

situations, called transportation problems, in which one seeks the cost-minimizing pattern for transporting some commodity from several origins (each with a limited supply) to several destinations (each with a fixed requirement); in general, the cost of shipment per unit differs for different origin-destination combinations.

Turning next to the general linear programming problem, the author gives an exceptionally clear account of the basic computational procedure (G. B. Dantzig's *simplex method*), built around a detailed discussion of an illustrative two-variable problem. Here I regret that the algebraic analysis was not more explicitly supplemented by the corresponding geometrical picture: the procedure involves hopping from vertex to adjacent vertex of the multidimensional, convex polyhedron described by the constraints, always in the direction in which the function to be maximized (minimized) is increasing (decreasing). The final topic discussed is duality; in solving a problem by the simplex method, one also automatically solves (by another method) a "dual problem," the data array of which is obtained from that of the original problem by interchanging rows and columns. The relationship between original and dual problem is described in some detail, but the formal proof of the resulting duality theorem is relegated to an appendix which, unfortunately, is marred by typographical errors.

Part 2 deals with the so-called theory of games, that is, with the selection of optimal behavior versus intelligent opponents. Most attention is paid to the classical case in which two players, each with finitely many strategies, have diametrically opposed interests; a *solution* of a game is defined, and it is shown how, in general, solutions do not exist unless probabilistic mixtures of strategies are admitted. The author then describes the reduction of such a game to a linear programming problem and its dual; the existence of a solution (using probabilistic strategy mixtures) is deduced from the duality theorem of part 1 (an independent proof is given in an appendix), and the simplex method can be used to compute the solution. One subsequent section deals with games having infinitely many strategies, another with games in which the players are not directly opposed.

The author has been remarkably successful in giving a lively and accurate treatment of so much material, including several topics not mentioned above,

in so few pages. No advanced mathematics is employed, and the book is recommended to all members of the scientific community willing to exert the requisite concentration. The reader should bear in mind, however, that the simple examples chosen for expository purposes give no idea of the multiplicity of real-life situations in which the subject matter has proved of value, or of the degree of complexity of these applications to realistic problems.

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A Bibliographical Checklist and Index to the Published Writings of Albert Einstein. Compiled by Nell Boni, Monique Russ, and Dan H. Lawrence. Pageant Books, Paterson, N.J., 1960. 84 pp. \$6.

This check list is divided into three parts: scientific writings, general writings, and selected interviews. Within each of the parts the material is arranged chronologically, the order being determined by the year and month of the first publication regardless of the language in which the specific work was first published. Revised or translated texts are attached by subnumbers to the original publication, regardless of when later publication occurred.

In preparing the bibliography the compilers consulted the following works: *Albert Einstein: Philosopher-Scientist* (1949; ed. 2, 1951) edited by Paul A. Schilpp and the Einstein bibliography (1937) by E. Weil. This material has been augmented and revised; 607 items are listed.

Convention Decisions and Voting Records. Richard C. Bain, Brookings Institution, Washington, D.C., 1960. xi + 327 pp. Appendixes.

This is a companion volume to *The Politics of National Party Conventions* (Brookings Institution, 1960). It seeks to supplement that study of the presidential nominating process by providing an account of the convention proceedings of the two major parties since 1832 and a record of important convention votes. Each convention is introduced with a brief description of the political situation existing at that time in the United States.

Medical Helminthology. John M. Watson. Baillière, Tindall and Cox, London; Williams and Wilkins, Baltimore, Md., 1960. viii + 487 pp. Illus. \$15.50.

As we become increasingly aware of, and concerned with, world-wide problems of human health we will inevitably pay increasing attention to the worms as causes of human debilitation, suffering, and death. A large proportion of the world's population is infected with one or more parasitic worms, and many millions of people suffer as a result. The penalty for the losses suffered falls upon all of us.

It is Watson's intention to present, relatively briefly, essential and up-to-date information about the worm parasites of man, to point out their importance to man's health, and to call attention to gaps in our knowledge about them. There has been a need for such a book, and this book meets the challenge.

About one half of the text deals very effectively with such basic things as the nature of parasitism; life cycle patterns; parasite physiology, ecology, and transmission; resistance and immunity to infections; diagnosis, prevention, and treatment of parasite infections; pathogenesis of infection; and so forth. In these sections the author succeeds in achieving brevity without falling into a recital of dry generalities. Important and pertinent examples are usually cited to illustrate his points.

The remainder of the book treats the worms according to taxonomic groups. The morphology and organ systems of each group are described, the larger taxonomic groups are characterized, and then individual species are dealt with. Usually only a few pages could be devoted to a single parasite—for example, 8 pages are devoted to *Ascaris*—but this is sufficient to present a surprisingly large amount of carefully selected information. All the illustrations are comparatively simple line drawings, stressing salient points of anatomy and important stages in the life history. Recognition characters and comparisons of related species are emphasized. Some readers may find these drawings crude and somewhat inadequate.

This book is written in an admirably clear and unpretentious style which is in refreshing contrast to some of the other texts on the subject. There are very few references to literature, but a text of this sort needs none. The