

## **Church, state and the patronage of science in the thought of Francis Bacon**

In seeking to understand the complex relations between science and religion in the Western tradition the figure of Francis Bacon is a very natural starting point. It was he who put forward a program for scientific endeavour as a means of advancing human well-being which thereafter helped to give science a sense of mission and larger purpose. The strongly ethical purposes of science gave it a resonance which drew on religious language. In his *Advancement of Learning* (1605) he described his goal as the promotion of 'the glory of the Creator and the relief of man's estate'. Yet, in Bacon, science and religion had their separate spheres and he considered that confusion and error could arise if their boundaries were not respected. What he particularly objected to was the scholastic form of theology he had encountered at Cambridge which used dialectic reasoning to merge science (or natural philosophy as it was then known) into a larger synthesis in which theology was the Queen of the Sciences. The result was a form of science which was so abstracted from the first hand study of nature that it could not contribute (as he put it in his *New Organon* (1620) -- a treatise which laid out a new method for the sciences which was meant to replace the Aristotelian organon or logical treatise employed in the universities) to 'the true and legitimate end of the Sciences ... to supply human life with new discoveries and resources'.

In Bacon's scheme of things science and theology had different methods and provinces: the scientist stored up close empirical observation of nature with the view to deriving general laws of nature based not on top-down deductive reasoning but on a bottom-up assembling of such data. By contrast, as a Protestant brought up by parents closely involved with the Elizabethan religious settlement, he saw the theologian's method as being based on the application of Scripture. As he wrote in the *Advancement of Knowledge*: 'sacred theologie... is grounded onely upon the word & oracle of God, and not vpon the light of nature... (p.182). By contrast the co-mingling of philosophy with theology pursued by the scholastic prompted his rebuke: 'And as to seeke Diuinitie in Philosophy is to seeke the living amongst the dead' (p. 188). Indeed, scholasticism led men away from the Scriptures: 'The more you recede from the Scriptures, by inferences and consequences, the more weak and dilute are your positions'.

Though science and religion pursued different methods and paths their ultimate objects could coalesce. Both, in their different ways, sought to understand the mind of the Creator. Hence Bacon employed the commonly used metaphor of the two books of revelation: Scriptures and the study of the Creator through Creation. Both science and religion could overlap, too, in their ethical objects for both sought the betterment of the human condition and both were inspired by the virtue of charity. Though there have been attempts to portray Bacon as a crypto-rationalist his protestations of religious faith in both public and private have the ring of authenticity: his 'A Confession of Faith' affirmed, for example, that 'I believe that nothing is without beginning but God'. The French Annalist Georges Lefebvre once argued that, given the way that society and its mental world was structured in sixteenth-century Europe, it was almost impossible to be an atheist – an observation which seems to describe the overall tenor of Bacon's mode of thought. Though he warned against the dangers of co-mingling theology with philosophy including natural philosophy or science, ultimately he envisaged the recovery of true religion and science as forming part of the same enterprise. As he wrote in his *New Organon*: 'Only let the human race recover that right over nature which belongs to it by divine bequest, and let power be given it; the exercise thereof will be governed by sound reason and true religion'.

For Bacon, then, the goals of science and religion might meet but, nonetheless, their methods should be kept separate. Promoting such a path to the advancement of learning required large-scale co-operative activity which, as a practising politician, Bacon knew full well meant enlisting existing institutions and attempting to remould them to such purposes. On the religious front it was important to

ensure that religious discord did not impede the progress of knowledge – a natural extension of that pre-occupation with keeping the lid on religious division which had been an abiding pre-occupation of Elizabethan statesmen including his father, Sir Nicholas Bacon. Like his father before him, Bacon assumed that the solution to religious discord was firm regal control of the church. Indeed, if there is a single thread in Bacon's diverse activities, it is the desirability of using royal authority to cut through the muddle of traditional society with its overlapping jurisdictions including those of Church and State. The attempt, for example, to arrive at a more systematic system of law with a royal imprimatur on a codified system reflected Bacon's impatience with what he saw as the Gothic confusion of the common law. When it came to the promotion of science, too, he looked to the king to promote his new path to knowledge dedicating various of his works to both James I and his son, the future Charles I. What he hoped for was laid out in his utopian fable, the *New Atlantis* published the year after Bacon's death in 1626. In this the sort of scientific institution which he fondly hoped the monarch might endow was firmly under royal authority and organised along hierarchical lines. The goals of science were also linked with those of the state as well as the general well-being of humankind. In the words of the head of Salomon's house: 'The End of our Foundation is the knowledge of Causes, and secret motions of things and the enlargement of the bonds of Human Empire, to the effecting of all things possible'.

But Bacon's hope that he might persuade the monarch to embrace his vision of science as an active partner of the state came to little. James I allegedly remarked that Bacon's *Advancement of Learning* which had been dedicated to him was 'like the peace of God, that passeth all understanding'. James I had been trained in just that sort of scholastic theology against which Bacon had reacted while a student at Cambridge. More fundamentally, the English monarchy was too immersed in the forms of tradition which Bacon was seeking to challenge to embrace Bacon's ideals. It was to take the breaking of the crust of tradition in the English Revolution to prompt wider interest in his vision of the possibilities of a new form of learning bringing about human betterment.

Thwarted in his hopes of enlisting the monarchy Bacon looked to other possible patrons of his program. The options were few: apart from the monarchy the only other secular patrons were the high aristocracy. In his later years Bacon did align his cause with the royal favourite the duke of Buckingham but this availed him little and was one of the causes of his unpopularity with the parliamentary opposition which led to his impeachment on bribery charges in 1621. If the secular arm would not help that left the Church. The one branch of the English church for which the aged Bacon seemed to have some faint hopes as a patron of his program was the universities. These he described as 'the seed-plots' of religion and the church. In some ways, however, this was an indication of his desperation since earlier he had expended much time decrying the sort of academic fare the universities offered – particularly in the sciences. In his *Advancement of Learning* he had even suggested a royal visitation of the universities to reform their curriculum. Yet, in old age, he made provision in his will for lectureships in natural philosophy at both Oxford and Cambridge. But they came to nothing since Bacon died with an estate heavily in debt.

Given the extent to which the English church was an extension of royal authority there was little prospect that it would embark on a Baconian program which the monarchy had failed to endorse. Bacon the Protestant English patriot, then, had to take a much wider view of his proposed mission viewing it as not the exclusive preserve of the English state but as something which belonged to the wider Republic of Letters. With such an internationalising of his cause went, too, the hope that he might enlist a quite different source of patronage, the papacy. Hence the publication of a Latin translation of *The Advancement of Learning* in 1623 – something which Bacon hoped would make it 'a citizen of the world, as English books are not'. This enlarged *De Augmentis Scientiarum* gave him the opportunity for a fuller exposition of his program as well as the toning down of the anti-Catholic tone of his earlier work in the hope that it might recommend itself to papal patronage. An elaborate presentation copy intended for

Galileo's *bête noir*, Pope Urban VIII (now in the Pierpont Morgan library, New York), is tangible evidence of Bacon's hopes for papal support (though it doesn't seem ever to have been presented).

Like the hopes for royal patronage the quest for the support of the church also proved fruitless. Bacon's vision of the possibilities of science, however, were to yield late fruit. It was the inspiration for the foundation of the Royal Society in 1660 though its amateur ways and lack of royal funding were a long way from the scientific program which Bacon laid out in his *New Atlantis*. Much closer was the French Academy of Science founded in 1666 by the mercantilist Colbert to advance the glory of his monarch Louis XIV. Significantly, as Huygens remarked, he did so 'in the manner suggested by Verulam' [ie Bacon]. Bacon's vision needed state patronage for its full implementation but it came not from England but France. It was an illustration of the way in which, for all Bacon's hopes of linking the English state and science, science has both a national and an international character. It was a message underlined by the way in which the French academy acted as the model for a wide range of national academies which had to balance the need for state funding with the cosmopolitan aspirations of sciences which served both national paymasters and the republic of letters.

Bacon to Fulgentio Micanzio [autumn 1625], 'Bibliographical Remains', in *Baconiana Bibliographica: or Certain Remains of the Lord Bacon concerning his Writings* (London: 1679), pp.198-9:

"As for the *Third Part* of the *Instaurati/on*, that is to say, the *Natural History*, it is plainly a Work for a *King*, or a *Pope*; or for some *College*, or *Order*; and cannot be, by Personal Industry, performed as it ought.

Those Portions of it, which have already seen the Light (to wit, concerning *Winds*, and touching *Life and Death*). They are not *pure History*, by reason of the *Axioms*, and larger *Observations*, which are inter/posed. But they are a kind of mixed *Wri/tings*, composed of *Natural History*, and a rude and imperfect *Instrument* [or Help] of the Understanding."

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