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## Book Reviews

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### **Operational Research Society Annual Conference**

The annual conference of the British O.R. society will be held at Exeter University on September 27–29, 1967. It is intended that the conference should be outward looking, i.e. considering management and the organization rather than the O.R. worker or his techniques. The general theme of decision taking will be set in the context of the whole management system. There will be some plenary sessions devoted to lectures and discussions on this theme, but in order that the full range of relevant topics shall be covered—and to provide a chance for full discussion—most of the conference will be arranged in parallel sessions. There will be one or more sessions devoted to each of the following themes: How decisions are made, organization for effective decision making, transmission of decisions within the organization, what information is required for decision making (including the use of forecasting), measuring the value of information and management organization, the use of models by management, and management training. It is also proposed to arrange sessions on the following subjects, for which interest has been expressed: O.R. in the public and social services, decision making in R. & D., and advances in techniques.

For further details, write to J. A. Faulkner, National Coal Board, Coal House, Lyon Road, Harrow, Middlesex, England.

*Peter Mark Pruzan*

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## **BOOK REVIEWS**

*Editor: Philburn Ratoosh, Center for Research in Management Science, Stephens Hall, University of California, Berkeley, California 94720*

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BAUMGARTNER, JOHN STANLEY, *Project Management*, Homewood, Illinois: Richard D. Irwin, Inc., 1963. \$4.90. 185 pp.

The efforts of industry and government to satisfy the special requirements and demands of large and many times monoponistic clients has resulted in the development of project management. John Baumgartner brings his experience as a representative of both the client and the manufacturer together to provide the reader with an insightful description and sometimes prescription for the problems of this innovation in the practice of management.

The description of some of the pitfalls which might be encountered because of the unique aspects of large-scale government contracting should be particularly useful for newly assigned project managers. But one is not at all sure that many companies would be willing to use the simplified decision model presented for use on committing company funds during a break in customer funding coverage. The reader probably would have been better served had Mr. Baumgartner developed a description of the model for Decisions on Continuing Company Funding which he mentions in Appendix D.

The author places his emphasis on project planning to the neglect of a more complete description of control methods. This over emphasis probably results

from Baumgartner's reaction to the common fault of disregarding adequate planning as a prerequisite to and a basis for control. However, the critical importance of control and coordination as the basis for project types of organization makes this a most serious defect. The only other major weakness is the lack of a discussion of the decision criteria relating to project size and the degree to which project forms of organization are to be utilized within a more traditional organization structure.

The description of the requirements for documentation, customer relations and communication, contract termination, and justification of costs will provide the novice in the field of project management with a good basic framework for his later efforts, for each of these topics are covered in a succinct and lucid manner. It is regrettable that the author did not anticipate the recent shift to incentive type contracts, and that his discussion is primarily in terms of cost plus fixed fee (CPFF) contracts. However, we do not feel that this will be a serious limitation since those readers who become more involved in project management will find it necessary to extend their study well beyond this text.

Although one distinctly gains the impression that the book was intended in part as a handbook for project management, we do not feel that the content meets this objective. However, this book is an excellent descriptive discourse on the nature of project management and may be recommended for any person who has an interest in this aspect of management or is preparing to become involved in the process of project management.

*Louis Glen Strasburg and Richard B. Hoffman*  
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HELMER, OLAF, *Social technology*. New York: Basic Books, Inc., 1966, 108 pp.

This unusual book deals with the future, and is in part a forecasting study of probable developments due to the explosive growth of science and technology, and in part a practical proposal of how to ameliorate those trends which are potential threats to human well being. This takes the form of a study of ways in which the social sciences might adopt the techniques of operations research.

Among the major problems on the horizon which the author believes need such attention are the restructuring of cities due to automation, the possibility of eugenic control through molecular engineering, and generally the alleviation of hardship brought on by social and environmental change. He believes that the potential rewards of applying the tentative and pragmatic methods of operations research to such problems are considerable and that operational model-building and the systematic use of expertise could become effective tools for this task in the hands of social scientists. The title of the book suggests this shift in methodological emphasis. A lucid description of these techniques follows and should appeal to both the uninitiated and the reflective specialist. The use of expertise is discussed in particular detail. The author provides us with procedural sketches in the areas of urban redevelopment, educational reform, political forecasting and planning, juvenile delinquency and long-range economic forecasting, and illustrates how theoretical insight combined with practical experience could be applied as social technology.

Finally, the author examines the role of prediction in a societal context. He makes the distinction between the factual uncertainty inherent in all conjecture, and strategic uncertainty, which involves policy decisions of the future—the latter being the domain for the work of the social engineer. The author agrees with Bertrand de Jouvenel that to avoid the consequences of an uncontrolled technological explosion the systematic search for possible futures (*futuribles*) and the democratic choice among them should be institutionalized. He outlines the functions such a “Futuribles Institute” could serve, and aware of its ethical mandate, he concludes that it could provide responsible and enlightened guidance in a changing society.

The details of the challenge which the future holds for us are presented in Appendix I, which constitutes about one half the book. It is a forecasting study undertaken jointly by the author and Theodore Gordon under the auspices of the RAND Corporation in 1963 and 1964. Future events, inventions and breakthroughs during the next half century are explored in science, population control, automation, space progress, war prevention and weapons systems. The method is the Delphi technique, which consists of a sequence of questionnaires addressed to six international panels of experts. The distinguishing feature of this technique lies in its simulation of the live exchange of views of an assembled panel through the design of the questionnaire sequence. The first of four solicits the broad outlines and topics to focus on, but subsequent ones also feed back the response of other participants. To assist the panel toward a consensus, the experimenters reformulate and eliminate earlier questions, solicit and disseminate reasons for views held, and ask for reconsideration of statements when agreement or disagreement seems to emerge.

The final projections are startling. To list a few which even the authors found surprising: the possibility of widespread use and acceptance of personality-control drugs, actual symbiosis between man and machine through electro-mechanical connections, the relative confidence that the growth rate of the world's population would begin to decrease within the next generation, and the strong likelihood of the emergence of weapons of a nonkilling, nonproperty-destroying nature. These forecasts are well portrayed by graphs and tables with a good indication of the measure of the panel's agreement in each instance. They are followed by a thumbnail sketch of the world to come in the fateful year of 1984 and extrapolations for the years 2000 and 2100. Commentary and amplification of significant details enliven the statistical skeleton throughout. An analysis of how predicted dates shifted during the study is enlightening. The authors conclude this section with a critical analysis of the application of the Delphi technique to forecasting. Appendix II is a further study by Bernice Brown and Olaf Helmer on the improvement of reliability of a consensus through the self-rating of panel experts.

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