are offered. Briefly, these are as follows: (i) external and internal rewards (worker behavior stems from external rewards, such as pay, and from rewards internal to the work group, such as status); (ii) distributive justice (worker motivation is a function of what the worker perceives as a "fair return" on his social investment, which includes considerations of age, education, seniority, and so forth); and (iii) social certitude (the notion that the worker seeks especially a condition of security in his relations with others).

The results will distress managers everywhere, for they indicate with startling uniformity that the external rewards (pay, promotion) which management can supply have almost no effect on productivity or satisfaction. The most important single determinant appears to be social status (being of the right ethnic group, age, and educational level, and having the right job classification). Also found to be important was being rewarded by the group—that is, accorded the treatment appropriate to a person of such status. People rewarded by the group tended to produce at the norm, the group-defined level. People rejected by the group might be high producers or low producers; the data do not give a satisfactory clue about why an individual went one way or the other.

The authors deserve praise for an important investigation, well planned and carefully executed. They draw black marks for poor editing of the manuscript (some sentences are virtually incomprehensible) and for failing to prepare a needed index.

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The Practice of Sanitation. Edward S. Hopkins and Wilmer H. Schulze. Williams and Wilkins, Baltimore, Md., ed. 3, 1958. ix + 487 pp. Illus. $8.

The broad field of environmental sanitation has been surveyed well by the authors. Extensive revisions have been made in this edition to make the text more valuable as a guide to physicians, sanitarians, nurses, and others seeking a comprehensive reference and descriptive book.

Details are lacking for most of the fields covered, with the possible exception of public water supplies, urban sewage disposal, and milk and milk products. Many good references are given at the end of each chapter so the student will not lack for adequate supporting material where necessary.

Environmental sanitation is a phase of public health which concerns many disciplines, such as medicine, nursing, sociology, engineering, entomology, food technology, the basic sciences, and the administrative arts. The reader will gain a clearer picture of the interrelationship of these many disciplines from the clear and concise presentation by the authors of this new edition.

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Patients, Physicians, and Illness. Source book in behavioral science and medicine. E. Gartly Jaco, Ed. Free Press, Glencoe, Ill., 1958. viii + 600 pp. $7.50.

This book is offered as a source book in behavioral science and medicine. The editor holds the novel title of associate professor of medical sociology (University of Texas Medical Branch). In this book he brings together the writing, research, and ideas of representatives of the behavioral sciences on varied aspects of medicine. By *behavioral sciences* he means sociology, cultural anthropology, and social psychology.

He believes that reaction against specialization in medicine (with a consequent loss of interest in the "total patient") and the wider recognition of "functional" and "psychosomatic" illness have resulted in renewed interest in the whole patient. This, in turn, has led to increased interest of medicine in the behavioral sciences, which have already been recognized by many as constituting a basic science for psychiatry and which may eventually be so recognized by all other branches of medicine.

The body of the book is by 63 authors (ten are physicians, the rest behavioral scientists) who have contributed 55 chapters, of which 20 have not been published previously. The chapters are grouped into seven sections, and the editor has written a brief synoptic passage for each section.

The first section is concerned with social epidemiology and social etiology—that is, the connection between conditions of social stress and the onset of illness. Here one finds discussions of the relations between socioeconomic status and chronic disease and between church attendance and stress reactions affecting the cardiovascular system, and of the concept of "sociosomatic" illness, which is the sociological counterpart of "psychosomatic" illness.

The second section deals with health and the community—that is, community health practices, dietary habits, preventive health techniques, and health programs ending in success or failure. Here one learns that whether or not medical research is stimulated toward controlling a certain disease may depend on which social class is affected by it; that the community power structure affects the outcome of community health programs; and that our very concepts of health and illness depend on the cultural values and social structure of our society.

The third section deals with medicine as a social institution in its own right, having many norms, rituals, and values of its own. There are papers on folk and primitive medicine, the patient-physician relationship, normative components of hygienic practices in a tuberculosis hospital, and the relation of changes in the American family system to some social and psychological aspects of illness and treatment.

The fourth section deals with the "patient role"—the patient's orientation in a hospital, his response to pain as a function of the social class to which he belongs, his behavior as a patient if he is a Christian Scientist, or conditions which induce him to seek the help of quacks instead of authorized physicians.

The fifth section is devoted to the social process of medical education and its impact upon the student-physician, the various phases of his development from premedical training to the establishment of practice, the transformations of personal characteristics of students in a medical school, some similarities and differences between the clergy and the medical profession as they affect medical education, and the process of professionalization of the physician.

The sixth section deals primarily with the physician-patient relationship and how it is affected by the social and personal milieu of the physician and his patients. The articles involve analyses of specialization in medical practice; factors that develop good doctors or lawsuits for malpractice; the relation between surgeons and their patients in a teaching hospital; the significance of the patient's cultural environment to the practice of pediatrics; the consequences of socialized medicine in England—with its increase in "functional illness"—for the physician-patient relationship; and the relation to the medical profession of marginal nonmedical healing groups such as osteopaths and chiropractors.

The seventh section focuses on the medical setting: hospital, clinic, and office. Here one finds discussions of the social structure of hospitals; hospital ideology and communication among various categories of ward personnel; differences in organization, staffing, and operations between publicly supported and privately operated mental institutions; the functioning and structure of the hospital operating room; the effect of the status system of an outpatient psychiatric

clinic on patient care; the financial aspects of medical practice; and the social process of introducing new medication into the office practice of medicine.

It is clear from this brief and incomplete descriptive summary that this book is a tasty *smorgasbord,* with something for everybody.

The book makes no attempt to show in what systematic relationship the concepts of medicine stand with respect to the concepts of the behavioral sciences. One would expect this attempt to be made before one could accord a distinctive scientific status to the varied areas of study discussed in these chapters. Nor does the book present a truly panoramic overview of what is offered as a distinctive scientific field. Rather, from the standpoint of medical sociology as science, we are shown a collection of intriguing snapshots taken from different vantage points in a relatively unexplored but fertile landscape.

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Radioactive Isotopes in Clinical Practice. Edith H. Quimby, Sergei Feitelbert, Solomon Silver. Lea and Febiger, Philadelphia, Pa., 1958. 451 pp. Illus. $10.

This book presents in its three parts one of the best introductions to the field of clinical isotope application that has yet appeared. The selection of the material and the arrangement of the problems, as well as the formulation and presentation of the facts, reflect the immense experience gathered by the authors in presenting this course material to about 225 students in eight classes since 1954. Consequently, the basic needs of the student and of the clinician who wants to include these important techniques in his work are met with great understanding.

Part 1 ("Basic physics"), written by E. Quimby, covers the basic facts of nuclear physics, nuclear radiation, interaction of radiation with matter, biological effects, and radiation hazards and their avoidance. It is stimulating reading because of the clear and precise formulation of the problems, spiced by short but dynamic sketches of the historical background. The sketch on the discovery of the neutron is unique—it illustrates the high spirits of physicists in these years and appeals to the creative imagination of the student. The chapter on waste disposal and removal of contamination is a useful conclusion of part 1.

Part 2 ("Instrumentation and laboratory methods"), written by S. Feitelbert, gives a comprehensive survey of modern equipment and methods for measuring amount, uptake, and distribution of radioactive isotopes in vitro and in vivo. It emphasizes the qualitative as well as the quantitative aspects of the different techniques and recommends—especially in connection with autoradiography—some personal instruction and practical supervised experience. A chapter on laboratory design gives welcome hints to the newcomer.

In part 3 ("Clinical applications"), a thoughtful contribution by S. Silver, the reader finds valuable information on the use of the more common isotopes. Five of the 14 chapters are devoted to problems involving I^{131}; the rest, to applications of P^{32}, Fe^{59}, Cr^{51}, Au^{198}, Sr^{90} and Co^{60} in the diagnosis and treatment of various diseases. The preface to part 3 and the well-selected references given with each chapter are welcome features for the future research investigator and give him guidance for supplementary reading in works highly recommended by the authors of this book.

At a time when the importance of tracer and isotope techniques in biology and medicine is underscored by the bestowal of the Atoms for Peace prize on the Nobel prize winner G. de Hevesy, the student and the clinician will welcome this book, and the instructor will use it advantageously for classroom and course work. In addition, specialists in other fields, such as radiology, gynecology, surgery, physiology, and radiation biology, will get information on ways of applying isotope techniques in solving their respective problems.

Some errors, such as that on page 30 (a discrepancy between the figure legend and the text) are more a challenge to the student than a handicap, forcing him to check his knowledge and to approach his work critically.

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A Source Book in Greek Science. Morris R. Cohen and I. E. Drabkin. Harvard University Press, Cambridge, Mass., 2nd printing, 1958. xxi + 581 pp. Illus. $7.50.

This book, first published in 1948, has become a standard text for those wishing to study the history of Greek science. It provides in English translation all the most frequently cited original passages from classical authors. For more than ten years it has been the greatest boon to teachers and students in elementary courses, and with the rapid spread of these courses it is apparent that it will continue to be invaluable for several decades to come. In 1956 the whole series of these "Source Books in the History of the Sciences" was taken over by Harvard University Press from McGraw-Hill Book Company, and it is a pleasure to compliment the new publisher on the usefulness of this printing.

The second printing differs little from the first. A few typographical errors have been corrected, and a short bibliography of recent publications has been added. In the "General Editor's Preface" (page v) one is relieved to find that all mention of a millenial plan which, a safe dozen years ago, provided for the publication, about 1960, of a volume which would contain the most important contributions of the major sciences from 1900 to 1950 has been deleted. More seriously, one could have wished for a few more editorial changes. For example, the highly misleading scheme on page 130, showing a central ellipse produced by epicycle and deferent, should have been omitted. Not only was it never used in classical astronomy and never could have been used, but it confuses the student through its apparent similarity to the noncentral Kepler ellipse orbits.

I would like to take this opportunity to point out that the similarly excellent *Source Books* in astronomy and in chemistry are also now available; it is to be hoped that the new publisher will speed the reprinting of other titles in this list and seek to extend the series further.

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The Chemical Behavior of Zirconium. Warren B. Blumenthal. Van Nostrand, Princeton, N.J., 1958. vi + 398 pp. Illus. $11.

This will be welcomed as the only recent book devoted to the chemistry of zirconium. Enough information on zirconium has become available to make it feasible to develop a systematic chemistry of the element, and this is the announced aim of the present book. On the whole, the author has succeeded very well. He discusses first the element zirconium under such headings as history, occurrence, extraction, and theory of zirconium chemistry. He then discusses interstitial solutions and intermetallic compounds. The remaining seven chapters discuss other zirconium compounds in the following order: halogenides, oxides and zirconates, zircon and complex silicates, sulfatozirconic acids and related compounds, compounds with other inorganic acids, carboxylates, and other organic compounds.

In discussing the theory of zirconium