

# Francis Bacon

Introductory article

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(1561–1626) English statesman and philosopher of science whose empiricist methodological prescriptions influenced the early Royal Society.

Francis Bacon was the youngest son of Nicholas Bacon, Lord Keeper of the Great Seal under Elizabeth I. He left Cambridge in 1575, studied law, and entered Parliament in 1581. Though roughly contemporary with Kepler, Galileo and Harvey, Bacon's grand schemes for the advancement of knowledge were not driven by their discoveries: he resisted the Copernican hypothesis, and did not give mathematics a central place in his vision of natural philosophy. His active public life, under both Elizabeth and James I, was taken up with political business and legal reform. Bacon achieved high office as Lord Chancellor in 1618, until disgraced by corruption charges. His final years saw a furious spate of writing on natural philosophy, politics and history.

In works like *The Advancement of Learning*, Bacon advanced a methodological alternative to Aristotelian natural philosophy, scorning its teleological metaphysics and its appeals to authority and to intuition. Instead a method based on observation, experiment and inductive logic would ultimately restore man's lost mastery over the natural world. Bacon examined psychological, linguistic and social barriers to objectivity in detailed analyses of 'the idols of the mind', which must be purged in order to correct the cognitive deficiencies caused by the Fall.

Bacon's dream of systematic 'histories' of natural phenomena, including records of experimental interventions in which nature is put to the test, was partly realized in the collective data-gathering of the early Royal Society. As he put it in the *New Atlantis*, 'The End of our Foundation is the knowledge of Causes, and secret motions of things; and the enlarging of the bounds of Human Empire, to the

effecting of all things possible.' But Bacon's intricate further advice on how to eliminate irrelevant information in formulating causal generalizations relied on the world ultimately having limited variety, so that its primary 'forms' could be discovered. Bacon himself worked out the method in any detail only for a few case studies such as heat, and his own speculative philosophy survives primarily in a chaos of unfinished works. Eclectically drawing on Renaissance philosophy and natural magic, Bacon's life science relies heavily on the notion of active, intangible 'spirits' which inform and shape bodies.

## Further Reading

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