

# **PRESENTACIÓN / INTRODUCTION**



# INTRODUCTION

## ROGER BACON WITHIN THE MEDIEVAL SETTING: NEW FINDINGS

Scholarly interest in Roger Bacon's unique place in the history of science and philosophy has been surging in the last decade. As the study of his writings expands, new aspects of his thought come to light, his sources and his relations with his contemporaries are portrayed, and the concepts he used are being refined. The two volumes published in the last few years which focused primarily on Bacon's contribution are both evidence and the products of this surge. The first is *Roger Bacon's Communia naturalium: A 13<sup>th</sup> Century Philosopher's Workshop*, edited by Paola Bernardini and Anna Rodolfi (Florence: SISMEL, 2014). The second is *The Philosophy and Science of Roger Bacon: Studies in Honour of Jeremiah Hackett*, edited by Nicola Polloni and Yael Kedar (London and New York: Routledge, 2021). Both volumes develop new research on the fundamental scientific and philosophical issues in Bacon's works. During the past two years, the newly established Roger Bacon Research Society has presented regular monthly lectures on Roger Bacon and his place in medieval philosophy, science, and theology. The 2021 series of lectures by prominent scholars focused mainly on the scientific aspects of Bacon's published works. In general, modern research has concentrated on Bacon's scientific work. It has sometimes turned its gaze to his theology, too. Yet much more work is needed in this area of study, especially when it comes to the various branches of his philosophy.

The present volume offers the reader six new studies on Bacon. These studies concern diverse topics of his philosophy, from his theory of language to his theory of mathematical abstraction, his understanding of efficient causality, his political philosophy, *scientia experimentalis* and his 'new metaphysics'. These studies address various delicate points, such as the internal relation among Bacon's post 1260s writings, new clarifications of some of the pivotal concepts he used, a reconstruction of the way he read his sources, and a novel comprehensive suggestion linking his various theories into a one integrated metaphysics. The common denominator of these studies is that they all engage in an internal analysis of his writings, rather than in assessment of his position in the history of philosophy and science, or his relations with his contemporaries. Although the historical implications of the interpretations suggested in this special issue are often crucial, these are but an effect of the nature of the method employed, namely, a thorough and in-depth textual focus.

The studies are arranged according to the order of themes in the *Opus maius*. We start with language (Rosier-Catach), then move on to the multiplication of *species* and mathematics (Kedar), *perspectiva* and mathematics (Demange), experimental science (Truitt), and moral philosophy (Lambertini). The special issue concludes with an attempt to integrate these domains together into one metaphysics (Hackett).

Irène Rosier-Catach's "Roger Bacon's *De Signis*, a Missing part of the *Opus maius*, III, and the Knowledge of Languages" builds on the new critical edition and commentary of this missing part of *Opus maius III* (Paris: J. Vrin, 2021). It has the great merit of collating all the disparate treatments of the doctrine of signs from Bacon's works of the period 1266-92. The paper accentuates Bacon's work on Hebrew and Greek between 1257 and 1263 and examines his doctrine of natural and conventional signification. Rosier-Catach successfully relates Bacon's doctrine of signs to the persuasion of wisdom, and in so doing relates logic, rhetoric, and poetics to the communicative context of the Christian message, particularly in reference to univocal signification and to divine names. Important here is the central role of grammar in dealing with the literal and spiritual senses of Scripture. A major finding of this study is that Augustine's *De doctrina christiana* is central to Bacon's project, especially for his classification of signs. So too is al-Farabi's theory of language. The big issue is: whose task is it to impose names on things, the metaphysician's or the grammarian's? Bacon opts for the grammarian. He calls for a new kind of grammar, different from that which Donatus and Priscian had taught, which includes what we now call 'semiotics'. This kind of new grammar is based on al-Farabi, with reference also to Augustine. Rosier-Catach argues that the fact that while Bacon's account of language can be seen in the context of the debates at Oxford and Paris in the second half of the thirteenth century, this must not occlude the reality of Bacon's dependence on Augustine.

Yael Kedar's account of the relation of *species* to *virtus* within Bacon's physics of motion is a much-needed precision in the study of the central doctrine of the multiplication of *species*. Her paper, "*Virtus* and *species* in the Philosophy of Nature of Roger Bacon (c. 1220-1293)", is important because Bacon did not present a systematic account of *virtus*. The study covers the characteristics of *virtus* in four areas: the motions of the heavenly bodies, the notion of bodies to their natural place, the force of the magnet, and the restraining activity of universal nature. It finds that, in all these cases, *virtus* is an efficient power, capable of causing local motion and instigating natural processes. *Species* is matter's response to the action of *virtus*. It is a non-efficient power, an 'appetite' internal to matter, expressing matter's inherent inclination to promote and perfect itself. The significance of this study for the possibility of relating the conceptual set-up developed by Bacon with the later doctrine of impetus is to be noted.

Dominique Demange's study of mathematical abstraction in Bacon is a comprehensive review of this issue in the early (1240s) and later (1260s) works of Bacon. It presents a taxonomy of the different uses of abstraction in Bacon, and identifies two different theories of direct intellection. The first, characteristic of his early period of work, is the direct intellection of singulars; and the second, presented in the *Opus maius*, posits the direct intellection of quantity and bodies. Accordingly, the classical ways of abstraction and intellectual illumination are completely absent from Bacon's mature theory of scientific learning. Demange, however, covers much more ground than abstraction alone. He relates abstraction to Bacon's psychology. Significantly, he presents a fine summary of the role of intellect in the perception of space and magnitude in Bacon's

account of *perspectiva*. The final section of the paper is a very careful account of Bacon's understanding of the foundations of geometry and its central role in his science. The most crucial point here – and this is the paper's most significant contribution – is the identification of the idea that geometry is produced at the level of perception, by immersion in the visual field and its universal properties and structures. Bacon was convinced, Demange argues, that to perform geometry, there is no need to escape from the sensible world. The visual experience provides an immediate and intuitive intellectual perception of the mathematical forms intrinsic to bodies. Bacon's doctrine that physics, in fact, performs geometry amounts to a new and early form of mathematical physics. The results of this study may require a reconsideration and perhaps adjustments of the accepted story told by historians of science.

Emily Truitt's "Knowledge and Power: Courtly Science and Political Utility in the Work of Roger Bacon" presents the broader context of Bacon's science, which was influenced by sciences and contexts not studied in the Faculty of Arts at that time. This paper has the merit of relating Bacon's *scientia experimentalis* to matters of prolongation of life, the question of the status of magic and the political utility of science. Truitt's paper links Bacon's experimental science to the political and social aspects of his philosophy. Nevertheless, Truitt also touches on epistemology, and Bacon's conception of the certainty of knowledge. It puts in perspective Bacon's declarations concerning the future, which have been interpreted by some as expressing a belief in the idea of 'progress'. These declarations cannot, Truitt argues, stand on their own. A brighter future based on the increase of knowledge is possible, in Bacon's opinion, only because humans were in the possession of that knowledge in the past. Bacon's aim is to recover past knowledge for future use. Above all, Truitt gives careful treatment to the central role of the Alexander legend, which helps explain the political dimensions of Bacon's science.

An important aspect of Truitt's paper is methodological. She argues that in order to assess correctly the assumptions, practice and achievements of medieval science, there is a pressing need for modern scholars to end the separation between the study of the technical literature and the study of medieval science as perfectly identical with natural philosophy as a university discipline. She presents Bacon as exemplifying the falsity of this dichotomy. Considering the fluid distinctions between the spheres of classroom, cloister, and court, Truitt challenges our dichotomies as applied to Bacon and others. Bacon's absorption and appreciation of the technical work of active experimenters and mathematicians such as Peter of Maricourt and Jordanus de Nemore reinforces this point.

Roberto Lambertini's account of Bacon's practical philosophy is a much-needed qualification. "*Tota familia Aristotelis: On Some Sources of Bacon's Contribution to Medieval Political Discourse*" presents a comprehensive account of how Roger Bacon, in the absence of a Latin translation or indeed the Greek text of the *Politics* of the Stagirite, attempted to create an Aristotelian theory of politics. The paper situates well the *Doctor mirabilis* in the medieval political discourse and sketches the sources that were available at that time. Bacon had no access to Aristotle's *Politics* in Latin, but he tried to reconstruct

its main tenets through the writings of other thinkers, such as Avicenna and al-Farabi. The end result of this attempt is a sketch of a political theory that goes mainly under the name of Aristotle but has little to do with the actual contents of the *Politics*. It is a very good index, however, of the breadth and depth of medieval accounts of social, political and moral life. Important here is the understanding of *scientia civilis - moralis*. Lambertini presents Bacon's important introduction to his *Moralis philosophia* (= *Opus maius*, Part VII) and then provides a very helpful analysis of Part II, the section on social and political life based on Avicenna's *Metaphysics* X, Parts IV and V. A focal point is the central role of the law and the lawgiver in Jewish, Muslim and Christian approaches to social and political life. The lawgiver must be more than a practical lawyer: he must know the moral foundations of the law. This becomes very important in the context of an account of the different religions of the world such as Bacon presents in *Moralis philosophia*, Part IV. The *De scientiis* of al-Farabi is a major source of Bacon's concept of Aristotle's *Politics*. Or rather, it enabled Bacon to think of what the latter text might be. The final section based on the *Opus tertium* and the *Compendium studii philosophiae* presents Bacon's well-known critique of the lay lawyers influenced by the civil law and canon law emanating from Bologna. For Bacon, the lawgiver needed to know the philosophical foundation found in the moral teaching of Aristotle and the theological foundations of the law as found in the sacred Scripture.

Jeremiah Hackett's "Roger Bacon's New Metaphysics (1260-1292): The Integration of Language Study and Natural Science with Metaphysics and Morals" presents a synthesis of the many strands of Bacon's philosophical doctrines concerning the person. It begins with a review of Bacon's concept of method in his metaphysics. It proceeds to identify Bacon's tasks in the Franciscan house of studies at Paris, that is as one who did critical work on the Hebrew, Greek and Latin texts of sacred Scripture. Hackett then takes up Ferdinand M. Delorme's argument that at some time in the 1260s Bacon wrote a new work on metaphysics. Using wider information from the *Communia mathematica* and cross-relating it to the *Opus maius*, Hackett argues that the *Opus maius*, as the sketch for an *Opus principale*, or a *Summa sapientiale*, was designated by Bacon as his new work in metaphysics. Hackett outlines an account of the structure and sources of this new metaphysics conceived by Bacon. From the point of view of scientific method, two authors are prominent: Ptolemy in his *Optics* and especially his *Almagest*, and Augustine in his *De musica*, Book 6, on number, measurement, and vision. Next, the philosophical sources for Bacon's new metaphysics are examined, with close connection to morals as given in *Moralis philosophia*, Part I. Important here are Aristotelian and Stoic sources, but even more so are the various Platonic and Neoplatonic texts. The central role of *perspectiva* for Bacon's understanding of knowledge and the human being is accentuated. Against some modern authors who impute an Avicennian substance dualism to Bacon and other thirteenth-century English Franciscans, Bacon's doctrine of the unity of the human being is defended. The metaphysical portrait of the human being depicted by Bacon is that of a living bodily *perspectivus* whose intellect and cogitative power function as a unity. In the end, Bacon's new metaphysics finds its fulfilment in a metaphysical anthropology which

draws on the diversity of ancient scientific and philosophical sources that are integrated into a theology of Christian wisdom that also draws on Jewish and Islamic sources of wisdom.

In past research, Roger Bacon is often treated as a free-standing individual outside of his scholarly context. The contributions in this special volume present Bacon from within the scholarly context of the Faculty of Arts and the Franciscan school of studies at the University of Paris (ca. 1260-92). As a result, one can see a Roger Bacon who is representative of a culture in which 'all the family of Aristotelians' finds its spokesperson and representative, along, however, with Stoic and Augustinian themes.

Yael Kedar, Tel Hai College  
Jeremiah Hackett, University of South Carolina

