

Blaise Pascal and René Descartes



Blaise Pascal



René Descartes

Pascal, Blaise, 1623–62, French scientist and religious philosopher. A mathematical prodigy, Pascal founded the modern theory of probability, discovered the properties of the cycloid, and contributed to the advance of differential calculus. In physics his experiments in the equilibrium of fluids led to the invention of the hydraulic press. As a young man Pascal came under Jansenist influence (seeking to reform Christian life by a return to St. Augustine and stressing greater personal holiness), and after a profound religious experience in 1654 he entered the convent at Port-Royal, thereafter devoting his attention primarily to religious writing. His best-known works are *Provincial Letters* (1656), a defense of the Jansenists; and the posthumously published *Pensées* (1670), which preach the necessity of mystic faith in understanding the universe.

Descartes, René, 1596–1650, French philosopher, mathematician, and scientist. His philosophy is called Cartesianism (from *Cartesius*, the Latin form of his name). Often called the father of modern philosophy, he is regarded as the bridge between scholasticism and all philosophy that followed him. Primarily interested in mathematics, he founded analytic geometry and originated the Cartesian coordinates and Cartesian curves. To algebra he contributed the treatment of negative roots and the convention of exponent notation. Descartes also contributed to optics, physiology, and psychology. His *Discourse on Method* (1637) and *Meditations* (1641) contain his important philosophical theories. Intending to extend mathematical method to all areas of human knowledge, Descartes discarded the authoritarian systems of the scholastic philosophers and began with universal doubt. Only one thing cannot be doubted: doubt itself. Therefore, the doubter must exist. This is the kernel of his famous assertion *Cogito, ergo sum*. From this certainty Descartes expanded knowledge, step by step, to admit the existence of God (as the first cause) and the reality of the physical world, which he held to be mechanistic and entirely divorced from the mind; the only connection between the two is the intervention of God. This is almost complete Dualism (system that explains all phenomena in terms of two distinct and irreducible principles, e.g., ideas and matter or mind and matter, Yin and Yang. In theology the term refers to a concept of opposing principles, e.g., good and evil).