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978-0-521-03566-8 - Francis Bacon, the State, and the Reform of Natural Philosophy

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Excerpt

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## Introduction

This study attempts to provide a historical explanation of the origin and nature of the natural philosophy of Francis Bacon. It is not a critical assessment of the worth of his proposals, in the manner characteristic of philosophers of science, nor is it concerned to situate Bacon with respect to one or more traditions of philosophy in the Renaissance – a venerable strategy in the historiography of ideas, which implies location itself to be much the same as explanation. It is, instead, rigorously local in its attentions. Its premise is that the origin and nature of Bacon's natural philosophy can be explained satisfactorily only with careful attention to *his* context. *In jure non remota causa, sed proxima spectatur*, Bacon remarked of the law, and the maxim is useful in historical practice, too. This study looks to the concrete and the proximate, and necessarily begins with a strong biographical element.

'He was a great reader of books', Bacon's chaplain recalled, 'yet he had not his knowledge from books alone, but from some grounds and notions within himself.'<sup>1</sup> A truly satisfying historical explanation of Francis Bacon's natural philosophy must include an answer to why and how it was that Bacon became involved in writing natural philosophy. Only by seeking out these 'grounds and notions' can we fully appreciate why he wrote it in the particular (and peculiar) manner in which he did. This study of Bacon, I believe, is entirely novel – both in its guiding assumptions and in the interpretation of his natural philosophy that rests upon them. These are bold claims, especially since a vast amount of commentary has been devoted to Bacon since his death in 1626, but I trust the reader will be persuaded by them.

Modern scholarly interest in Francis Bacon typically has been

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divided between three topics: his significance for the history of modern science; his role in Jacobean politics; and his prose style itself. The first has been the concern of philosophers, historians of the sciences and historians of ideas.<sup>2</sup> The second has been the concern of political and constitutional historians.<sup>3</sup> The third has been the preserve of scholars of English literature and rhetorics.<sup>4</sup> Such wide attention reflects the fact that Bacon not only wrote celebrated works of natural philosophy, but that he was a principal figure in the higher reaches of Jacobean government, and the author of a prose so striking that he is regarded often as the major prose stylist of the very decades when English prose was becoming a literary medium in its own right.

Yet the most arresting and continuing feature of Baconian scholarship is that it has produced several Francis Bacons, none of whom significantly overlap. Given the highly specialised character of modern academic training and organisation, this state of affairs is hardly surprising. To my knowledge, there has been almost no interest in reintegrating these partial images.<sup>5</sup> Historians and philosophers of the sciences, for example, have usually considered Bacon's career as a lawyer and statesman to provide little of value for their explanations of his natural philosophy. Indeed, his engagement in public life has often been seen as an embarrassment, and something which repeatedly distracted him from the pursuit of philosophy.<sup>6</sup> Political historians have taken the opposite view, regarding his concerns for philosophy as providing little of value for their explanations of his political career, beyond repeatedly distracting him from the pursuit of the law (in which his abilities are commonly acknowledged) and plausibly contributing to contemporary suspicions of his political acumen and to his inability to amass lasting political capital.<sup>7</sup> By contrast, this study insists that Bacon's legal and political career was crucial in the creation of his natural philosophy and that his natural philosophy cannot be separated from his political ambitions. It is not merely a descriptive statement but an explanatory one to say that his was, in fact, the natural philosophy of a late-Elizabethan statesman.

This is not to suggest that other English statesmen of Bacon's day saw much that was familiar in his natural philosophy; this was clearly not the case, and Bacon knew it. Yet he always regarded himself as an English statesman, rather than as a philosopher *per*

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se, and he always believed his philosophy was a contribution to the advancement of the English state. Bacon was dedicated to enhancing the powers of the monarchical state, and his proposals for the reform of the law and the apparatus of governance on the one hand and the ones for the reform of natural philosophy on the other were devoted to this single end. Furthermore, these apparently different schemes shared the same structures, the same techniques and the same terminology. They were, after all, the products of the same mind.

The arrangement of this book flows from these considerations. Chapters 1 and 2 address the question of why and how it was that Bacon came to believe problems of knowledge were a proper part of a statesman's concerns. This involves first describing the specific political tradition in which young Francis Bacon was reared and to which he fully committed himself in his late twenties, and then showing how the circumstances of the later 1580s turned his attentions to problems of knowledge. Many Tudor historians will be familiar with the major contours of the political narrative shaping these chapters, yet its provision is a signal departure from previous studies of Bacon's natural philosophy, which have taken his interest in natural philosophy for granted. For the reasons mentioned above, such a starting place is a necessity: why an ambitious scion of a family of elite Crown servants, trained and expecting to follow their careers, should have pondered deeply upon philosophical matters is, to say the least, an issue worthy of close examination. Chapter 3 addresses the question of why and how it was that Bacon should have become concerned with natural philosophy in particular. His earliest writings about natural philosophy manifest his reactions to English developments he regarded as politically dangerous and a serious challenge to the stability of the state. From the early 1590s, it was his opinion that natural philosophy could be refashioned into a splendid support for the Crown. When compared to the tantalising complexity of the writings of his later years, Bacon's tracts and letters of the 1590s are usually passed over as if they were mere *juvenalia* – an odd thought, since he was forty-two when Queen Elizabeth died in 1603. Simply because it was during King James' reign that Bacon issued books and letters in some of which we find his most extended discussions about a reformed law, a reformed state and a reformed

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natural philosophy, it does not mean we should look to the years in which his most famous pieces were written for the inspiration and perspectives that underpinned them. In Chapter 4, I discuss the purposes, structures, and some of the procedures of Elizabethan common law and the common lawyers, and then describe Bacon's state security employments in the 1590s to illustrate both his familiarity with the law and his characteristic point of view about service to the state. Chapter 5 explores Bacon's central ambition: to reform the apparatus of governance so as to create what he believed were the conditions for an imperial monarchy. Sweeping legal reforms were a major part of this plan. The polity of *New Atlantis*, and that of 'Solomon's House' within it, are examined here as well, for here, too, is illustrated Bacon's vision of an imperial state. Equipped now with appropriate explanatory tools to do so, in Chapter 6 Bacon's scheme for a reformed natural philosophy is examined as a whole: its aims, its bureaucratic methods and its procedures for 'discovery'. Bacon's prescriptions for the reform of particular sciences, the relation of his natural histories to his civil histories, his views on revealed knowledge, on the working of the human mind, and on particulate motion – to mention but a few important topics – I propose to discuss in detail elsewhere. I believe that the main points of such discussions are derivable from the argument found here, and that a general historical framework for explaining Bacon's philosophy is deserving of separate and prior treatment. What this study describes is the creation and the major components of an audacious programme for the reform of the state. Bacon's natural philosophy was a subordinate part of this programme and cannot be understood adequately in isolation from it. His was a natural philosophy made appropriate to a centralising monarchy.

In recent decades, Bacon's significance for the subsequent history of the sciences has been increasingly played down as we rid our historiography of various nineteenth-century assumptions. It is no longer thought, for example, that he was the prophet of 'modern scientific method', or that the Royal Society of London in the seventeenth century can be characterised as 'Baconian'.<sup>8</sup> True, it is readily acknowledged that Bacon was a figure of great importance in the eyes of seventeenth- and eighteenth- century natural philosophers, but the usual conclusion derived from this fact – that Bacon

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was merely an inspirational figure – works to reinforce a denial of a substantial place for him any longer in the history of the sciences. Yet Bacon need not be rendered marginal to our histories; looked at with hindsight, we can see that he indeed had an impact upon the practice and substance of the sciences, namely, by providing a persuasive explanation of the civil purposes of natural philosophy, and a persuasive model of how research into the natural world could be conducted and how the investigators could be organised. We may not think highly of Bacon's prescriptions for, say, the conduct of experiments and for the discovery of the principles of nature, nor admire the ends to which he dedicated his labours, but the institutionalisation of the sciences and their practitioners in the seventeenth and eighteenth centuries owes much to him. Moreover, Bacon's insistence that 'knowledge is power' is, I believe, best understood as meaning that knowledge should be harnessed so as to augment the powers of the state. Perhaps more than anything else, this arresting thought is Bacon's most enduring legacy. In the seventeenth century, this Baconian idea was a crucial issue, one which was most explicit among natural philosophers and their patrons, and one which was overtly political. What was the civil role of natural philosophy and of natural philosophers?<sup>9</sup> Just as we can see that a central theme in early modern European history was the struggle for civil power between central governors, local lords and private gentlemen, so, too, there was a struggle about the ownership, organisation, generation and applications of knowledge about the natural world. Was it, for instance, to be conducted by (and for) the state, and within official academies, or was it to be conducted by (and for) private gentlemen and scholars, and by means of individual inquiry? Bacon's aphorism encapsulated his unequivocal answer: knowledge should be a department of the state. In this study, I shall show why and how he came to this belief, and how his natural philosophy sprang from it.

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## 1

**A statesman's responsibility**

To crown all, as she was most fortunate in all that belonged to herself, so was she in the virtue of her ministers. For she had such men about her as perhaps this island did not produce before. Yet God, when favouring kings, also arouses and enhances the spirits of their ministers.

*In felicem memoriam Elizabethae Angliae Reginae (1608), Works, VI, p. 296*

In 1590, Francis Bacon was thirty years old, and deeply engaged in the vocation which he always had desired for himself: *statesmanship*. Explaining what he understood by statesmanship is the aim of this preliminary chapter, which concerns the establishment in the highest reaches of mid-Tudor government of men with a particular conception of the role and purpose of a royal councillor: namely, the notion of a 'commonwealth' statesman. Just why we should interest ourselves in such a theme is not immediately obvious: certainly, no previous study of Bacon's philosophy has done so. Yet these men included members of Bacon's family and kin, devoted to serving the Tudor dynasty and fully accepting a 'commonwealth' notion of themselves and their work. It was, after all, in their company and amid their values that Francis Bacon grew up.

A programme for statecraft, which incorporated a variety of reforming proposals into long-term state planning (as we might call it) had been learned by Bacon's father, his uncles and their colleagues when junior officials of the Crown under Thomas Cromwell and his successors. The commoners who became principal councillors and officials of the young Queen Elizabeth had received their introduction to royal office during the late 1530s and the 1540s. They were employed in the restructured (or newly created) courts and offices of the central government and they became deeply involved in the detailed business of administering the host of

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new laws passed by the Reformation parliament and those which followed it.

The sweeping changes in England during the 1530s were due principally to the efforts of Thomas Cromwell, the king's great minister, whose vision of a reformed and self-reliant English commonwealth shaped the legislation he prepared and steered through the parliaments of the 1530s. Cromwell was guided by deep convictions about what the realm of England should be, and it is accurate therefore to speak of Cromwell's reform 'programme', rather than regard his achievements in the governance of the state as resulting from a series of piece-meal responses to his current circumstances. Because he dominated the royal administration during the 1530s – accumulating great patronage power, and using it to ensure his confidants and lieutenants controlled various parts of the machinery of governance – the junior men then offered Crown service were those considered 'sound' and of like minds by their Cromwellian superiors.

These younger men survived Cromwell's fall in 1540, and they slowly and warily advanced themselves in office during the conservative retrenchment of Henry VIII's declining years, the chaotic politicking of Edward VI's short reign and the religious reaction under Queen Mary. During Cromwell's administration, and following his example, they had learned to be careful reformers: just what sort of particular policies for the enhancement of the 'commonwealth' were capable of becoming successful legislation? These lessons in statecraft were reinforced while serving the Crown during the uncertainties of the regimes which followed after 1540.

When Elizabeth ascended her father's throne in 1558, many of her close advisors and councillors were chosen from this group of (now middle-aged) professional Crown servants, who had retained their youthful convictions about the reforming purpose of their work in central government. Among these men were Francis Bacon's father, Sir Nicholas Bacon, and two of his uncles, Sir Thomas Gresham and Sir William Cecil. During the first decades of Queen Elizabeth's reign, many of the domestic policies of her government were formed and executed by these men, and in accordance with the vision of a reformed commonwealth – and the



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means of achieving it – which Cromwell had shared with his confidants and their young officials.

Commentators often suggest, casually, that the early sixteenth century in England was a ‘time of reform’ – that ‘reform’ was ‘in the air’ – and they direct our attention forthwith to the publications of ‘humanists’, men such as Erasmus, Thomas More and Thomas Elyot. This begs a series of questions for the historian, the principal one being the pressing matter of displaying concrete causal relationships between a ‘climate of ideas’ and known practical action. A related issue centres upon the meaning(s) of the word ‘reform’. The noun ‘reform’, the *Oxford English Dictionary* tells us, first occurred in the eighteenth century, and the senses of the verb ‘to reform’ which were most common among the early Tudors were ‘to renew’, ‘to form again’ and ‘to restore’. None of these carry the idea of sweeping changes for the better which we now automatically associate with the verb ‘reform’. It is unlikely, for instance, that Erasmus, More or Elyot spoke of themselves as ‘reformers’; the first published instance of the word occurred in 1548 – when all three men were dead. It is more appropriate to say of such men that they were scholarly men who wanted ‘to restore’ rather than ‘to reform’.

In general, English humanists were moralists: pious, intellectual and very conservative. Educated in Italy in the newly discovered ‘pure’ languages of classical Rome and Athens and in the techniques of rigorous textual criticism, they returned to England burning with desire both to teach the ‘new learning’ in the schools and universities and to toss out the ‘old learning’ – namely, the scholastic disputation and commentary upon time-honoured, but (in their eyes) textually deficient works of philosophy, theology and Scripture itself. They had profoundly devout aims and they shared a belief that the new scholarship would improve scholars’ understanding of Scripture (and thus theology) and would help also to increase the religious fervour of the young clerics whom they taught and who were to minister to the people.<sup>1</sup>

By 1510, humanist scholars had extended their operations from the universities to London and the royal court, where they received encouragement and patronage from Lady Margaret Beaufort, the grandmother of King Henry VIII, from Henry’s queen, Catherine of Aragon, and from Lord Mountjoy, to name but the most



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prominent friends of the 'new learning'. At Henry's court, the humanists were particularly involved with the 'proper' (i.e., humanist) education of noble children, for they argued, ingeniously, that not just scholars would benefit from their new programme of classical learning but the future ruling classes as well. Rigorous training in classical Latin and Greek (and often in Hebrew), studying and translating the Scriptures in their ancient form, and reading classical secular authors (especially the historians and the moralists) were championed as the means to enhance the moral behaviour and intellectual profundity of those who were the 'natural' leaders of English society and its government.<sup>2</sup>

Some scholarly training of noble children in classical languages and literature, educational reforms for the clergy, and attempts to revive a spirituality dissipated amid penances, indulgences and paid-up masses that rendered Christianity more legalistic than heart-felt: English humanists did these worthy things, but it would be a mistake to regard them as 'reformers' on many fronts. The satirical, even bitter, attacks by humanists on the state of the Church or secular society which come quickly to mind – publications such as Erasmus' *Praise of Folly* or More's *Utopia* – were highly conservative in spirit and their authors more concerned with the proper shepherding of the Christian flock, the salvation of souls and the conservation of the God-given order in the world than ever they were with the alteration of worldly institutions or the adoption of new ones.<sup>3</sup>

This is not to suggest that educated men did not criticise the state of affairs in the realm and desire alterations in whatever it was that rankled them; they did, but we should be wary of regarding their protestations as exemplifying a general mood for 'reform' as we understand it. Even if the humanists' books and sermons further sensitised a gentleman to the worldly ills and evils that surrounded him, neither books nor sermons were the instruments by which he might achieve the restoration of an earthly goodness or even the elimination of a specific ill: in Tudor England the only such instrument was legislation.

Legislation in England meant either the use of royal proclamations or, more commonly, the passage of statutes by a parliament.<sup>4</sup> Because of just who it was that composed the membership

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of parliaments, it was specific and concrete grievances – usually those affecting a locality or a particular group – which stood the greatest chance of being translated into law. Among the sorts of grievances that did receive considerable attention in early Tudor parliaments were complaints about particular conditions in (what we would call) agriculture and the economy. Debates about depopulation, enclosures, vagrancy, corn prices, weights and measures, wages, guilds and craft practices, the textile trade and the like were common fare in parliament for the simple reason that parliaments were composed largely of the great landowners whose concerns these naturally were.

It is difficult to conceive of the Commons and Lords promoting grand changes in the structure or habits of English farming and trade, let alone alterations in major institutions; not only would they be unlikely to endanger their present advantages but they did not regard such things as their duty. Proposals for major changes (i.e., sweeping, general legislation) were the prerogative of the Crown itself, and during the first thirty years of the century there is little to indicate that the king and his councillors were interested in this sort of legislation – despite the humanists at the court and their moralising. This situation changed suddenly with the extraordinary crisis prompted by King Henry VIII's demand for legitimate divorce from his queen and with his decision to accept the counsels of Thomas Cromwell.

Only with Thomas Cromwell's ascendancy can we begin to speak about 'reform' in the sense in which we use the word. The course of Cromwell's rise to great power and the changes which he instituted in the governance of Church and state has been recovered in detail by Professor Sir Geoffrey Elton. What is (for our purposes) one of Professor Elton's most important arguments about Thomas Cromwell is sometimes overlooked: namely, that along with other and more pressing campaigns, Cromwell had a programme by which he hoped to improve the 'commonweal' (i.e., the common 'good', 'benefit' or 'welfare' of the people). In many themes and specific targets his programme seemed to echo (not surprisingly) the grievances voiced during previous decades by a wide variety of men but it was *Cromwell's* plan which was instituted in the 1530s, and not that of anyone else.<sup>5</sup> This may seem an obvious point, but the considerable modern interest in the Tudor discussions of the