

tion management, product development, quality management, and not to forget participative management, to name a few—is that the concept and many a method or technique in each and all of these fields of management are born and bred in Europe and the U.S. The real difference is that the Japanese are ‘merely’ ahead of us in the concise and people oriented implementation of these concepts and techniques. And that is precisely where reality in terms of money, motivation and quality begins.

One of the original focal points in the attention of the West for Japanese corporate practice is the Quality Control Circle. Small wonder that the impressive results brought many European or American companies to introduce these circles in their own organisation, to find out later that their high expectations were probably not met.

In *The Japanese Approach to Product Quality*, Japanese, American and European experiences are brought together. The three Japanese authors describe, partly on the basis of some cases, the essence of the Japanese approach, both where the conditions and the techniques are concerned. Especially the frequent application in their arguments of the so called ‘Fishbone Diagram’ enlightens the broad applicability of this means to analysis.

The American and European authors describe Western practices and analyse why in some cases expectations were not met and sometimes even rightout failure happened. Careful decision making and introduction is no less crucial than continuous training and information of people and whenever possible implementation of the suggestions.

The chapters of the book are: “Quality Control in Japan”, by Professor Kaoro Ishikawa, the “Father of QC Circles”; “Quality Control in Japan”, by Hajime Karatsu; “Cases of QC Circle”, by Naoto Sasaki; “How Quality Goes Round in Circles”, by David Hutchins; “QC Groups at Rolls Royce”, by Jim Rooney; “The Historical Development of Quality Control in the West”, by Hutchins; “Establishing a QC Programme”, by Allan Farr; “QC’s—The Missing Link”, by Hutchins; “QC Successes and Problems at Hughes Aircraft”, by William E. Courtright; “QC’s at Wedgwood”, by Dick Fletcher; “Organization of Company Wide Quality Control”, by Hutchins; “Reasons Why QCC’s Do Not Attain Expected Results”, by Oleg

Greshner; “QC Circles and Social Sciences”, by Naoto Sasaki.

All in all these articles cover the main aspects that have to be paid attention to before deciding about the introduction of QC’s, the implementation itself, the pitfalls one may encounter and the ways out.

There is one disadvantage to the book: If it is documented in a bibliography or library the potential reader may be put on the wrong foot by this addition to the title “Collection of papers presented to the past four conferences of QC Circle held in London since 1976”. Such an addition may suggest that the contents of the book is fairly well outdated in the Mid-Eighties. And that is not true. For two reasons.

Hardly any Japanese firm that has QC’s gives them that name nowadays. In some instances they carry the name of the enterprise, far more frequently they are called ‘Small Groups’ or ‘Problem Solving Groups’ or ‘Productivity Groups’. The reason why? The scope of the groups has widened into many more problems than those in the technical quality field on the shopfloor alone. They have developed into a major instrument to further the survival of the enterprise by engaging management and work force alike in the continuing and creative process that is the prime condition for any productive system geared to satisfy its customers.

The second reason why the book is still worthwhile is that it offers valuable assistance to those who want to improve group activities they have already on hand and to those who, for whatever reason, feel that they without mobilising the potential of all members of the organisation might miss the bus forever. And which manager opts for such an outcome of managerial problems?

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### **Adequate Modeling of Systems**

Proceedings of the International Working Conference on Model Realism, Bad Honnef, Federal Republic of Germany, April 20–23, 1982, Springer, Berlin, 1983, xi + 336 pages, DM58.00

This book contains the proceedings of the International Working Conference on Model Realism, held in Bad Honnef near Bonn, April 20–23, 1982. The aim of the conference was a comparison of different methodologies which can contribute to systematic problem solutions.

The various papers are grouped around three problem studies. The first deals with a system consisting of astronauts on board of a moon racket and a space control center on earth. The second study, called reorganization of a socio-technical system, describes the problem facing a citizen moving from one place to another in a given country. The idea is to create a Citizens Service Department to solve the problem associated with this move, such as new bank and credit accounts, new contracts with telephone companies and so on. Finally the third study may be classified as a city planning problem. It involves a citizen oriented approach toward building a new suburb whereby undesired phenomena, such as social isolation, are to a large extent avoided.

A common denominator in these problem studies is that there exists no global control, i.e. an actor who exercises absolute power, such as in a hierarchical system, but rather we have decentralized or distributed control by various actors. These systems are rather complex because every actor has his own values and local insight as he generally cannot be aware of the system as a whole. Another aspect which adds to the complexity is the multifunctionality of the components, which means that any given unit may have different functions, for example the additional functions needed to take over the control of disabled units.

In the twenty papers of these proceedings attention is paid not only to the solutions of the fore-mentioned problems but also to the modelling process itself. Horst Wedde mentions in his introduction that the design of a distributed system is a process which may be changed as new insights become available, hence his conclusion that there is no realistic model. Also on other grounds, such as the self-altering prophecies, it can be shown that social modelling can be considered as a highly subjective process.

Needless to say that the modelling approaches vary widely; use is made of fuzzy systems, simulation models, network theory, differential equations, the state-space approach, organized checklists and so on.

This is hardly the place to review every paper. Actually, this has already been done as every paper has been commented on by one or two experts, which certainly increases the value of this book. Every model builder of distributed systems should find something of value in these proceedings, if only that model building can be seen as a process of which the end product, the model, can never be considered as a completely realistic analogon of a social system.

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G. HAMMER and D. PALLASCHKE (eds.)

**Selected Topics in Operations Research and Mathematical Economics: Proceedings of the 8th Symposium on Operations Research, Held at the University of Karlsruhe, West Germany, August 22–25, 1983**

Volume 226 in: Lecture Notes in Economics and Mathematical Systems, Springer, Berlin, 1984, ix + 478 pages, DM70.00

The editors selected 37 papers from the 8th Symposium on Operations Research, held in Karlsruhe, written by 44 authors (from the 300 participants on the conference). They clustered the papers into 8 different groups. The volume is a mixture of overviews and specific research topics.

The first section is on *Optimization Theory* and consists of 8 contributions, among which 2 surveys (Dolecki: Lower semicontinuity of marginal functions, and Singer: Generalized convexity, functional hulls and applications to conjugate duality in optimization), 3 papers related with  $\Phi$  conjugations (Deumlich and Elster, Martinez-Legaz and Singer), 2 contributions dealing with computing of optimal solutions (Auslender, Tuy) and one on conic approximations of sets of feasible and better solutions (Vlach).

The second section deals with *Control Theory* and consists of two papers: Knobloch on the output-stabilization problem in a linear state space model and Rolewicz on observability of Lipschitz-systems.

The next section, on *Mathematical Economics* contains two survey papers (Allen: Convergence of