

CONTENTS

A MAN BEYOND HIS TIME	11
An encyclopaedic mind	13
Bošković's intellectual and scientific achievements	17
Bošković and his ideas in the eyes of others	27
Virtues and shortcomings — Bošković's character	33
 BOŠKOVIĆ'S ANCESTORS AND FAMILY	 39
Family and origins	41
Correspondence as a source — Public and private life	47
 SCIENTIFIC, LITERARY, DIPLOMATIC AND PERSONAL BIOGRAPHY	 61
Bošković year by year — A chronology (1711–1787)	63
Childhood and education in Dubrovnik (1711–1725)	79
Recollections of childhood	79
Roman period I — Roman student, professor and priest (1725–1744)	83
Early scientific treatises (astronomy, mathematics, geosciences)	90
Interest in archaeology	96
Early technical works — Structural repairs to the dome of St Peter's Basilica in Rome	97
Roman period II — Scientist and man of letters (1744–1756)	103
Major scientific achievements — His only return to Dubrovnik (1747)	103

Astronomical research	108
Theoretical and practical studies on light	113
Mathematical challenges — A contribution to the theory of real numbers	114
Is the Earth round? — The first geodetic and cartographic expedition in the Papal States	118
Determining the length of the meridian arc Rome–Rimini	118
Cartography	130
The internal structure of the Earth — Beginnings of a new theory	132
Archaeology and astronomy — Augustus's obelisk as a sundial	134
Bošković the literary figure	134
Poetic talent	134
Solar and lunar eclipses — Astronomy in poetic form	141
The beginnings of Bošković's theory of forces	145
Scientific travels across Europe and diplomatic missions (1756–1763)	149
From Rome (via Europe's capitals) to Rome	149
Diplomatic service for the Republic of Dubrovnik	155
First diplomatic mission for the Republic of Dubrovnik — The 'Macedonian regiment' (1755)	155
Mediation in the diplomatic dispute between Dubrovnik, France and England — The Viani Affair (1756)	156
A hydrotechnical and diplomatic journey to Lucca and Vienna	158
Replacement of the consul in Dubrovnik	164
Bošković the philosopher	165
Metaphysical foundations of the theory of natural philosophy	165
One single law of forces — The first unification of interactions in science	169
Quarks before quarks — A 'mad' idea	174
Isolated worlds and quark confinement	177

Bošković's 'model of the atom' — The idea of quantisation in the 18th and 20th centuries	178
The structure of matter — Higher-order particles and macroscopic bodies	181
Space and time — Departing from Newton and approaching modern insights	183
Metaphysics, epistemology, and the philosophy of science	186
The metaphysical origin of force and the world	186
The anthropic principle	188
The limits of human knowledge	192
Towards a philosophy of science	193
Travel across Europe	194
Travel in Italy and France — Meeting with academicians	194
Among English scientists and men of letters	204
From England to Constantinople, Warsaw and Rome	210
Poetry and prose	215
Milan period — A new professorship and the Brera Observatory (1763–1773)	227
Reform of university teaching and the Brera 'affair'	227
Determining the nature of light — The water-filled telescope	233
Saving Dubrovnik from the Russians (1771)	234
The Paris period of Bošković's life and work (1773–1782)	237
French citizenship and service to the Crown	237
Trade dispute between France and the Republic of Dubrovnik (1776)	241
Expansion of the Solar System — The discovery of Uranus	243
Bošković as a designer of scientific instruments	244
Reliability of instruments	244
Geodetic and astronomical measurements and instruments	246
Bošković's geodetic stands	246
Pendulum clock	247
Quadrant and Bošković's micrometric wedge	247
Circular micrometer	248
Zenith sector	249

Optical measurements and instruments	250
Vitrometer (glass gauge)	250
Optical prisms — A new optical micrometer	252
Disputes with fellow scientists	253
Dispute with Laplace	255
Dispute with Rochon	256
Dispute with Priestley	258
Bošković's view of Ximenes	259
Occasional poetry	259
Final years (1782–1787)	263
Collected works	263
Illness and death	266
 RECEPTION AND INFLUENCE OF BOŠKOVIĆ'S IDEAS	 271
Reception of Bošković's ideas during his lifetime	273
Research into Bošković's influence until the end of the 18th century	275
Impact of Bošković's philosophy and science in the 19th century	279
Bošković in Croatia in the 18th and 19th centuries	281
Bošković today	285
 APPROPRIATIONS OF BOŠKOVIĆ, DUBROVNIK AND THE CROATIAN CULTURAL TRADITION	 291
Introduction	293
History of Serbian appropriations from the 19th century to the present	297
Religious and ecclesiastical circumstances in Croatia since the mid–19th century	309
Appropriations of language and literature	315
Appropriations of Dubrovnik	325

Appropriations of Ruđer Bošković	329
Others on Bošković	329
Bošković on himself	336
Concluding Remarks	339

APPENDIX: SOCIAL, POLITICAL, CULTURAL AND SCIENTIFIC CONDITIONS IN THE LATE 17TH AND THE 18TH CENTURIES — CHRONOLOGY 343

Social and political events in Europe and Croatia during Bošković's lifetime and the surrounding period	345
Introduction	345
Chronology	347
Culture and science in Europe and Croatia	363
Introduction	363
Chronology	365
A brief history of the Republic of Dubrovnik and the city of Dubrovnik	377
Introduction	377
Chronology	380

BIBLIOGRAPHY 399

Works of Ruđer Josip Bošković (Roger Joseph Boscovich)	401
Bibliography	415

INDEX OF NAMES 451