

# Contents

## **VOLUME I**

Contributor Biographies	xi
Abbreviations	xix
List of Figures and Maps	xxiii
Introduction	1

## **PART I     Physics and Cosmogony** **11**

1 The Creation and Destruction of the World <i>Andrew D. Gregory</i>	13
2 Matter <i>Daniel W. Graham</i>	29
3 Motion and Energy <i>Jean De Groot</i>	43
4 Nature and the Divine <i>Svetla Slaveva-Griffin</i>	60

## **PART II    The Mathematical Sciences** **77**

5 Mathematics <i>Reviel Netz</i>	79
6 Astronomy <i>Andrew D. Gregory</i>	96
7 Astrology <i>Kocku von Stuckrad</i>	114

8	Ancient Optics: Theories and Problems of Vision <i>Philip Thibodeau</i>	130
9	Hydrostatics and Pneumatics in Antiquity <i>Matteo Valleriani</i>	145
10	The Science of Harmonics and Music Theory in Ancient Greece <i>Sophie Gibson</i>	161
<b>PART III Earth Sciences</b>		<b>179</b>
11	Hydrology: Ocean, Rivers, and Other Waterways <i>Georgia L. Irby</i>	181
12	Classical Geology and the Mines of the Greeks and Romans <i>Paul T. Craddock</i>	197
13	Greco-Egyptian and Byzantine Alchemy <i>Matteo Martelli</i>	217
14	Meteorology <i>Liba Taub</i>	232
15	Geography <i>Duane W. Roller</i>	247
<b>PART IV Life Sciences</b>		<b>263</b>
16	Greek and Roman Botany <i>M. Eleanor Irwin</i>	265
17	Zoology <i>Tiberiu Popa</i>	281
18	“Ecology” in the ancient Mediterranean <i>Georgia L. Irby, Robin McCall, and Anita Radini</i>	296
19	The Failure of Evolutionary Thinking in Antiquity <i>Devin Henry</i>	313
20	Embryology <i>James Wilberding</i>	329
<b>PART V Healing and the Human Body</b>		<b>343</b>
21	Anatomy and Physiology <i>Julius Rocca</i>	345
22	Gynecology <i>Lauren Caldwell</i>	360

23	Surgery <i>Frédéric Le Blay</i> <i>Translated by Todd Black</i>	371
24	Physicians and “Schools” <i>Molly Jones-Lewis</i>	386
25	Pharmacy <i>Molly Jones-Lewis</i>	402
26	Magic, Curses, and Healing <i>Andrew D. Gregory</i>	418
27	Healing Shrines <i>Georgia Petridou</i>	434
28	Regimen and Athletic Training <i>Jason König</i>	450
29	Epidemiology and Pathology <i>Efthymia Nikita, Anna Lagia, and Sevi Triantaphyllou</i>	465
30	Psychology and Physiognomics <i>Arnaud Zucker</i>	483
31	Anthropology: Knowledge of Man <i>Gordon Campbell</i>	500

## VOLUME II

Abbreviations	xi
List of Figures and Maps	xv

## PART VI Food Sciences 517

32	Greek and Roman Agriculture <i>Philip Thibodeau</i>	519
33	Animal Husbandry <i>Kenneth F. Kitchell Jr.</i>	533
34	Oil and Wine Production <i>Rafael Frankel</i>	550
35	Cooking and Baking Technology <i>John Paulas</i>	570
36	Food Storage Technology <i>Robert I. Curtis</i>	587
37	Culinary and Medicinal Uses of Wine and Olive Oil <i>John F. Donahue</i>	605

38	Nutrition <i>John F. Donahue</i>	618
<b>PART VII Technology of Human Life</b>		<b>633</b>
39	Greek Public and Religious Architecture <i>John R. Senseney</i>	635
40	Greek Domestic Architecture <i>Bradley A. Ault</i>	656
41	Greek Interior Decoration: Materials and Technology in the Art of <i>Cosmesis</i> and Display <i>Hariclia Brecolouaki</i>	672
42	Roman Monumental and Public Architecture <i>Duane W. Roller</i>	693
43	Roman Domestic Architecture <i>Nathalie de Haan</i>	711
44	Roman Interior Design <i>Sarah Lepinski</i>	730
45	Textile Technology <i>Ellen Harlizius-Klück</i>	747
46	Urban Infrastructure in the Roman World <i>Klaus Grewe</i> <i>Translated by Johanna K. Sandrock</i>	768
47	Siegeworks and Fortifications <i>Raffaele D'Amato</i>	784
48	Arms and Weapons <i>Raffaele D'Amato</i>	801
<b>PART VIII Travel</b>		<b>817</b>
49	Greek and Roman Cartography <i>Georgia L. Irby</i>	819
50	Land Transport and Vehicles <i>Georges Raepsaet</i>	836
51	Navigation and the Art of Sailing <i>Georgia L. Irby</i>	854
52	Ships and Boats <i>Julian Whitewright</i>	870

<b>PART IX</b>	<b>Telling Time</b>	<b>889</b>
53	Greek Calendars <i>Laura Gawlinski</i>	891
54	Roman Calendars <i>Robert Hannah</i>	906
55	Time-Telling Devices <i>Robert Hannah</i>	923
<b>PART X</b>	<b>Synthesis and Response</b>	<b>941</b>
56	The Crossroads of Hellenistic and Sanskrit Science <i>Tejas S. Aralere</i>	943
57	Roman Responses to Greek Science and Scholarship as a Cultural and Political Phenomenon <i>Thorsten Fögen</i>	958
58	Scientific Encyclopedias <i>Katerina Oikonomopoulou</i>	973
59	Translation and Transmission of Ancient Scientific Texts <i>Sonja Brentjes</i>	988
60	The Reception of Greco-Roman Science in the Renaissance: Assimilation(s), Transformation(s), Rejection, Hybridization <i>Roberto Lo Presti</i>	1009
	Appendix: Major Writers And Thinkers	1023
	General Index	1029
	Index of Authors, Thinkers, and Primary Sources	1049
	Index of Toponyms	1061