

An encyclopaedic mind

There can be little doubt that Ruđer Bošković ranks among the greatest Croatian scientists and philosophers and stands as one of the most distinguished figures in the country's cultural and intellectual history. Some commentators have placed him at the very summit of world intellectual achievement. The British physical chemist and Oxford professor Sir Harold Brewer Hartley (1878–1972), for example, described Bošković as “one of the great intellectual figures of all ages” [161]. The British physicist John Henry Poynting (1852–1914) says for Bošković: “Surely this is one of the sublimest speculations that the human mind ever put forth” [97]. The English novelist and essayist Aldous Huxley (1894–1963) ranked him alongside Michelangelo Buonarroti (1475–1564), Leonardo da Vinci (1452–1519), Christopher Wren (1632–1723), Gottfried Wilhelm Leibniz (1647–1716), George Frideric Handel (1685–1759), Blaise Pascal (1623–1662) and Johann Wolfgang von Goethe (1749–1832) [100; 101; 105; 114]. The Scottish scholar Lancelot Law Whyte (1896–1972) believed that (Boscovich's *Theoria*) is one of the most original and influential works ever published on the mathematical representation of the physical idea of atomism.” According to Whyte “though Boscovich was a Newtonian, he went beyond Newton...” [276]. Similarly, the English scientist John D. Barrow observed: “One of the most remarkable and neglected figures in the history of modern European science was Roger Boskovich. A Dalmatian Jesuit (...) Boscovich was a passionate Newtonian who was the first to conceive a scientific vision of a Theory of Everything. (...) He sought to ‘derive all observed physical phenomena from a single law’. (...) He was the first to envisage, seek, and propose a unified mathematical theory of all the forces of Nature. His continuous force law was the first scientific Theory of Everything” [346; 446; 468].

Bošković undoubtedly belongs to the global elite of scientists in the entire history of world science. This is borne out of the assessment of some of the greatest minds not only of our own time but also of his contemporaries and followers, and even ideological opponents. During his lifetime, he had al-

ready attained considerable renown; yet his age did not fully comprehend or recognise the true significance of his work. His ideas were ahead of — and in many respects beyond — his time, even though some of them were not systematically developed or fully realised. Nevertheless, they opened up new horizons and paved the way for future scientific discovery. For this reason, Bošković may well be more relevant today than in his own era. As one of what was perhaps the last generation of universal minds of the Renaissance type, he took a keen interest in almost every field of knowledge, art, and skill. In several of these, he achieved remarkable results while also remaining actively engaged in religious, cultural, social, and political life. He was deeply proud of his origins, his homeland, and his native city, to which he remained devoted, and which he served on several occasions by undertaking important diplomatic missions on its behalf. As a Catholic priest and a Jesuit, he remained faithful to the Society of Jesus until the end of his life — even after the order was suppressed in 1773 — and he owed his education to it [361]. He was respected in a wide range of circles and, through his reputation and personal authority, earned the esteem of numerous European rulers and senior church figures of his time, including Pope Benedict XIV, Pope Clement XIII, Empress Maria Theresa, Emperor Joseph II, Leopold II, King Charles Emmanuel III of Savoy, King Stanisław Poniatowski of Poland, King Gustav III of Sweden, Archduke Ferdinand of Austria, Duke Francis III of Modena, and Edward Augustus, Duke of York, as well as many princes, barons, counts, ambassadors, secretaries of state, cardinals, and bishops.

Although Bošković devoted himself primarily to natural philosophy and the sciences, his broad, almost Renaissance education led him to emphasise the importance of literature, and he regarded himself no less as a man of letters. At the same time, he possessed a keen sense of practical matters: he tackled technical problems and undertook diplomatic missions when called upon to do so. His intellectual interests ranged widely, yet he also laid the foundations for later developments in several scientific disciplines — most notably in astronomy, the geosciences, optics, mathematics, and statistics. He is best known, and most original, for his work in natural philosophy (physics), in particular for his theory of attractive and repulsive forces and his conception of the structure of matter. Bošković's ideas were 'mad' — in

the positive sense of the word — not only for his time but even by today's standards. Today, as scientific research increasingly confirms some of his central claims, it is clear that Bošković was right in important respects and that he anticipated insights later established by modern science [120; 218; 234; 275–276; 344; 393; 471; 531–532].



Portrait of Ruder Bošković