

The Philosophy and Science of Roger Bacon

Studies in Honour of Jeremiah Hackett

Edited by Nicola Polloni and Yael Kedar

First published 2021
by Routledge
2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN

and by Routledge
52 Vanderbilt Avenue, New York, NY 10017

Routledge is an imprint of the Taylor & Francis Group, an informa business

© 2021 selection and editorial matter, Nicola Polloni and Yael Kedar;
individual chapters, the contributors

The right of Nicola Polloni and Yael Kedar to be identified as the authors
of the editorial material, and of the authors for their individual chapters,
has been asserted in accordance with sections 77 and 78 of the Copyright,
Designs and Patents Act 1988.

All rights reserved. No part of this book may be reprinted or reproduced or
utilised in any form or by any electronic, mechanical, or other means, now
known or hereafter invented, including photocopying and recording, or in
any information storage or retrieval system, without permission in writing
from the publishers.

Trademark notice: Product or corporate names may be trademarks or
registered trademarks, and are used only for identification and explanation
without intent to infringe.

British Library Cataloguing-in-Publication Data

A catalogue record for this book is available from the British Library

Library of Congress Cataloging-in-Publication Data

Names: Polloni, Nicola, editor. | Kedar, Yael, editor.

Title: The philosophy and science of Roger Bacon : studies in honour of

Jeremiah Hackett / edited by Nicola Polloni and Yael Kedar.

Description: Abingdon, Oxon ; New York, NY : Routledge, 2021. |

Includes bibliographical references and index.

Identifiers: LCCN 2020049593 (print) | LCCN 2020049594 (ebook) |

ISBN 9780367471743 (hardback) | ISBN 9781003033943 (ebook)

Subjects: LCSH: Bacon, Roger, 1214?–1294—Influence. | Science,

Medieval. | Science—Methodology—History—13th century. |

Scientists—Great Britain—Biography.

Classification: LCC Q143.B225 P45 2021 (print) | LCC Q143.B225

(ebook) | DDC 509.2—dc23

LC record available at <https://lcn.loc.gov/2020049593>

LC ebook record available at <https://lcn.loc.gov/2020049594>

ISBN: 978-0-367-47174-3 (hbk)

ISBN: 978-0-367-75584-3 (pbk)

ISBN: 978-1-003-03394-3 (ebk)

Typeset in Times New Roman

by Apex CoVantage, LLC

4 Roger Bacon on the conceivability of matter

Nicola Polloni

The notions of matter and prime matter are among the most debated points in medieval philosophy. As an explanatory device, matter was supposed to carry out central functions in both the analysis of being as such (metaphysics) and the study of corporeal beings and their change (natural philosophy). Because of this centrality, ramifications of the ontological problem concerning the nature of matter (its potency and otherness from both form and composite) touched a large number of additional questions – from the status of spiritual substances to the emergence of three-dimensionality. Intertwined with a wide range of metaphysical and natural problems, Bacon's theory of matter is marked by a profound originality, as Michela Pereira has shown earlier in this volume. Alongside its originality, Bacon's theory of matter is remarkably complex. His inclination to distinguish between different considerations of matter, as well as his extreme realism and radical reading of the matter-form correspondence, significantly affected his theory. In this contribution, I want to examine one particularly problematic point of Bacon's theory: how can we have knowledge of prime matter?

The problem concerning the epistemology of prime matter is old and intricate. It has been addressed by both Plato and Aristotle and would mark abundant aspects of early-modern criticism against Aristotelianism. During the Middle Ages, different solutions were elaborated in order to resolve the conundrum of how to grasp something that is mostly potential and formless. Roger Bacon's discussion of this problem reflects many of the complexities of his ontological examination of the status of matter and prime matter.

In his *Questions on Aristotle's Physics*, Bacon claims that matter can only be known by analogy to the form, a strategy he shares with most medieval philosophers. Analogy, however, can be used only in relation to a consideration of matter as a metaphysical part of the substance – using Robert Pasnau's distinction between a consideration of matter as either a metaphysical or an integral part or ingredient of the composite.¹ Bacon's formal pluralism and extreme realism seem to imply an additional procedure in order to unveil the existence of an original

1 See Robert Pasnau, *Metaphysical Themes: 1274–1671* (Oxford: Oxford University Press, 2011), 6–11.

substrate (prime matter) which would be inconceivable by recourse to analogy alone. This second epistemic strategy is based on abstraction. I intend to show that both procedures are required in order to conceive prime matter, although they rely on rather different considerations of matter.

Analogy to the form

In his *Questions on Physics* (*Questiones supra octo libros Physicorum*), Bacon dedicates four questions to the problem of how matter can be known (book I, qq. 67–70).² The first question of this set (q. 67) asks whether matter can be intellected. Literally, it asks whether matter can be known by analogy, but the answer to this methodological question is given only at question 70.³ Bacon's procedure is gradual and starts by asking if matter can be a general object of cognition. How can it be so? Indeed, (i) things made of matter are said to hinder cognition, and (ii) only what is immaterial can be intellected. According to Bacon, these stances correspond to a misunderstanding of the problem. On the one hand (vs i), it is true that matter makes cognition feebler, yet this does not imply that material things are unknowable. On the other hand (vs ii), one should not confuse ontological and gnoseological lack of matter. For a thing to be apprehended, it is necessary for its intellected notion to be immaterial so that it can be intellected. In this process, however, the ontological materiality of the intellected object remains unaffected. Therefore, claiming that matter must be (ontologically) immaterial in order to be known is false. To the contrary, since whatever has some being also has some truth which can be known, it is clear that the existence of matter implies its knowability, as Bacon observes, referring back to Aristotle.⁴

Bacon's argumentative strategy evidently aims to provide a preliminary grounding of the general possibility of the knowability of matter. Bacon rejects a first *scolium* based on the opposition between the materiality of the object to be known (matter) and the formality of the cognitive process. Objects of intellection and intellected notions are mediated by the species, and the correspondence between object and intellection is purely epistemological, not ontological. As a

2 Written in the 1240s, Bacon's *Questiones supra libros octo Physicorum* are a fundamental example of the early Scholastic discussion on *Physics* in Paris. Following Silvia Donati's analysis of the works contained in the *Opus hactenus inedita*, this text comprises the only questions on the *Physics* that were surely authored by Bacon. Following the structure of Aristotle's *Physics*, whose first book discusses matter, form, and privation as principles of nature, Bacon dedicates an impressive number of questions to the problem of matter – 17, from question 56 to question 73 of the first book of the *Physics*. See Donati, "Pseudoepigrapha in the *Opera hactenus inedita Rogeri Baconi*?", 153–203.

3 This reference to analogy must be considered following Aristotle's reference in *Physics* I, 7 to analogy as the only way to know matter (see 191a7–191a12) and Bacon's acceptance of analogy as the (main) epistemic access to matter available to humans. In fact, even though the first question does not discuss analogy, that strategy will be examined in the fourth and final question dedicated to matter's conceivability (q. 70).

4 See Bacon, *Questiones supra libros octo Physicorum*, 53–54.