elan of leadership of the national society of Americans.

Is there a remedy? This clear conclusion emerges from the abundance of facts and analysis and documentation: the responsibilities of the Presidency are far too big for one man alone. All the millions of official and the conciliar devices (the growth of which Tugwell sketches in) around the President do not assist him to perform the duties which he alone, the political leader, charged alone by the constitution with responsibility, must perform or, to the nation's direst peril, leave undone. Moreover, the method of election has become unsuited to the discovery of the qualities of political leadership. Is this truly the best we can do in a choice from among 23 million male Americans between the prime ages of 35 and 55? The lesson is not only clear that the unitary Presidency and the method of selection are undesirable, but Tugwell positively draws this conclusion. Furthermore, though his reconstructive proposals are not presented in this book, he firmly advocates a plural or collective executive. He observes that no other great democratic nation has a single executive.

The difficulties of political science as science. The reader of Tugwell's book will realize that only in occasional and marginal situations can Tugwell, or any political scientist, present his findings in a quantified form. He can say that in Washington's day there were only 2000 officials to be supervised by the Chief Executive and that today the President must supervise and animate 1000 times as many. But such facts do not carry the conviction that change is needed, because they do not reveal (they actually obscure) the complexities of the data of decisions, the torture, perplexity, and agony of resolving to act. It is not possible to present in a quantified form the true weight and difficulty of the Presidential burden, the insufficiency of one man's mind and conscience to grapple with his tasks and advisers. The gravest facts are imponderable. They are to be understood only by scientific immersion over many laborious and imaginative years.

The unfortunate result is that talented insight, such as one finds in this book, can be obliterated by any vulgar idolator of things as they are. It is painful to change one's habits, especially if the critic is personally contented with his situation. Thus, any crude journalist can cancel the effect of the most diligent political scientist simply by attacking the scientist's constructive proposals, because *his* (the journalist's) personal aims and purposes do not require them. He need not even attempt to weigh the mass of evidence: he can blind the reading public to the new facts by his prejudiced sneers. In a *New York Times Book Review* notice on 25 September 1960, this happened to Tugwell's reconstructive suggestions and to my more explicit proposals (a President with 11 executive Vice-Presidents elected as one team), made in my book, *The Presidency: Crisis and Regeneration* (University of Chicago Press, 1960). Instead of revealing the findings of Tugwell and Finer, the reviewer merely cried out "Sacrilege!" It is a great pity that such treatises, full of interest, fascinating, and essential to the common weal, are obscured to the public mind by such devices.

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Aktuelle Probleme der Ernährung. vol. 1. J. C. Somogyi, Ed. Karger, Basel, Switzerland, 1960. vi + 224 pp. Illus. F. 34.

Until recently Switzerland had no institute devoted exclusively to nutritional research. Therefore, the Green Meadow Foundation established such an institution, and it was inaugurated 18 April 1959. On this occasion Swiss and foreign scientists presented papers directly or indirectly connected with present trends in nutritional research; these papers have been published under the editorship of the director of the Institute for Nutrition Research in Rüschlikon-Zürich, J. C. Somogyi. Somogyi contributed an interesting paper entitled "On the antimetabolites of thiamin"; his paper also sheds new light on the topic ably discussed by A. von Muralt in the paper "On the role of thiamine in the metabolism of the peripheral nerve system."

In a short book review it is impossible to deal with the great variety of subjects contained in this first volume of the institute's publication series. A few remarks must suffice to indicate the scope of this volume. The paper by J. Yudkin, "Man's choice of food" is not satisfactory, in my opinion. While one may agree with Yudkin that the existence of a specific "food instinct" has not been proved in higher animals or in human beings and that, in general, correct food habits cannot be explained satisfactorily by assuming they resulted from the experience of numerous generations, his alternative hypothesis of satiety cannot be accepted since neither animals nor human beings know when to stop eating. Clive M. McCay uses a more adequate and individualistic approach in his very instructive paper, "Nutrition of older people." Only recently has this subject been given deserved attention. McCoy shows how the food habits of the elderly properly reflect changes in nutritional requirements, and he raises the pertinent but not yet fully understood question of how the body adapts itself within certain limits to changes in food supply. The excellent paper, "Foreign substances in foodstuffs," by F. Eicholtz is of great interest, and so is the paper by J. Kuprianoff, "Radiation preservation of food." Kuprianoff confirms the findings made by research workers in the United States that radiation doses adequate to prevent spoilage do not produce induced radioactivity or any other form of toxicity, but that organoleptic changes which make some irradiated foodstuffs less acceptable are produced. Since whole cells play an important part in the transport and metabolism of nutrients, the paper by G. v. Hevesy, "Radioactive labeling of cells," will be read with great interest. It shows that, by marking specific molecules, such as hemin or DNA, with radioisotopes, one can label entire cells, such as red or white blood corpuscles, and in this way follow their life cycle in the living organism more exactly than by any other method.

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An Introduction to Linear Programming and the Theory of Games. S. Vajda. Methuen, London; Wiley, New York, 1960. 76 pp.

Part 1 of Vajda's monograph provides a lucid introduction to the main ideas of linear programming, a mathematical discipline concerned with the maximization or minimization of a linear function of non-negative variables subject to linear constraints (equations or inequalities). The formulation of a simple production-scheduling problem serves as an introduction. Then a method of solution is developed for a special category of linear programming

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. Laurence. 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