

Contents

	<i>Foreword</i>	vii
	<i>Preface</i>	xix
	<i>Introduction</i>	xxiii
1	Orientation	1
2	Foundations of the digital (discrete) revolution	16
3	History of computers—hardware	30
4	History of computers—software	43
5	History of computer applications	62
6	Limits of computer applications—AI-I	75
7	Limits of computer applications—AI-II	88
8	Limits of computer applications—AI-III	104
9	n -Dimensional space	108
10	Coding theory—I	124
11	Coding theory—II	136
12	Error-correcting codes	149
13	Information theory	163
14	Digital filters—I	178
15	Digital filters—II	196
16	Digital filters—III	211
17	Digital filters—IV	224

18	Simulation—I	234
19	Simulation—II	246
20	Simulation—III	258
21	Fiber optics	275
22	Computer-aided instruction (CAI)	286
23	Mathematics	297
24	Quantum mechanics	312
25	Creativity	323
26	Experts	333
27	Unreliable data	345
28	Systems engineering	360
29	You get what you measure	373
30	You and your research	386
	<i>Index</i>	400