appears is equal to the amount of heat that disappears, and vice versa." Such an introduction to the first law, often enough criticized by reviewers of elementary texts, is open to attack on the grounds of circularity of argument and lack of precision. Also, discussions about reversibility and irreversibility seem quite irrelevant for the first law and belong in the chapter on the second law. In the latter, the fundamental concept of absolute temperature is solely based on the equation of state of an ideal gas (p. 89), and with *this* T the entropy is defined, without even mentioning the pitfalls of this procedure. If the student, urged to look for information about the fundamental laws in some other modern textbook, will concentrate on the excellently written remaining parts of Allis-Herlin's book he will be able to learn a great deal about thermodynamics.

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Symposium on Radiobiology. *J. J. Nickson,* Editor. John Wiley & Sons, Inc., New York. 1952. xii+465 pp. \$7.50.

This volume contains the 23 essays and principal discussions of the papers which were presented at the Symposium on Radiobiology held at Oberlin College, June 14-18, 1950, under the sponsorship of the National Research Council, the Atomic Energy Commission, and the Office of Naval Research. Because the essayists comprise a large part of the most active workers presently engaged in the investigation of radiobiological phenomena, the book is a landmark that constitutes an authoritative reference in this field of scientific endeavor.

The contents may be divided into the four principal topics of the symposium: (1) Fundamental physical concepts, (2) Chemical processes induced by the absorption of the energy of ionizing radiations, (3) Biochemical effects of ionizing radiations, and (4) Effects of radiation on living tissues.

Extensive bibliographies provide useful indices to the principal literature of the subjects with which many of the essays are concerned.

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