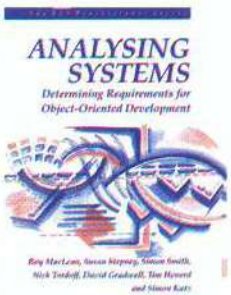
Analysing Systems
Determining Requirements for Object-Oriented Development
R MacLean, Susan Stepney, Simon Smith, Nick Tordoff, David Gradwell, Tim Hoverd and Simon Katz.
BCS Practitioner Series.
Prentice Hall.
ISBN 0-13-301433-9



This book describes a modelling technique developed at the University of York in collaboration with Logica UK and Data Dictionary Systems. The book lays no claim to being a manual for the method; it is described as a set of ideas which might be useful to the analyst.

ORCA (Object Oriented Requirements Capture and Analysis) uses three modelling techniques in an analysis and design method best suited to an OO environment. 'Roles' joined by guarantee/reliance links are used to analyse the service provided by a system. Objects and events which realise the service are modelled with a behavioural language and the dynamics of this behaviour are modelled in a number of episodes in which objects interact through operations in a time ordered way. The ORCA life cycle is described as Old World - Pathology - Prescription - New World.

The text book uses case studies to illustrate the method. One such describes a manufacturer of those name tapes that are still being sewn on gymslips and rugby socks. The case study is well chosen; it is rich enough to illustrate the method without overburdening the reader with incomprehensible detail. The analysis of the timing of a Jacquard loom using ORCA's behavioural model is interesting and well explained. The book describes modelling languages GRAMPUS, for Guarantee/Reliance models and BELUGA for Behavioural models and both are comprehensible to the non-specialist although the syntax of the latter can become demanding to follow. The BELUGA language is similar to existing OO design notations although the authors point out that the dynamic analysis model cannot automatically be converted into a design.

The book should prove stimulating to academics who are interested in systems modelling and who are looking for a more discursive view of an OO method than those found in texts aimed exclusively at the software engineer. Practitioners looking for an OO based analysis and specification approach will find ideas in the book which will help them define a method to suit their particular requirements. Although the book's structure reflects its multiple authorship, this is one of its attractions. By providing the reader with different examples of the use of ORCA and some associated tools (AHAB - A Help in Analysing Balderdash) it is possible to assimilate the authors' ideas quite painlessly.

A J Wakefield
Faculty of Computer Studies and Mathematics
University of the West of England