

CONTENTS

Contributors, xiii

Abbreviations and Spelling Norms, xvii

Introduction, 3

John Peter Oleson

PART I SOURCES

1. Ancient Written Sources for Engineering and Technology, 15

Serafina Cuomo

2. Representations of Technical Processes, 35

Roger Ulrich

3. Historiography and Theoretical Approaches, 62

Kevin Greene

PART II PRIMARY, EXTRACTIVE TECHNOLOGIES

4. Mining and Metallurgy, 93

Paul T. Craddock

5. Quarrying and Stoneworking, 121

I. Clayton Fant

6. Sources of Energy and Exploitation of Power, 136

Örjan Wikander

7. Greek and Roman Agriculture, 158

Evi Margaritis and Martin K. Jones

8. Animal Husbandry, Hunting, Fishing, and Fish Production, 175

Geoffrey Kron

PART III ENGINEERING AND COMPLEX MACHINES

9. Greek Engineering and Construction, 225
Fredrick A. Cooper
10. Roman Engineering and Construction, 256
Lynne Lancaster
11. Hydraulic Engineering and Water Supply, 285
Andrew I. Wilson
12. Tunnels and Canals, 319
Klaus Grewe
13. Machines in Greek and Roman Technology, 337
Andrew I. Wilson

PART IV SECONDARY PROCESSES AND MANUFACTURING

14. Food Processing and Preparation, 369
Robert I. Curtis
15. Large-Scale Manufacturing, Standardization, and Trade, 393
Andrew I. Wilson
16. Metalworking and Tools, 418
Carol Mattusch
17. Woodworking, 439
Roger B. Ulrich
18. Textile Production, 465
John P. Wild
19. Tanning and Leather, 483
Carol van Driel-Murray
20. Ceramic Production, 496
Mark Jackson and Kevin Greene
21. Glass Production, 520
E. Marianne Stern

PART V TECHNOLOGIES OF MOVEMENT AND TRANSPORT

22. Land Transport, Part 1: Roads and Bridges, 551
Lorenzo Quilici
23. Land Transport, Part 2: Riding, Harnesses, and Vehicles, 580
Georges Raepsaet
24. Sea Transport, Part 1: Ships and Navigation, 606
Seán McGrail
25. Sea Transport, Part 2: Harbors, 638
David J. Blackman

PART VI TECHNOLOGIES OF DEATH

26. Greek Warfare and Fortification, 673
Philip de Souza
27. Roman Warfare and Fortification, 691
Gwyn Davies

PART VII TECHNOLOGIES OF THE MIND

28. Information Technologies: Writing, Book Production, and the Role of Literacy, 715
Willy Clarysse and Katelijn Vandorpe
29. Timekeeping, 740
Robert Hannah
30. Technologies of Calculation, 759
Part 1: Weights and Measures (Charlotte Wikander), 759
Part 2: Coinage (Andrew Meadows), 769
Part 3: Practical Mathematics (Karin Tybjerg), yyy
31. Gadgets and Scientific Instruments, 785
Örjan Wikander
32. Inventors, Invention, and Attitudes toward Innovation, 800
Kevin Greene

CONTENTS

PART VIII ANCIENT TECHNOLOGIES IN THE MODERN WORLD

33. Expanding Ethnoarchaeology: Historical Evidence
and Model-Building in the Study of Technological Change, 821
Michael B. Schiffer

Index, 837