

THE “OPUS MAJUS” OF  
ROGER BACON

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OF  
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EDITED, WITH  
INTRODUCTION AND ANALYTICAL TABLE

BY  
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'Induire pour déduire afin de construire'

AUGUSTE COMTE

'Omnes scientiae sunt connexae, et mutuis se fovent auxiliis, sicut partes ejusdem  
totius, quarum quaelibet opus suum peragit non solum pro se sed pro aliis'

ROGER BACON, *Opus Tertium*

VOLUME II

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## P R E F A C E.

Three motives prompted me, in 1893, to undertake a new edition of Roger Bacon's *Opus Majus*. One was that the sixth centenary of one of the earliest and perhaps the greatest of Oxford thinkers was at hand. A second reason was that this work brings into prominence the connection of Greek Science with that of the modern world, through the mediation of the Arabic Schools of Bagdad and Spain. And thirdly, the *Opus Majus*, when published in its entirety, appeared to me to present to the world a scheme of culture contrasting strongly with any that was offered in Bacon's time or in the centuries that followed. Combining the comparative study of language with a comprehensive grasp of physical science, conceiving these studies as progressive, and yet holding them subordinate to a supreme ethical purpose, it surpassed any that was put before the world till the publication of the philosophical and social works of Auguste Comte.

But the work was undertaken with insufficient equipment of expert skill in deciphering manuscripts ; with the result that, though many errors in the edition of 1733 were corrected, and especially the fundamental error of omitting the ethical treatise which completes and crowns the work, yet far too many were retained. Further, I had not had the opportunity of consulting the important MS. (Vat. 4086) to which attention was called by Dr. Gasquet, when in the July issue of the *Engl. Hist. Review* 1897, he presented an unpublished fragment of Bacon of which more will be said afterwards. This MS., here called V., resembles in many important respects, though by no means in all, the Cottonian MS. Julius D.V. already noted on p. xv of vol. i. (spoken of there as Jul., but in this volume as J.). J. is the oldest of all known MSS. of the *Opus Majus*. It contains much that is not found in the Bodleian MS. (O.); but in the 2nd and 3rd parts it is much mutilated by fire. V., though probably not less than thirty years later in date, enables us to supply many of the deficiencies of J.

It was thus necessary that steps should be taken to repair the defects of the edition as it stood. The Delegates of the Clarendon Press, for whose

considerate treatment of the matter I offer my grateful acknowledgments, had already spent much money on the work and were unwilling to incur further expenditure. They offered, however, to transfer to me the stock and copyright. This offer was accepted, and the work, including the present volume, will in future be sold by Messrs. Williams and Norgate.

A revised text of the first three parts of the *Opus Majus* is here presented, based in the main upon V. of which a photographic copy was obtained in Rome. It has been carefully collated by Mr. J. A. Herbert of the British Museum, with J. and also with the Bodleian MS. Digby 235 (here called O.), which was entrusted to the Keeper of MSS. of the British Museum for this purpose. As the footnotes show, the readings of J. and of O. have been frequently adopted.

It will be seen that this revised text contains much that has not been printed before, and that it throws new light on Bacon's zeal for philological culture. This is further illustrated by facsimiles of f. 15, b. and f. 16 of the Vat. MS., which contain the Greek and Hebrew alphabets, and the remarkable passage in which Hebrew is compared with Chaldean.

For the remaining parts of the *Opus Majus*, a minute collation of my text has been made by Mr. Herbert with the best MSS. available, with results shown in the appended list of Corrections and Emendations, and in the Additional Notes. To have reprinted the whole work in the form adopted for parts i.-iii. was a task beyond my means, nor did it seem to be needed. Among the Notes will be found the missing preamble to *Multiplicatio Specierum*, contained in the early fourteenth century MS., Add. 8786; and the Vatican MS. 4091 (denoted X.), for knowledge of which, as well as of other Vatican MSS., I have to thank Mr. Bliss, has supplied some important passages of Part VI., which O. omits.

In the preface to vol. i. pp. xiii-xvii, something was said of the MSS. of the *Opus Majus*. Of the most important of those some further details are subjoined.

The Oxford MS. Digby 235 (denoted O.) is the earliest MS. containing all seven parts of the *Opus Majus*. From it, as was stated vol. i. p. xiv, the Dublin MS. was copied; the Gale MS. in Trin. Coll. Camb. (see Brewer, *Rogeri Bacon Opera Inedita*, pp. xliii-iv), being a copy of this

latter. O. is a small folio volume of 269 vellum leaves [ff. 2-269, paged incorrectly from 1 to 539]. For its history, see Macray's *Annals of the Bodleian Library* 1890, pp. 7, 8, 316, and *Catalogus Codicum MSS. Kenelmi Digby* 1883, col. 244. The volume contains:—

1. One leaf from a fourteenth century copy of the *Speculum Historiale* of Vincent de Beauvais.

2. *Opus Majus* of Roger Bacon, parts i.-v. There is no general heading.

Part I. is headed, *Pars prima hujus persuasionis in qua excluduntur quatuor universales causae totius ignorantie humane habens quatuor distinctiones*; and begins, *Sapiencie perfecta consideracio consistit in duobus*. Part of an unfinished fourteenth century MS. (ff. 125-148) has been skilfully embodied, the later scribe ending a short quire on f. 124 b. at the precise point where the older fragment begins, and continuing the text on f. 148 b., which his predecessor had left blank. Part V. ends "*veritatem non posset sustinere*." Colophon: "*Finitur quinta pars majoris operis fratris Rogeri Bacon*."

3. "*Tractatus Magistri Rogeri Bacon de Multiplicacione Specierum*," begins "*Primum igitur capitulum circa influenciam agentis*," f. 153, ends "*licet bene retinet post quam recipit*." Colophon: "*Explicit tractatus M. Rogeri Bacon de multiplicacione specierum*."

4. *Opus Majus*, Parts VI. and VII. Part VI. is headed, "*Pars sexta hujus persuasionis et est sexta pars maioris operis de scientia experimentalis*," and begins, "*Positis radicibus sapiencie Latinorum penes linguas, etc.*," f. 194. It ends, "*secreta nature et artis indagarent*," f. 209 b. near the top of col. 2. The rest of the column is left blank, and Part VII. begins a new quire (but the text is in the same hand as in the preceding part). Heading, *Incipit pars septima huius persuasionis de morali philosophia habens distinctiones et capitula*. Begins, *Manifestavi in praecedentibus quod cognitio linguarum, etc.*, f. 210. The leaves numbered pp. 471-498 (ff. 235-248) are misbound and ought to come in the following order: 487-498, 483-486, 471-482. Ends, "*et quid potest homo plus petere in hac vita?*" Here the MS. ends. Cf. vol. ii. p. 403.

The insertion of the *Multiplicatio Specierum* between Parts V. and VI. may possibly not have been the original arrangement of the volume, since that treatise and Part VI. both begin new quires. We know from the *Opus Tertium* that the *Multiplicatio Specierum* was intended to be read in connection with Part V. (Brewer's ed., pp. 38, 117); but we also know that it was regarded by Bacon as distinct from the *Opus Majus*. (*Op. Tert.*, p. 272.)

O., as already stated, is of the fifteenth century, probably of its second quarter. For earlier authority we have to consult MSS. which contain

only a portion of the work. Of these, the oldest, undoubtedly of the thirteenth century, and possibly written at the very time when Bacon was composing his work, or very shortly afterwards, is the Cottonian MS. Jul. D.V. spoken of in this Appendix as J. It is a small parchment quarto and consists of 81 folios, (ff. 71-151b), covering pp. 1-241, l. 7 of the text of vol. i. In the last half of Part I., the whole of Part II., and the beginning of Part III., it is much injured, some folios being almost entirely destroyed. Many of the rubrics are illegible: what is left of them show that the first three parts, as well as the first portion of Part IV., were divided into *Distinctiones* as well as *Capitula*.

In this MS. the transition from Part III. to Part IV. is attended with great confusion. On f. 104, after the passage (p. 96 of vol. i.) ending, *cum vario sapientiae damno languent*, follow the words, *Quodque non avertunt, ideo necessitate compulsi sunt moderni damnum cum vituperio sustinere, a quibus omnes sancti doctores, philosophi et sapientes antiqui remanserunt immunes*. Then, without any break beyond an ordinary full stop and capital, come the words *Secundum impedimentum est majus isto, nam una est scientia qua ignorata nulla alia sciri potest: et qua scita possunt aliae de facili edoceri; et haec fuit in usu omnium sanctorum doctorum et philosophorum et sapientum antiquorum propter sui infinitam utilitatem et pulchritudinem et magnificentiam, et haec est mathematica*. Unde totius studii destructio est negligentia mathematicae. Quoniam qui ignorat quantitates continuas et discretas et earum applicationes ad caeteras res et scientias ignorabit omnia. Et, quod pejus est, omnis homo ignorans hoc suam ignorantiam non potest percipere (et seq. as in vol. i. pp. 97-108, as far as the end of *Distinctio Prima*, sed hoc non est praesentis speculationis). J. then proceeds with the first six words of *Distinctio Secunda* (vol. i. p. 109) *Quod de scientiis jam ostensum est*, and there stops. He then interpolates a long passage, printed here for the first time, and given by no other MS., which is of great importance, because it fills up a gap in Part III. which would be otherwise inexplicable. On vol. i. p. 92 Bacon had expressed his intention of describing the value of linguistic studies not merely (1) in themselves but (2) for the government of the Christian commonwealth, and (3) for the conversion, or (4), if necessary, the repression of the heathen. In the text as it stands, the second of these topics is left unfinished, the third and fourth are not treated of at all.

In J. the sense, broken off on f. 104 with the words *raro sufficiunt*, is carried forward on f. 107 with the words *raro sufficiunt interpretes ad intelligentiam plenam, et rarius inveniuntur fideles* (et seq.). This passage, here restored to its proper place, completes the second subject, and discusses in full the two others.

After the conclusion of this passage, J. then proceeds with what is given in vol. i. on the authority of other MSS. (P. and O.) as the opening of Part IV. (vol. i. p. 97), *Manifesto (sic) quod multae et praeclarae radices sapientiae dependent ex potestate linguarum* (et seq.), as far as the words *ac per contrarium hujus scientiae notitia* (last line of p. 97), and then stops. On this there follow the first words of *Distinctio Secunda*, p. 109, *Quod de scientiis jam ostensum est* (et seq.).

The Hebrew passage, following on the Hebrew alphabet (vol. i. p. 75), is so incorrectly written, whether as regards the Hebrew words, their transliteration, or the Latin translation of them, that it was omitted from my text. V., the MS. next to be spoken of, offers a complete contrast in this respect, as the annexed photographic reproduction will show.

J. has other faults of a kind which make it difficult to believe that this MS. can have been prepared under Bacon's superintendence. Thus the word *gnomone* (p. 103, l. 18) is written by him *cognomone*; p. 161, l. 22, *atagonis* for *heptagonis*; p. 222, l. 13, *Yndorum* for *Numerorum*, and other blunders of the same kind. In the displaced passage above mentioned on the conversion and repression of the heathen, the text, as will be seen from the footnotes, is extremely corrupt. There are some remarkable omissions. That of the table, p. 208, with the commentary on it, is common to J. with V. But there is another of eight lines on p. 138, and a still more important one of five pages (pp. 231-6). On f. 84 and on f. 148 there is a drawing of a man's head in the margin of the page. As Bacon speaks of his practice of using this sign to call attention to certain passages (see *Op. Tert. ed. Brewer*, p. 68), these instances have been thought to prove Bacon's supervision of this MS. The evidence is quite inadequate to such a conclusion.

Vatican 4086, here spoken of as V., is a beautifully written MS. (parchment) in 74 folios, of the first quarter of the 14th century. A photographic copy of it, and also of the unpublished fragment previously mentioned, has been given to the Museum by Dr. Gasquet (*Add. 35,253*). It includes the first 376 pages of vol. i., ending with the words *principalem scripturam*, which close the geographical section. V. is without rubrics, but leaves spaces for them which on the whole correspond to the divisions in J. It follows J. in omitting the last chapter of Part I., and the table on p. 208, and like J. it passes from Part III. to Part IV. without clearly marking the division. The mathematical section begins simply as a new paragraph with the words *Secundum impedimentum est majus isto*, and continues as in J. to the words *praesentis speculationis* at the foot of page 108, proceeding then with *Quod de Scientiis ostensum est*, as on p. 109. The passage as to conversion and subjugation of the heathen is not contained in V., and