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Book Reviews

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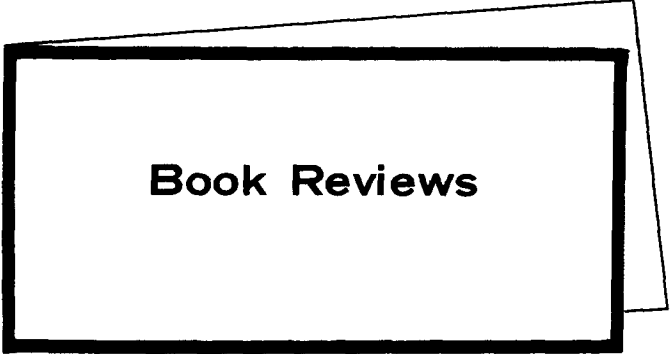
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Book Reviews

SPIVEY, W. ALLEN, AND THRALL, ROBERT M., *Linear Optimization*. New York: Holt, Rinehart and Winston, Inc., 1970, 530 pp., \$12.95.

Linear Optimization may well become the standard text for introductory graduate courses in linear programming. While written at approximately the same level of sophistication as Dantzig¹ and Hadley², its treatment is significantly more modern. The style is precise and thorough without being ponderous.

Readers who have less than a comfortable acquaintance with linear algebra would probably be happier with a less sophisticated text. However, Appendices A and B provide a rather complete review of mathematical foundations and linear algebra, respectively, for either a refresher survey or quick reference. The rest of the book presents what the authors refer to in the Preface as "... a multi-layered approach in which a topic may be first explored via a special case and then attacked in more and more generality until finally the research frontier is reached." Chapters 1 and 2 give an elementary geometric interpretation of LP and formulate several real world LP problems, most of which are well known. While short, this "first layer" offers a most informative introduction to LP. The fundamental characteristics of LP are then investigated in Chapters 3 through 7. These chapters provide a completely modern view of the simplex and revised simplex algorithms, duality and marginal analysis, and the assignment and transportation algorithms. Some of the changes in LP that are presented include a method for avoiding artificial variables, a more efficient way to handle unrestricted variables (i.e. variables which may take on negative values), the use of $c_j - z_j$, and a more flexible tableau format. Chapter 8 presents the elegant but difficult "schema approach" to LP of Tucker, Gomory, and Balinski. The final two chapters are devoted to game theory and the decomposition principle. Each chapter has a large number of applied and theoretical problems of varying difficulty. The book is exclusively concerned with LP; it does not cover branch and bound, or nonlinear, dynamic, integer, or geometric programming.

¹Dantzig, George B., *Linear Programming and Extensions*. Princeton, New Jersey: Princeton University Press, 1963.

²Hadley, George, *Linear Programming*. Reading, Massachusetts: Addison-Wesley Publishing Company, Inc., 1962.

Although Professors Spivey and Thrall succeed at what they attempt, *Linear Optimization* is not meant for everyone. McMillan's book³ is a superior introductory text to mathematical programming for most undergraduates and for business-oriented courses. Other books, especially Driebeek's⁴, are much better for formulating real world problems. Finally, the researcher who is trying to teach himself LP from scratch is advised to start with the chapters on LP from an introductory OR text. *Linear Optimization* is a treat for all other operations researchers and management scientists. Professors who want a sophisticated introductory text and researchers who need a theoretical yet comprehensible refresher on LP will certainly want to order a copy. It is highly recommended to those who wish to refresh or increase their knowledge of linear programming, and to those who wish a sophisticated introductory text.

William C. Finnie
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KOTLER, PHILIP, *Marketing Decision Making: A Model Building Approach*. New York: Holt, Rinehart and Winston, 1971, 742 pp., \$14.00.

The most comprehensive survey of the application of mathematical models and other analytical techniques to problems of marketing published to date. Professor Kotler divides his presentation into four parts. Part I, macromarket decision theory, considers aggregate sales response to single and multiple marketing instruments, competitive strategy, carryover effects of past marketing expenditures, multiple product and multiple territory resource allocation strategy, joint marketing and production planning, goal setting, and the treatment of uncertainty. Part II discusses the use of micromarketing decision models to solve the problems of distribution economics, pricing strategy, the management of the field sales force, and advertising strategy. Part III presents three chapters dealing with models of market behavior: (1) demand models for established products, (2) brand share sales models, and (3) demand models for new products. The four chapters which make up the final section of the author's presentation deal with the transition from theory to practice. Emphasis is placed on the actual processes of information gathering, marketing planning, the control of marketing operations, and the construction of a corporate marketing model. This section includes a thoughtful chapter on implementing a management science program within a marketing organization.

Marketing Decision Making: A Model Building Approach should become the standard text for marketing executives, marketing researchers, management scientists, and others who desire a thorough review of the uses and limitations of analytical methods in marketing.

Robert S. Weinberg

BROOKS, MICHAEL Z. AND REMMERS, H. LEE, *The Strategy of Multinational Enterprise*. New York: American Elsevier Publishing Company, Inc., 1970, 404 pp., \$14.50.

³McMillan, Claude, Jr., *Mathematical Programming*. New York: John Wiley & Sons, Inc., 1970.

⁴Driebeek, Norman J., *Applied Linear Programming*. Reading, Massachusetts: Addison-Wesley Publishing Company, 1969.

A timely and important contribution to the growing literature of international business operations. Based on extensive personal research, the authors discuss three aspects of multinational enterprises: (1) the organization structure and organizational relationships, (2) financial policies and practices, and (3) performance, motives, and the environment. The material presented is unusually frank and practical and should be of interest to any executive who is either already managing a multinational operation, considering the possibility of launching a multinational venture, or concerned about competing with a multinational competitor.

Robert S. Weinberg

DALTON, GEORGE, *Economic Anthropology and Development Essays on Tribal and Peasant Economies*. New York, Basic Books Inc., 1971, 386 pp., \$12.50.

Dalton's essays are directed to anthropologists and students of comparative economic systems. However, the essays, all published between 1960 and 1971, are available in journals and even other volumes edited by Dalton. Three of the essays (Chapters 3, 10, 11) appeared earlier this year in Dalton's *Economic Development and Social Change* (New York: Natural History Press, 1971, 664 pp., \$4.50). Chapter 3, "Theoretical Issues in Economic Anthropology," originally appeared in *Current Anthropology*, Vol. 10, 1969; the reader of Dalton's edited volumes should refer to the original publication for the more than twenty double-column pages of comments on the article written by over twenty-four anthropologists. Because of the redundancy of the current volume, I would not recommend it to specialists. Nevertheless, because of Dalton's clear but comprehensive style and the fine organization of the book, I would highly recommend this collection to the general reader or to anyone with an interest in the problems of developing nations.

The book is divided into three sections. The first, composed of three essays, gives a broad perspective on the theoretical approach of an economic anthropology clearly in debt to Karl Polanyi. The six essays in the second section deal with substantive questions in the areas of production in primitive African systems, African markets, primitive money, the notion of surplus, peasantries, and the bridewealth versus brideprice controversy. Socio-economic development and modernization are specifically dealt with in the four essays of section three. In addition, the subheadings within chapters make up a comprehensive list of key theoretical categories and are a boon to the reader trying to organize his thoughts in a rather novel and far-ranging field like economic anthropology. A sample of such subheadings includes: *Laissez Faire Capitalism Contrasted with Primitive and Archaic Economies*, *The Economy as Instituted Process*, *The Quest for a Universal Theory*, *Receptivity to Economic Change*. Extensive notes and a bibliography at the end of each chapter, as well as an excellent section of bibliographical notes at the end of the book, increase the book's usefulness.

A caveat is in order, however, for the reader unfamiliar with economic anthropology as a subfield of anthropology. Dalton refers to the complex nature of economic anthropology but does not stress enough the complex nature of economics and socio-cultural anthropology as separate fields. The reader should be aware that there are serious epistemological problems in contemporary anthropology and that the historical descriptivist and func-

tionalist perspectives adopted in economic anthropology are being challenged today by a new formalism coming into socio-cultural anthropology from linguistics.

The major discovery of economic anthropology, which is a basic idea in all of Dalton's essays, is that the student of primitive economies cannot be content to extrapolate from his own economic system using concepts like money, capital, or price. However, to say that formal economics is not applicable to primitive systems because conceptual equivalents between systems cannot be assumed presupposes two things: first, that the economic anthropologist really understands what these concepts mean in his own socio-cultural system, and second, that he can build a new body of economic anthropological theory as a body of explicit assumptions and theorems logically derived from them. There is ample evidence that this theory-building can be done in economics, but no evidence yet that it can be done in socio-cultural anthropology.

Part of the theoretical and methodological complexity of this hybrid field of economic anthropology is that anthropologists have sought to borrow scientific respectability from economists and economists have sought to borrow third world relevancy from anthropologists. Neither has considered the possibility that this borrowing is merely politically expedient now. Scientific theories usually change when new observations clearly show them to be inadequate for prediction. Economic theories have not been proved inadequate for dealing with problems of development, except that it is often no longer politically expedient to make purely economic decisions on developmental problems.

With this in mind as well as the thought that anthropology is as much a kind of humanism as a kind of science, the reader should be able to benefit a great deal from reading essays by one of the giants in the field without being awed by the prospect of a new body of theory within economics.

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RADOM, MATTHEW, *The Social Scientist in American Industry*. New Brunswick, New Jersey: Rutgers University Press, 1970, 210 pp., \$7.50.

The most important function of this book is to clear away stereotyped assumptions of why social scientists become employed by industry. As a piece of sociological research it is about par for the course. Radom does not attempt even simple correlations between questionnaire responses and characteristics of his subject population, and there are about seventy-five unnumbered tables which present merely frequency of response data. In addition, as a random sample of social scientists in industry, the sample is unconvincing. Radom's population comprised about 11% of the social scientists employed in industry. There were ninety-five psychologists, ninety economists, twenty-four statisticians, and twenty-two sociologists. Most of these were in top or middle management positions and earned upwards of \$20,000 a year.

Radom has not attempted to define the uses to which social scientists can be put in industry. His defined purpose was to discover how social

scientists viewed their roles in industry — interesting to social scientists, but of marginal interest to employers looking to maximize industrial profits through the professional productivity of such people. In the concluding chapter which summarizes the study's major findings, Radom states that his study "should contribute to a better understanding of how the services of such highly educated people should be administered so that the individuals and the organizations in which they work will both benefit." What he has done is to compare responses to questions asked of both physical and social scientists employed in industry, and in this way to allude to possible contributions of the social scientists on an analogue to the more familiar and easily understandable contribution of physical scientists.

I would not recommend this book highly. It is similar to a *Fortune* survey for the light it sheds on those "highly educated" people produced by our academic communities who find it somehow contrary to their professional ethos to be part of a capitalistic enterprise. This is and will continue to be an important issue; but whether it all depends on the lack of creative potential offered by industry and scientists' dislike of organizational rules, as Radom finds, remains a moot point. One suspects that, besides economists, social scientists have little to offer industry of immediate practical importance which a good management could not contribute on its own.

There are nine chapters to the book; a section of notes at the end keyed to each chapter, an annoying format when the notes are merely bibliographical; and an index that would be better if it were entirely topical.

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