

## *Contents*

1. POWER AND ENERGY SOURCES	9
Man-power	9
Animal power	13
Water power	16
Wind power	26
Steam power	28
2. WATER SUPPLIES AND ENGINEERING	34
Appendix — The sizes of measurement nozzles, and Frontinus' arithmetic.	53
3. WATER PUMPS	58
4. CRANES AND HOISTS	84
5. CATAPULTS	99
6. SHIPS AND SEA TRANSPORT	133
Appendix — Methods of estimating the maximum speeds of oared vessels	166
7. LAND TRANSPORT	170
8. THE PROGRESS OF THEORETICAL KNOWLEDGE	186
9. THE PRINCIPAL GREEK AND ROMAN WRITERS ON TECHNOLOGICAL SUBJECTS	199
Hero of Alexandria	199
<b>Vitruvius</b>	208
Frontinus	211
Pliny	215
BIBLIOGRAPHY	218
INDEX	221