

derived. Evtushenko's and Piyavskii's saw-tooth cover algorithms are given. B&B methods for the UL problem are then discussed. The Piyavskii algorithm is re-interpreted as a B&B algorithm. A prototype diagonal extension of it is developed for the  $n$ -dimensional case.

*Global Optimization: Deterministic Approaches* is exceptionally well written and clearly laid out. A meaningful and consistent notation is used throughout; a subject index and an extensive bibliography (over 500 entries) are included. Many specific deterministic approaches and algorithms have their underlying concepts explained and clarified supported by examples and diagrams. Its main contribution, however, is its successful attempt to present a coherent view of the field. The book also contains very up-to-date results. This second edition is effectively strengthening the position of the book as a landmark in the field of optimization. It is extremely useful to the teacher of optimization, operational research and decision science. It is also a most valuable companion for the newcomer to global optimization as well as the more experienced researcher.

A. SALHI

**Optimization in Industry: Mathematical Programming and Modeling Techniques in Practice**

TITO A. CIRIANI and ROBERT C. LEACHMAN (Editors)

Wiley, Chichester, 1993. xvi + 280 pp. £24.95

ISBN 0 471 93492 5

This volume collects together 17 papers presented at the Optimization in Industrial Environments session of the 1991 IBM Europe Institute. Usually, a reviewer complains that papers in a 'Proceedings' volume are very out of date when they are finally published, but in this volume they are probably as timely as papers in any journal that concentrates on optimization in OR. This timeliness is welcome. A number of well-known names such as Infangar, Johnson and Ramakibhnan (USA), Daniel and Mitra (UK), Escudero (Spain) and of course the editors themselves, are involved in the papers.

A fairly wide spread of topics is included: airline crew scheduling, production and planning of semiconductors, flexible manufacturing systems, packaging and oil industry problems all occur.

One highlight paper was a good review and presentation of results by Levkovitz and Mitra on the competing benefits and unification of simplex based approaches and interior point methods. This paper indicates the way the balance is shifting.

I found a number of papers to be tantalizingly short. They obviously refer to what was presented at the sessions but need following up through research reports and working papers where more details can be found. This does mean that the volume is less helpful for readers who wish to obtain an introduction to particular fields.

It is difficult to tell if this volume will stand the test of time. Several of the papers should have a good shelf-life but, although the volume is to be recommended, it is not an essential purchase.

JOHN M. WILSON

**Production and Operations Management: Strategies and Tactics (3rd Edition)**

JAY HEIZER and BARRY RENDER

Allyn and Bacon, Boston, 1993. xxi + 871 pp. £21.95

ISBN 0 205 14048 3

At first sight, this book appears to be yet another American tome on P/OM, guaranteed to frighten the average reader by the volume of material contained within. Flipping through the book you might mistakenly think you are reading a Quantitative Methods text, an Introduction to Information Technology text or even an Organizational Behaviour text. On closer inspection you will discover this is a comprehensive guide to P/OM suitable for a reader with no prior knowledge of the subject wanting a quick overview, or a student making an in-depth study of one particular aspect of P/OM.