

The original edition of Sir Isaac Newton's *Opticks*, an illuminating treatise on the science of light

Isaac Newton, *Opticks*. London: S. Smith and B. Walford, 1704. 9 7/8 inches x 8 inches (251 x 203 mm), 360 pages plus 19 plates.

Sir Isaac Newton can be seen as a Renaissance colossus, a polymath straddling his age with one foot confidently planted in the rationalistic Enlightenment and the other securely anchored in the religiosity of the Middle Ages. A firm believer in reason and the ability of human beings to understand how the universe worked (“the inward frame of bodies is not *yet* known to us,” he writes in one place, with apparent confidence that eventually it would be), he also held firm ideas about God and metaphysics, and about how the truth of Holy Writ could be reconciled with Nature.

The bare bones of Newton's biography are easily sketched. Born a posthumous child in England on Christmas Day, 1642, he entered Trinity College at Cambridge in 1661, was made a professor there in 1669 (he would retain the appointment for nearly six decades) and a Fellow of the Royal Society in 1672. He was chosen to represent the university in Parliament in 1689, named England's Warden of the Mint in 1696 and its Master in 1699, subsequently being elected president of the Royal Society and dying laden with honors in 1727. The French *philosophe* Voltaire attended the funeral, later writing that “in a country where mortals are canonized, his discoveries might very well pass for miracles.”

Newton's earliest optical paper was published in 1672. Written as the result of experiments arising from his attempts to solve the problem of chromatic aberration in telescopes (he had been grinding his own lenses for nearly a decade), it contained Newton's conclusion that white light contained all colors and that different colors were refracted to different degrees. His effort yielded a valuable practical result still in use today: Having determined that a very long ratio of aperture to length would result in spyglass tubes of unwieldy size, he solved the problem by inventing the reflecting telescope, described in Book I of *Opticks*. *Opticks* is the summation of a lifetime's prismatic experiments and mathematical calculations on light. It contains the

first treatise on the rainbow as well as Newton's essential account of his discovery of calculus.

This copy of *Opticks* from the Warnock Library is in a binding of contemporary stained brown calfskin over pasteboard. The front and back boards have blind double rules on the four edges with blind rules creating an interior panel. Blind arabesque decorations are on the outer corners of the panel with flower tooling in the inner corners. A gilt title is on the red leather label of the spine's second panel.

Octavo code: nwtopt