
Contents

List of Figures	vii
List of Tables	ix
List of Abbreviations	xi
Foreword	xiii
Preface	xv
1 Symbiotic Approaches: Contents and Issues <i>Jos Benders, Job de Haan and David Bennett</i>	1
2 Anthropocentric Production Systems: A New <i>Leitbild</i> for an Industrial Symbiotic Work and Technology Culture in Europe <i>Werner Wobbe</i>	13
3 Modern Sociotechnology: Exploring the Frontiers <i>Mark van Bijsterveld and Fred Huijgen</i>	25
4 The Swedish Sociotechnical Approach: Strengths and Weaknesses <i>Ulf Karlsson</i>	47
5 ‘Technikgestaltung’ (Shaping of Technology) and Direct Participation; German Experiences in Managing Technological Change <i>Erich Latniak</i>	59
6 Managing Sociotechnical Change: A Configuration Approach to Technology Implementation <i>Richard Badham</i>	77
7 A Practical Theory and Tool for Specifying Sociotechnical Requirements to Achieve Organizational Effectiveness <i>Ann Majchrzak and Linda Finley</i>	95
8 Artificial Intelligence and Knowledge-based Systems: A New Challenge for the Human-centred Perspective? <i>John Kirby</i>	117
9 Will Symbiotic Approaches Become Mainstream? <i>Jos Benders, Job de Haan and David Bennett</i>	135
Notes on Contributors	149
Author Index	151
Subject Index	155

List of Figures

Figure 2.1	Market trends 1970–1990s	16
Figure 2.2	National organizational configurations	22
Figure 3.1	The technical and social system	27
Figure 3.2	The relationship between production input and traditional division of labour structure	27
Figure 3.3	The quality of working life	28
Figure 3.4	Parallellization	32
Figure 3.5	Segmentation	32
Figure 3.6	The control cycle	33
Figure 3.7	Production input and the economic successful use of modern sociotechnology	42
Figure 4.1	Group autonomy	48
Figure 4.2	The Gothenburg model for solving conflicts	50
Figure 6.1	Configurations versus generic systems	83
Figure 6.2	Process configuration model	87
Figure 7.1	ACTION open systems model	98
Figure 7.2	Sensitivity analysis model	106
Figure 7.3	How ACTION facilitates people designing TOP systems	108
Figure 8.1	Expert-CACSD	120
Figure 8.2	Decomposition of a compound expression into elementary terms	126
Figure 8.3	Part of a GRAIL model for fracture of the femur	126
Figure 8.4	Part of a compositional data entry form	127

List of Tables

Table 2.1	<i>Leitbild</i> for APS organization at different plant levels	18
Table 2.2	APS technology	19
Table 3.1	Weaknesses of the traditional division of labour structure	34
Table 7.1	List of sociotechnical features in ACTION	104