ARTÍCULOS / ARTICLES

ROGER BACON'S *DE SIGNIS*, A MISSING PART OF *OPUS MAIUS* III AND THE "KNOWLEDGE OF LANGUAGES"*

EL *DE SIGNIS* DE ROGER BACON, UNA PARTE AUSENTE EN EL *OPUS MAIUS* III, Y EL "CONOCIMIENTO DE LAS LENGUAS"

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Abstract

Roger Bacon's *De signis* is a major contribution in the history of semantics. However, we know from the author's summary given in the *Opus tertium* that it has come down to us in an incomplete form. It belongs to the third part of Bacon's *Opus maius,* devoted to the "knowledge of languages". The three sections of the summary in the *Opus tertium* enable us to understand its organization. The first section presents various arguments in favor of knowledge of languages. The major part of the second section of the summary is related to the "power of words", which was originally present in the section on mathematics and magic (*Opus maius* IV). The third section is not present is the edition of *Opus maius* III: it was devoted to the study of signs and signification, which corresponds to the *De signis*, and circulated independently, and to its application to theology, a section that has not been found. Just as the late *Compendium studii theologiae*, the *De signis* offers an original treatment of semantic and linguistic questions which are fully embedded in the sophisticated debates that took place in the faculties of arts in Paris and Oxford during the second half of the 13th century. Bacon's linguistic analysis can be equally relevant for the study of the Bible and theology.

Keywords

Roger Bacon; Semiotics; Biblical Studies; Language; Medieval Logic

Resumen

El *De signis* de Roger Bacon es una contribución fundamental en la historia de la semántica. Sabemos por el resumen del autor que ha llegado a nosotros de forma incompleta. Era parte de la tercera parte del *Opus maius* de Roger Bacon, dedicada al "conocimiento de las lenguas". Las tres secciones del resumen ayudan a comprender su organización y reorganización. La primera

sección presenta numerosos argumentos a favor de este conocimiento. La mayor parte de la segunda sección del resumen está relacionada con el "poder de las palabras", que originalmente estaba presente en la sección sobre matemáticas y magia (*Opus maius* IV). La tercera sección no está presente en la edición del *Opus maius* III: estaba dedicada al estudio de los signos y la significación, que corresponde al *De signis*, y que circuló de forma independiente, y a su aplicación a la teología, sección que no se ha encontrado. Al igual que el tardío *Compendium studii theologiae*, el *De signis* ofrece un tratamiento original de las cuestiones semánticas y lingüísticas que se insertan plenamente en los sofisticados debates que tienen lugar en las facultades de artes de París y Oxford durante la segunda mitad del siglo XIII, y que al mismo tiempo pueden ser relevantes para el estudio de la Biblia y la teología.

Palabras clave

Roger Bacon; Semiótica; Estudios bíblicos; Lenguaje; Lógica medieval

As acknowledged by the editors of the *De signis*, the manuscript tradition of Roger Bacon's *Opus maius* is very muddled.[1] No manuscript contains all the parts of the work, and some sections have circulated separately or have been kept in different versions.[2] Bacon himself reports of several versions or copies, deplores the lack of care by the copyists in their work, and recounts the difficulties he had in sending corrected copies to Pope Clément IV.[3] He also explains, on several occasions, that he added certain sections,

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[*] This research was presented in the Research Seminar of the Roger Bacon Society, on June, 2, 2020, and is included as a part of the introduction of Irène Rosier-Catach, Laurent Cesalli, Frédéric Goubier, Alain de Libera *Roger Bacon, Des signes,* Introduction, traduction et commentaire (Paris: Vrin, 2022).

[1] Roger Bacon, *Opus maius*, 3 vols, edited by J. H. Bridges (London, Edinburgh and Oxford: Williams & Norgate, 1897-1900) [vol. 1 = part. I-IV, vol. 2 = part. V-VII, vol. 3 = revised edition of parts I-III]; Roger Bacon, *Opus maius. Die Neubegründung der Wissenschaft*, übersetzt von Nikolaus Egel und Katherina Molnar. Mit einer Einleitung und Anmerkungen herausgegeben von N. Egel (Hamburg: Meiner, 2017); Partial German translation by N. Egel, *Kompendium für das Studium der Philosophie*. Übersetzt, mit einer Einleitung und Anmerkungen herausgegeben (Hamburg: Meiner, 2015).

[2] Roger Bacon, *De signis*, edited by K. M. Fredborg, L. Nielsen and J. Pinborg, "An Unedited Part of Roger Bacon's *Opus maius: De signis*", *Traditio* 34 (1978): 75-136.

[3] On Roger Bacon's biography, see Thomas Crowley, *Roger Bacon. The Problem of the Soul in his Philosophical Commentaries* (Louvain: Institut Supérieur de Philosophie, 1950), chap. 1; Franco Alessio, *Mito e Scienza in Ruggero Bacone* (Milano: Casa Editrice Ceschina, 1957); Jeremiah Hackett, "Roger Bacon (circa 1214/1220-1292)", in *Medieval Philosophers*, edited by J. Hackett (Dictionary of Literary Biography, 115) (Detroit and London: Gale, 1992): 90-102; Jeremiah Hackett, "Roger Bacon: His Life, Career, and Works", in *Roger Bacon and the Sciences: Commemoratives Essays*, edited by J. Hackett (Leiden: E. J. Brill, 1997): 9-23; Jeremiah Hackett, "From *Sapientes antiqui* at Lincoln to the New *Sapientes moderni* at Paris c. 1260-1280: Roger Bacon's Two Circles of Scholars", in *Robert Grosseteste and the Pursuit of Religious and Scientific Learning in the Middle Ages*, edited by J. P. Cunningham and M. Hocknull (Dordrecht: Springer, 2016): 119-142; Jeremiah Hackett, "Roger Bacon", in *The Stanford*

such as the treatise on Astrology at the end of part IV (on Mathematics) of the *Opus maius*.[4] Several treatises are incomplete, notably the *De signis* and the *Compendium studii theologiae*[5] which are of interest here. Bacon wrote the *Opus maius* in 1267, and shortly later the *Opus minus*,[6] and the *Opus tertium*,[7] which contain both a summary of the *Opus maius* and some additional material.

In what follows, starting from the summary of *Opus maius* III, given in *Opus tertium*, chapters 25-27, my focus will be to try to figure out the organization and reorganization of the material included in the *Opuses* on the knowledge of languages. The summary of *Opus tertium*, chapter 27, shows that, unlike what is preserved in the manuscripts, *Opus maius* was originally made up of three sections, and that the third one was divided in two: it contained a part on signs, the description of which corresponds to the *DS*, followed by another part intending to demonstrate the usefulness of the study of signs for theology. This latter part has not been found. The short summary of *Opus maius* III given in the *Opus minus* mentions the content of this twofold third section in a very abbreviated way: "In the third part < one deals> with signs, and their modes, in words, and sacred <things>, and other things".[8]

Encyclopedia of Philosophy, Summer 2020 Edition, edited by E. N. Zalta, 2020; Amanda Power, *Roger Bacon and the Defence of Christendom* (Cambridge: Cambridge University Press, 2013), chap. 1; Nikolaus Egel, *Roger Bacon, Kompendium für das Studium der Philosophie* (Hamburg: Meiner, 2015), chap. 2; Nikolaus Egel, *Roger Bacon, Opus maius, Die Neubegründung der Wissenschaft* (Hamburg: Meiner, 2017), introduction; Dominik Perler, "Roger Bacon", in *Das 13. Jahrhundert*, edited by A. Brungs, V. Mudroch and P. Schulthess (Grundriss der Geschichte der Philosophie, Die Philosophie des Mittelalters, 4) (Basel: Schwabe, 2020): 780-801.

[4] Andrew G. Little, *Part of the Opus tertium of Roger Bacon* (Aberdeen: University Press, 1912), see introduction, xvii-xviii, xx; Crowley, *Roger Bacon. The Problem of the Soul*, 42-50.

[5] Roger Bacon, *Compendium studii theologiae*, edition and translation by T. S. Maloney (Leiden: E. J. Brill, 1988).

[6] Roger Bacon, *Opus minus*, edited by J. S. Brewer, *Fr. Rogeri Bacon Opera quaedam hactenus inedita* (London: Longman and Roberts, 1859), vol. I, 313-389.

[7] Roger Bacon, *Opus tertium,* edited by N. Egel*, Roger Bacon. Opus tertium. Edition und Übersetzung mit einer Einleitung und Anmerkungen* (Hamburg: Meiner, 2020). In this new edition and German translation of the *Opus tertium*, N. Egel adds to J. H. Brewer 1859's first edition (*Fr. Rogeri Bacon Opera quaedam hactenus inedita*, vol. I, 3-310 [London: Longman and Roberts, 1859]) the fragments discovered by Pierre Duhem, *Un fragment inédit de l'Opus tertium de Roger Bacon, précédé d'une étude sur ce fragment* (Quaracchi: Ex typographia Collegii S. Bonaventurae, 1909) and by Andrew G. Little, *Part of the Opus tertium of Roger Bacon* (Aberdeen: University Press, 1912). See Egel, *Roger Bacon, Opus tertium*, CXXII-CXXVI.

[8] *OmpMin*, 322: "Et in tertia de signis, et modis eorum, in vocibus, et sacris et aliis". On the relations between *Opus maius, Opus minus, Opus tertium*, see Egel, *Roger Bacon, Opus tertium*, XXXII-XLI and on XXXVII-XXXVIII the table of correspondences between *Opus tertium* and *Opus maius* (as well as with other works by Bacon). As we know, we only have fragments for *Opus minus*, and the work must be reconstructed on the basis of *Opus tertium*. In addition, it should be noted that these two works are not mere summaries of *Opus maius*, as Bacon himself acknowledges (*Opus tertium* I, 1, §6, 12), and that

The *Opus maius* has the following plan:[9]
Opus maius I. On the general causes of human ignorance.
Opus maius II. On the relationship between philosophy and theology.
Opus maius III. On the utility of grammar (on the knowledge of languages)[10] (see below).
Opus maius IV. On mathematics.
Opus maius V. On optics.
Opus maius VI. On experimental science.
Opus maius VII. On moral philosophy.

We summarize in the following table the reorganization of the chapters devoted to the knowledge of languages, comparing *Opus maius* III (chapters 1-14) and the summary given in *Opus tertium* (chapters 25-27), with parallels in other works. The summary of *Opus tertium* is organized in three main parts (I, II, III in our table), the third of which has no counterpart in J. H. Bridges' edition.[11] In this context, it should be recalled that the various manuscripts of *Opus maius* III do not correlate, which led J. H. Bridges to propose a revised edition in vol. III (Supplementary volume). Only the oldest manuscript, J (Cottonian ms Jul. D.V.), which is highly corrupt and damaged, contains the entire text as it appears in the revised edition. All the manuscripts have part I of *Opus maius* III, but one ends with chapter 10; mss J and V (Vat. 4086) include chapter 11 (= II.1 in our table) but end after the first lines of chapter 12 (ed., p. 120 after *raro sufficiunt*). Ms. J preserves the rest of chapter 12 (= II.2) as announced, in a section which is not in its place in the manuscript but which has been reintegrated in the edition, as well as chapters 13 (= II.3), and 14 (= II.4). Therefore, only ms J transmits chapters 12-14, and thus the whole of Part II.[12] None of the manuscripts of *Opus maius* include Part III, the *DS* (=III.1) having been kept separately in ms Digby Oxford, Bodleian Library, 55 f. 228r-244r,[13] without part III.2 described in *Opus tertium* (chap. 27). The summary of the

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they include differences and sometimes important additions, which testify to modifications and reworkings compared to the *Opus maius*.

[9] For a recent and detailed analysis of *Opus maius* see Power, *Roger Bacon and the Defence*, 96-125; Egel, *Roger Bacon, Opus maius. Die Neubegründung der Wissenschaft*, xx-xxix.

[10] The rubric of one of the manuscripts of *Opus maius* III gives as a title: *Tertia pars hujus persuasionis de utilitate grammaticae* and another one: *Sequitur pars tertia de utilitate sciendi linguas alienas habens tres distinctiones, quarum prima habet quinque capitula; in primo ponuntur tres rationes de necessitate linguarum* (ed. Bridges, vol. III, 80, n. 1). *Opus maius* III is elsewhere referred to in various ways: *tractatus de linguis* (*Opus minus*, 325); *de linguis seu de utilitate grammaticae* (*Opus tertium* I, 25); *scientia linguarum sapientialium* (*CSP*, VI, §85, 82); *grammatica aliarum linguarum* (*CSP*, VI, §95, 92 [B, 438]).

[11] Roger Bacon, *Opus maius* III, revised edition, edited by J. H. Bridges (London-Edinburgh-Oxford: Williams & Norgate, 1897-1900), vol. III, 80-125. The first edition is in vol. I, 66-96.

[12] See Roger Bacon, *Opus maius*, edited by J. H. Bridges, vol. III, introduction, viii, 120 (and notes): 169-170 (additional note 96,16); Fredborg, Nielsen and Pinborg, "An Unedited Part", 75-76.

[13] See the description of the manuscript in Rodney M. Thomson, *Catalogue of Medieval Manuscripts of Latin Commentaries on Aristotle in British Libraries*, t. 1 (Oxford: Turnhout, Brepols, 2011): 125-128, and the analysis given in Patrick Osmond Lewry, "Grammar Logic and Rhetoric 1220-1320", in *The History of the University of Oxford. The Early Oxford Schools*, edited by J. I. Catto (Oxford: Clarendon Press, 1984), vol. 1, 401-434, 420. The manuscript contains philosophical works, works of Aristotle, and commentaries on Aristotle, either anonymous or by different authors (Geoffrey d'Aspall, Albert the

Opus Tertium differs from *Opus maius* III not only by these missing parts III.1 and III.2. As we shall see, there are other differences, concerning Part II, which is evident if we compare chapter 26 of *Opus tertium* and chapters 11-14 of *Opus maius* III, on which, as has been said, the handwritten tradition diverges: the content of sections II.1 and II.2 of *Opus maius* III is not detailed in *Opus tertium*; section II.3 of *Opus maius* III, on persuasion, is not present in the summary of *Opus tertium* but is found, briefly, in other chapters devoted to moral philosophy; finally, section II.4, devoted to the power of words, which occupies almost all of chapter 26 of *Opus tertium*, is barely touched upon in *Opus maius* III, but is treated elsewhere, namely in *Opus maius* IV with magic. All these differences show revisions and reorganizations of Bacon's thought on language that are very instructive, and even more so if one refers to their treatment in other works of the author.

Opus Maius III, ed. Bridges vol. III *De utilitate grammaticae*	Content, *Opus Maius* III	Other parts of *Opus Maius*	*Opus Tertium*	Other works
I. Chap. 1-10, p. 80-114 (present in all mss)	**I.** Utility of the knowledge of languages "for the study of wisdom taken in an absolute way", considered in relation to the three "languages of wisdom": Hebrew, Greek and Latin. Eight reasons justifying the need for knowledge of languages		**I.** Chap. 25, *De linguis seu de utilitate grammaticae* Eight reasons justifying the need for knowledge of languages (in a different order)	- *Fragment,* ed. Gasquet 1897, p. 516 - *Opus minus,* p. 325-328 et 330-359 - *CSP*, c. VI-XII, "scientia linguarum sapientialium" Thirteen reasons - *Greek Grammars* - *Fragment of a Hebrew Grammar*

Great, Siger of Brabant), a modist grammatical commentary from Oxford (*Innata est nobis*), the *Tractatus de grammatica* attributed to a Pseudo-Grosseteste (edited by K. Reichl, *Tractatus de Grammatica. Eine fälschlich Robert Grosseteste zugeschriebene spekulativ Grammatik, Edition und Commentar* [München: Padeborn, 1976]), William of Sherwood's *Syncategoremata* (edited by R. Kirchhoff, *Die 'Syncategoremata' des Wilhelm von Sherwood: Kommentierung und historische Einordnung* [Leiden and Boston: Brill, 2008]), the *De ente et essentia* and the *De fallaciis* wrongly attributed to Thomas Aquinas. The presence of two graduation speeches for bachelors applying for the Bachelor of Arts degree confirms that the content of the collection contained in this manuscript belongs to the Faculty of Arts, see Patrick Osmond Lewry, "Four Graduation Speeches from Oxford Manuscripts (c. 1270-1310)", *Mediaeval Studies* 44 (1982): 138-180.

II. Chap. 11-14, p. 115-125	**II.** Utility of the knowledge of languages "for wisdom, in relation to the Church of God, the Republic of the Faithful, the conversion of the Infidels, and the reprobation of those who cannot be converted" (*Opus Maius* III, chap. 11, p. 115)		**II. (**mere presentation of the content at the beginning of chap. 25 and a single sentence at the beginning of chap. 26)	
(present only in ms. J, and in ms. V and the mss depending on V)	**II.1.** Chap. 11. 1. For the administration of religious services 2. Pour the collation of sacraments 3. To preach every people in their mother language 4. "For Church as a whole from its beginnings to the end of time"			
(present in full only in ms. J)	**II.2.** Chap. 12. Practical reasons concerning the relations of the Church with other people 1. Necessity of trade 2. Legal difficulties encountered by Preachers 3. Negociation of peace treatises			

		II.3. Chap. 13. Conversion of the Infidels (on persuasion)	*Opus Maius* VII = *Moralis philosophia* IV, V, VI	**II.3** Chap. 109-110 (summary of *Moralis Philosophia* IV et V) Chap. 72-75 on the power of music	*Communia mathematica* chap. 7	
		II.4. Chap. 14. Reprobation of those who cannot be converted (on the power of words)	*Opus Maius* IV = *Geographia*, p. 374 and *Astrologia*, p. 395-399	**II.4.** Chap. 26	*- Epistola de secretis operibus artis et naturae ...* chap. 3 *- Tractatus brevis (Secretum secretorum)* chap. 2 & 3	
III. Missing in all the mss *Opus Maius* III and from Bridges edition	Preserved separately in ms Digby 55	**III.1.** *De signis*		**III.1.** Chap. 27 *On signs*	*Opus minus,* p. 322 : "Et in tertia de signis, et modis eorum, in vocibus, et sacris et aliis"	*- Communia Naturalium* p. 119-120 *- CST*
		III.2. (-)		**III.2.** Usefulness of the knowledge of signs for theology		Cf. *CST,* §83

Let us now take a closer look at the contents of this table.

Part I. Part I of the *Opus tertium* summary, chap. 25, in line with *Opus maius* III, chap. 1-10, deals with the utility of grammar for "the study of wisdom taken in an absolute way". It lists eight reasons, in a different order in the two accounts, to demonstrate the need for

the knowledge of foreign languages, namely Hebrew, Greek, and Latin.[14] Arabic has a special place as useful only for philosophy, but a very limited one, as the author points out, for theology. This Part I is the only one transmitted by all the manuscripts of *Opus maius* III, and it alone will have its correspondent in the second section of the *Compendium studii philosophiae*, entitled "Science of the languages of wisdom (*linguae sapientiales*)" (82, §85), where thirteen reasons will then be given (in chap. VI-VIII)[15]. These chapters are the culmination of long preparatory studies Bacon carried out with his brothers when he entered the Franciscan Order. In a very detailed and long article published in 2001, Etienne Anheim, Benoit Grévin and Martin Morard[16] analyzed an important dossier preserved in ms. 402 of the Bibliothèque municipale of Toulouse, first studied by Samuel Berger.[17] These *Notes* contain (1) a *Lexicon* (with linguistic remarks, etymologies concerning the Hebrew and Greek words of the Bible, of the *Glossa ordinaria*, introduced by a description of the Hebrew and Greek alphabets and of the morphology of Greek articles and declensions); (2) a *Correspondence* for which only the answers are given, addressing first and second person interlocutors in a direct manner, dealing in particular with linguistic etymologies and explanations, only belonging to the Old Testament part of the Vulgate; (3) *Questions* addressing similar points, followed by answers of a more general nature, showing that the correspondent to whom the questions were sent had linguistic as well as scientific skills. The authors demonstrate the unity of these three parts and highlight the remarkable kinship between the *Notes* and other works of Roger Bacon (the two Greek grammars, the Hebrew grammar fragment,[18] the *Opus maius* and the *CSP*). They confirm the hypothesis put forward by Berger, namely that the author of the *Notes* is indeed Roger Bacon, and that the compiler is William of la Mare. These *Notes* correspond to Bacon's activity after his entry into the Franciscan order, from 1257 to 1263, and thus to the reading and study of the Bible he carried out during the years preceding the writing of the *Opus maius.*

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[14] See Irène Rosier-Catach, "Roger Bacon: Grammar", in *Roger Bacon and the Sciences: Commemorative Essays*, edited by J. Hackett (Leiden: E. J. Brill, 1997): 67-102. Bacon himself remarks, in *Opus tertium*, that he no longer remembers exactly the number and order of the reasons as they were given in *Opus maius* III (*Opus tertium* I, 25, §135, 182). This remark confirms, as Theodor Crowley rightly points out against other interpretations, that the *Opus tertium* is indeed a summary that was written after the *Opus maius* was sent to the Pope (*The problem of the soul*, 43 ff.).

[15] Roger Bacon, *Compendium studii philosophiae*, edition and translation by T. S. Maloney (Leiden: E. J. Brill, 2018).

[16] Etienne Anheim, Benoit Grévin and Martin Morard, "Exégèse judéo-chrétienne, magie et linguistique: un recueil de 'notes' inédites attribuées à Roger Bacon", *Archives d'Histoire Doctrinale et Littéraire du Moyen Age* 68 (2001): 95-154.

[17] Samuel Berger, *Quam notitiam linguae hebraicae habuerint Christiani medii aevi temporibus in Gallia* (Nancy: thèse de la Faculté de lettres de Paris, 1893).

[18] Edited by Edmond Nolan and Samuel A. Hirsch, *The Greek Grammar of Roger Bacon and a Fragment of his Hebrew Grammar* (Cambridge: Cambridge University Press, 1902).

Part II. The program for Part II of *Opus maius* III (chapters 11-14) is given at the beginning of chap. 11:

> Since I have shown how the knowledge of languages is necessary for Latins for the study of wisdom taken in an absolute way, I now want to deal with how it must be acquired for wisdom in its relation to the Church of God (= II.1), to the Republic of the Faithful (= II.2), to the conversion of the Infidels (= II.3), and to the reprobation of those who cannot be converted (= II.4).[19]

These four main objectives, here assigned to the knowledge of languages, were the same ones that the author, at the opening of *Opus maius*, associated with the "light of wisdom", which is a good indication of the importance given to language.[20] The summary of *Opus tertium* gives exactly the same headings and in the same terms at the beginning of chapter 25,[21] but the treatment of each division in chapter 26 will vary: the first three (= II.1-3) include only a few lines, while almost the rest of the chapter is devoted to the last one (= II.4).

II.1. *Opus maius* III, chap. 11 (= II.1) details how knowledge of foreign languages is primarily useful for the administration of religious services, and how ignorance of the correct pronunciation and meaning of prayers has the unfortunate effect that "we speak like magpies, parrots, and certain animals that imitate words" instead of praying correctly (*Opus maius* III, 115-116). Secondly, this knowledge is necessary for the collation of the sacraments. These first two arguments are to be related to the second lost part of the *DS*, as described in *Opus tertium* (chap. 27, see infra), and to the content of the *DS* itself, since one of the objectives of the analysis of signs is to contribute to the correct administration of the sacraments. Those who confer the sacraments should know the correct pronunciation and have the right intention "since intention is necessary for the

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[19] *Opus maius* III, chap. 11, 115: "Cum iam manifestavi quomodo cognitio linguarum est necessaria latinis propter studium sapientae absolutum, nunc volo declarare quomodo oporteat eam haberi propter sapientiam comparatam ad Dei Ecclesiam, et rempublicam fidelium, et conversionem infidelium et eorum reprobationem qui converti non possunt". For a detailed discussion of the treatment of these four objectives, and their historical context, see Power, *Roger Bacon and the Defence*, *passim*.

[20] *Opus maius* I, 1.

[21] *Opus tertium* 25, §133, 180: "Nam hujus rei necessitatem manifesto per ea quae pertinent ad studium absolute, et per comparationem ad regimen ecclesiae, et ad directionem reipublicae, et ad conversionem infidelium, et ad reprobationem eorum qui converti non possunt". See also Roger Bacon, *Epistola ad Clementem IV*, edited by F. A. Gasquet, "An Unpublished Fragment of a Work by Roger Bacon", *The English Historical Review* 12/47 (1897): 494-517, 516: "Sed quia sapientia latinorum tanta est ex alienis linguis, nam totus textus sacer et tota philosophia descenderunt a linguis extraneis, ideo grammatica ut est utilis latinis maxima sui utilitate comprehendit orthographiam aliarum linguarum et cetera quae ad gramaticam pertinere noscuntur. Et hoc ostendo per 8 magnas et pulchras considerationes, ut videatur quod minora sunt magis necessaria sicut scribit apostolus. Facile enim ex hiis patet omni sapienti quod hic est porta sapientiae apud latinos et magis theologiae, et *comparo haec non solum sapientiae absolute sed relate ecclesiae et ceteris prenotatis. Inter que duo maxime sunt consideranda, scilicet, correctio sacri textus et conversio infidelium* [...]."

sacraments, as the theologians know" (*Opus maius* III, 116), whereas too often, due to gross and inexcusable ignorance "they do not know what they are saying", which is detrimental to the "full efficacy of the sacramental effects" – laments the author (*Opus maius* III, 117). Moreover, while peoples speaking different languages should be converted, ignorance of languages renders preaching ineffective, since "sincere persuasion" requires that it should be done in their mother tongue (*Opus maius* III, 118).

II.2. Chapter 12 of *Opus maius* (= II.2), corresponds to one single sentence in the summary of *Opus tertium* (chap. 26). It is devoted to the practical and political benefits of the knowledge of languages, especially with regard to commercial relations, which are hampered by the use of interpreters. It also deals with the legal difficulties encountered by the friar preachers, and to the negotiation of peace treaties.

II.3. Chapters 13 and 14 of *Opus maius* III, corresponding to parts II.3 and II.4, are present only in ms J of *Opus maius* III, just as part II.2. These two parts are devoted to the conversion of Infidels and schismatics and to the reprobation of those who cannot be converted. They are closely related, and both show significant reorganizations of the materials.

The theme of section II.3, the conversion of Infidels, is dealt with rather briefly in chapter 13 of *Opus maius* III (120-122). It is developed, however, in the section of *Opus maius* devoted to moral philosophy, the *Moralis Philosophia* (*Opus maius* VII = *MP*), in sections IV, V and VI, which are the most important, says Bacon, since they deal with wisdom as it relates to the "salvation of the human race" (*MP* IV, 187.15-16) through preaching and conversion. These are intended to "bend the soul" so that it can believe and "receive the truths of the sects", in order to "do good and flee from evil" (*MP* V, 249.23-27; VI, 267.4-5). These objectives constitute the different facets of what Bacon calls the "persuasion of sects", mentioned in the introductory section of Part IV of *Moralis philosophia*, and in the introduction to Parts II.3 and II.4.[22] Bacon clearly draws inspiration from the fifth part of al-Farabi's *De scientiis*, in Gerard of Cremona's translation, which associates "civil science" (ethics and politics) with the "art of eloquence".[23] In this chapter, al-Farabi indicated the

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[22] *MP* IV, 187: "*Pars quarta moralis philosophiae… est de persuasione sectae…*"; see 195; and *OPUS TERTIUM* II, 109, §292, 916.

[23] *De scientiis*, version of Gerard of Cremona, edited by F. Schupp, *Über die Wissenschaften (De scientiis) nach der lateinischen Übersetzung Gerhards von Cremona* (Hamburg: Meiner, 2005), chap. V, 124.7-9 (ed. A. Galonnier, *Le 'De scientiis Alfarabii' de Gérard de Crémone. Contribution aux problèmes de l'acculturation au XIIe siècle* [Turnhout: Brepols, 2016], 58.1-60.5 and 164.44-49): "Ars elocutionis est virtus qua homo potest defendere sententias et actiones determinatas quas secte positor propalauit et reicere totum quod diuersificatur eis cum sermonibus." On the various translations of al-Farabi's *De scientiis* and his influenial divisions of sciences, see Jean-Marc Mandosio, "La place de la logique et ses subdivisions dans l'Énumération des sciences d'al-Fârâbî et chez Dominicus Gundissalinus", in *'Ad notitiam ignoti': L'Organon dans la translatio studiorum à l'époque d'Albert le Grand*, edited by J. Brumberg-Chaumont (Turnhout: Brepols, 2013): 285-310, especially 303 sq and Galonnier, *Le 'De scientiis Alfarabii'*, 36. The expression "*Ars elocutionis*" is used by Gerard of Cremona to translate the art of *kâlam*, which is the art of religious dispute: Gundissalinus only keeps the title of this fifth part, and

various paths that the theologian, in his prophetic mission, should follow in order to defend his religion. Bacon, after having listed and described the various "sects" (he uses this very term to designate "Saracens, Tartars, Pagans, Idolaters, Jews, Christians"; *MP* IV, 188-195), develops at great length the different means that the "*persuasor sectae*" should use. He quotes again the *De scientiis*, testimonies of the prophets and miracles, adding examples taken from the Gospels (*MP* IV, 220-223). Part V of *Moralis Philosophia* is devoted to the different types of arguments that must be used to form a "discourse capable of inclining the mind", with a focus on the rhetorical argument, which is best suited to affect the practical intellect. It can be used both to incite people "to believe the truths ... and to act according to them" (*MP* V, 251.11-13). Various sources should be called upon in order to "instruct, charm, and bend the mind": Cicero, Augustine ("the author and doctor of rhetoric"), Aristotle's *Poetics* (or more precisely Averroes' commentary on the *Poetics*, since the translator, Hermann the German, told him he had not succeeded in translating it ; cf. *MP* V, 255.28-29; 267.19-26), Avicenna and Algazel, al-Farabi both in his *De scientiis* (*MP* V, 255-256; 263, 267) and in his commentary on Aristotle's *Rhetoric*. Bacon again insists that this task of "persuasion" is based on the "roots of eloquence" (*MP* V, 251.25-28), relying, as Cicero teaches, on the three different purposes, namely, "*docere, delectare, permovere*" (*MP* V, 242.11-12; 259.10-11). The ethical, political and rhetorical dimensions of argumentation, and their importance in view of the overall enterprise of persuasion, both doctrinal and religious, are dealt with in *Opus maius* VII. Bacon also explained, in *Opus maius* IV (100-102), that this science of argumentation belongs to logic, and is ultimately subordinate to music, belonging to the section on mathematics.

All these themes, corresponding to part II.3 in our table, are only briefly discussed in chapter 13 of *Opus maius* III but developed at length in parts IV, V and VI of *MP*. It is therefore not surprising that, if they are not summarized in chapter 26 of *Opus tertium*, they are present in several other chapters of *Opus tertium* (I, 75 and II, 109-110)[24], which

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uses the expression *scientia eloquendi,* hence a confusion with the generic term used to designate the sciences of language (*scientiae eloquentiae*), and an assimilation to the art of rhetoric. *Civilis scientia* is thus placed by Gundissalinus, in his *De divisione philosophiae*, both as the genus of rhetoric, among the *scientiae eloquentiae,* and as a part of the practical philosophy (Dominicus Gundissalinus, *De divisione philosophiae. Über Die Einteilung Der Philosophie.* Lateinisch-deutsch. Herausgegeben, übersetzt, eingeleitet und mit Anmerkungen versehen von A. Fidora und D. Werner [Freiburg: i.Br., Herder, 2007], see respectively 140-142 and 252).

[24] Chapter II, 109 of *Opus tertium* corresponds to *MP* IV, and chapter II, 110 to *MP* V. See also Gasquet, *Roger Bacon, Epistola ad Clementem IV*, 510. The dependence of the developments on argumentation and persuasion in *Opus tertium* chapter 75, on both *Opus maius* III, chapter 13, and *MP* IV-V is quite explicit in the following passage, *Opus tertium* I, 75, §508, 642-644: "Quod autem Aristoteles fecit duos libros Logicae de hoc genere persuasionis in secta et moribus, manifestavi in tertia parte Operis Majoris, et in septima quoniam non est dubium quin libros fecerit optimos, licet Latini hos ignorent...In illis enim docetur quomodo fiant sermones sublimes, tam in voce quam sententia, secundum omnes ornatus sermonis, tam metrice et rhythmice quam prosaice, ut animus ad id, quod intendit persuasor, rapiatur sine praevisione, et subito cadat in amorem boni et odium mali, secundum quod docet Alpharabius in libro De scientiis."

take up the content of moral philosophy, adding new attention to the power of music (*Opus tertium* I, 72-75). These have no equivalent elsewhere.[25] Bacon once again deplores the fact that the "*radices persuasionis*" are so poorly known to the Latin people, whereas they are known to the "Infidels", and regrets the disastrous effects that this has had on the art and practice of preaching, whether it is addressed the fidels to strengthen them in their faith or the infidels, trying to convert them. In *Opus tertium*, Bacon assigns to the various disciplines (grammar, logic, rhetoric, poetry and music), and to the various ancient authorities, Roman as well as Christian (Cicero, Horace, Seneca, Jerome, Augustine) and Muslim (mentioned above), a precise function in this mission of persuasion. Its ultimate goal is that the soul should be "delighted without realizing it, and immediately fall into the love of good and the detestation of evil, as al-Farabi teaches in *De scientiis*". [26]

II.4. "The reprobation of those who cannot be convinced requires far more the ways of wisdom than warlike efforts (*bellicum laborem*)", writes Bacon at the beginning of this last part (*Opus maius* III, chap. 14 = II.4). The brief development that follows exalts the power of the words, with remarks on the "virtue" of the sacraments, on the intention and desire of the speaker that increase their efficiency, supported by accounts of miraculous healings, exorcisms, and holy words of extraordinary effect. This efficiency, the author insists, owes nothing to demons, contrary to what ignorant people say, because they do not belong to magic – to claim this would be to ignore the fact that "saints have always performed miracles with words" (*Opus maius* III, chap. 14, 124). Since the power of words depends on the arrangement of the celestial constellations, Bacon refers the reader to what will be said later. The long section on the magical power of words will indeed be treated together with astrology, in *Opus maius* IV, devoted to mathematics – "mathematics being the second part of the art of magic" (*Opus maius* IV, 240). It treats the power of charms, magical characters, and contains explanations about the causes of their efficacy.

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[25] Music and prosody are treated in the seventh section of *Opus maius* IV, devoted to mathematics (*Op Mai* IV, 236-268), and in the corresponding summaries in the *Opus tertium* (I, chap. 59-64); but the chapters of the *Opus tertium* on the powers of music and harmony, their role in preaching, their links with rhetoric, their great "power of persuasion" (*Opus tertium* I, chap. 72-75) have no corresponding parts in the *Opus maius*; they may have existed at first as a separate treatise, and added later; see Little, *Part of the Opus tertium*, xvi-xvii. On rhetoric and music, see Eugenio Massa, *Ruggero Bacone. Etica e poetica nella storia dell'Opus maius* (Roma: Ed. di Storia e Letteratura, 1955), chap. xi; Jeremiah Hackett, "Roger Bacon on Rhetoric and Poetics", in *Roger Bacon and the Sciences: Commemoratives Essays*, edited by J. Hackett (Leiden: E. J. Brill, 1997): 133-149; Nancy van Deusen, "Roger Bacon on Music", in *Roger Bacon and the Sciences: Commemorative Essays*, edited by J. Hackett (Leiden: E. J. Brill, 1997): 223-241.

[26] *Opus tertium* I 75, §508, 644; I, 75, §511, 648. See Irène Rosier-Catach, "Roger Bacon, al-Farabi et Augustin. Rhétorique, logique et philosophie morale", in *La rhétorique d'Aristote, traditions et commentaires, de l'Antiquité au XVIIe siècle*, edited by G. Dahan and I. Rosier-Catach (Paris: Vrin, 1998): 87-110.

This part on astrology[27] seems to have been added later to *Opus maius* IV from the *Opus minus* and is missing in some manuscripts.[28]

It is remarkable that chapter 26 of *Opus tertium* is devoted almost entirely to these considerations on the power of words (= II.4), whereas only a few lines were reserved for the other parts (= II.1-3). Bacon alludes to such reorganization of the material, explaining that these "roots" of the power of words were first exposed in the section on "celestial things" of *Opus minus*.[29] We can read confirmation of this in a fragment describing the contents of *Opus minus*, which insists on the importance of this part, as well as in a fragment of *Opus tertium* discovered by A.G. Little, which is indeed very close to chapter 26 of *Opus tertium*.[30] This theme of the power of words is also developed in a letter whose authenticity has been questioned but now seems to be accepted, or at least part of it, the *Epistola de secretis operibus artis et naturae et de nullitate magiae*, particularly with its chapter III: *De virtute sermonis et redargutione magiae*.[31] In the oldest manuscript where it is preserved, the *Epistola* is located after a copy of chapter 26 of *Opus tertium*.[32] This theme is also dealt with in the *Tractatus brevis* introducing the *Secretum secretorum*.[33] We have studied these chapters at length elsewhere, as well as the sources that inspire our author, in particular Avicenna, cited by Bacon, who generally accepts that thoughts can act on bodies, and al-Kindi, who, in his *De radiis*, deals with the conditions that determine the power of words.[34] It is clear that Bacon tries to avoid the accusation of determinism, and

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[27] *Opus maius* IV, 395-396 and 398-399.

[28] *Opus maius* IV, 395-396 and 398-399; see Little, *Part of the Opus tertium*, xvii.

[29] *Opus tertium* I, 26, §148, 196: "Nunc igitur tangam aliquas radices circa haec quas diligentius exposui in Secundo Opere, ubi de coelestibus egi. Sed considerare debemus quod verba habent maximam potestatem..."

[30] *Opus tertium* II, 79, §42, 698 (first edited by Little, *Part of the Opus tertium*, 18: "Haec autem que iam de locis mundi et alterationibus locorum et rerum per celestia et de iudiciis et operibus secretis tetigi, *non posui omnia in Majori Opere*, sed de locis tantum. Alia posui in *Minori Opere*, quando veni ad declarandum intentionem istius partis Operis Majoris"; cf. Egel, *Roger Bacon, Opus tertium,* introduction, XXI.

[31] Roger Bacon, *Epistola de secretis operibus artis et naturae et de nullitate magiae*, edited by J. S. Brewer (London: Longman and Roberts, 1859), Appendix I, see especially 528-531; German translation in Roger Bacon, *Opus maius. Die Neubegründung der Wissenschaft*, übersetzt von Nikolaus Egel und Katerina Molnar. Mit einer Einleitung und Anmerkungen herausgegeben von N. Egel (Hamburg: Meiner, 2017): 231-261.

[32] Little, *Part of the Opus tertium*, XIV: "(4) Item aliud capitulum ejusdem fratris Rogeri Bacun de ordine minorum de potestate verbi (= *Opus tertium* chap. 26) et illud capitulum est extractum de prima parte maioris operis quod fecit ad mandatum pape Clementis (...) (5) Item aliud capitulum ejusdem fratris Rogeri de eadem materia (= *Epistola*)."

[33] Roger Bacon, *Secretum secretorum*, edited by R. Steele (Oxford: Clarendon Press, 1920) [OHI 5], chap. 2 and 3.

[34] Marie-Thérèse d'Alverny and Françoise Hudry, "Al-Kindi: *De radiis*", *Archives d'Histoire Doctrinale et Littéraire du Moyen Age* 68/41 (1974): 139-260. See Irène Rosier-Catach, *La parole comme acte: sur la grammaire et la sémantique au XIIIᵉ siècle* (Paris: Vrin, 1994), chap. 6 and text 9; Nicolas Weill-Parot, *Les "images astrologiques" au Moyen Âge et à la Renaissance* (Paris: Champion, 2002): 316-339; Benoit Grévin, "Entre magie et sémiotique: Roger Bacon et les caractères chinois", *Recherches de théologie et*

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that for this reason he seeks to show that these considerations and related practices are "philosophical" and therefore do not call free will into question.

Between the redaction of *Opus maius* and that of *Opus tertium*, Bacon seems to have wanted to bring together, within his large section on languages, all the relevant questions, including that on the power of words (= II.4), initially studied with astrology and magic. On the other hand, he moved what was related to modes of argumentation to the practical part of the *Philosophia moralis*, together with rhetoric, poetics and music (= II.3).

Part III. The summary of *Opus tertium* (chap. 27) gives us valuable indications on what was to constitute the third part of *Opus maius* III, divided into two sections (= III.1 and III.2 in our table):

> (= III.1) §155. After these matters, I added the study of another part of grammar, which is not yet composed or translated among the Latins; and it is most useful in the sciences, in order to study and know all the speculative truths of philosophy and theology. It concerns the composition of languages, the impositions of vocal sounds in order to signify, the way in which they signify by virtue of imposition and by other means. And since all these things cannot be known unless we know the reasons and modes of signification, I have therefore set out to expose these modes, as Augustine teaches in the second and third books of his *De doctrina Christiana*, namely that among signs some are natural, and some are established by the soul to signify.

> §156. And those that are natural are of two kinds; some are according to the concomitance of the things signified, such as for example having large limbs is a sign of strength; others are according to configuration, for example an image of Saint Nicholas, which is a sign configured and formed according to him. And so, all images of things are signs. And each of these modes includes many modes. The sign established by the soul either means naturally, like the groaning of the sick and the barking of dogs; or it is at pleasure, like the circle of wine and bread in a shop window, and all the words of languages. Indeed, a language cannot be composed of naturally signifying vocal sounds, as I have shown in several ways from Avicenna.

> §157. And then I am going to consider how a vocal sound is univocally imposed, how it is equivocally imposed, and according to how many modes, whatever they may be; and how it is imposed analogically, and according to which modes. And when it signifies univocally, it can nevertheless signify an infinite number of things, although not by imposition, nor equivocally or analogically, according to the common modes of analogy. And I have explained how a vocal sound is imposed on the Creator, and how it is imposed on a simple creature, and how it is imposed on a compound. And how it is imposed on absolute things,

philosophie médiévales 70/1 (2003): 118-138; Béatrice Delaurenti, *La puissance des mots, "virtus verborum". Débats doctrinaux sur le pouvoir des incantations au Moyen Âge* (Paris: Cerf, 2007): 111-114, 146-150.

and on relative things. And when it signifies univocally and yet simultaneously signifies several things, I explained that it signifies them naturally and not at pleasure. And that those things that are thus naturally signified are connotations according to the theologians. And I explained how and by how many divine names they can be connoted, both by simple creature names as by compound, absolute, and relative names. And so, through all that has been said so far, I have raised many important doubts, and <demonstrated> many truths, which allow us to know all the things that raise a question or a doubt. [35]

Bacon continues and concludes the chapter by showing the utility of the study of signs and of signification for theology (just as, in the *Opus maius*, he claims the utility of all the other sciences):

(= III.2) Among other things, I have considered how a vocal sound, in the Sacred Scripture, signifies a spiritual sense with a literal sense, and according to what modes the signs do it; and how the Old Testament is a sign of the New, how the sacraments are signs, inserting many other difficult subjects; I have also dealt with Adam's first language and how he gave names to things; and with the question of whether children raised in the desert would use a language by themselves and how they would manifest their affections to each other if they met; and with many other things which I cannot now develop. So I consider this part of grammar to be highly necessary for theology, philosophy, and the whole of wisdom.

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[35] *Opus tertium* I, 27, §155-157, 204-206: "§155. Post haec addidi intentionem alterius partis grammaticae quae non est adhuc composita apud Latinos nec translata; et est utilissima in scientialibus, quantum ad inquirendum et sciendum omnes veritates speculativas philosophiae et theologiae. Et est de compositione linguarum, et de impositionibus vocum ad significandum, et quomodo significant per impositionem et per alias vias. Et quia haec non possunt sciri nisi homo sciat rationes et modos significandi ideo aggressus sum illos modos ostendere, sicut Augustinus docet in libro secundo et tertio *De doctrina Christiana*, quod signa quaedam sunt naturalia, et quaedam data ab anima.

§156. Et Illa quae sunt naturalia sunt dupliciter; quaedam sunt per concomitantiam signatorum, ut habere magnas extremitates est signum fortitudinis; quaedam per configurationem, ut imago Sancti Nicholai est signum eus configuratum et conformatum. Et sic omnes species rerum sunt signa. Et utrumque istorum modorum habet modos multos. Signum autem datum ab anima vel est naturaliter, ut gemitus infirmorum et latratus canum; vel est ad placitum, ut circulus vini et panis in fenestra, et omnes voces linguarum. Nam lingua non potest componi ex vocibus significantibus naturaliter, sicut probo multipliciter per Avicennam.

§157. Et tunc considero quomodo vox imponitur univoce; quomodo aequivoce, et quot modis quantumcunque; et quomodo analogice et quot modis. Et quando univoce significat, et tamen potest significare infinita, licet non per impositionem, nec aequivoce, nec analogice, secundum modos communes analogiae. Et expressi quomodo vox imponitur Creatori, et quomodo creaturae simplici, et quomodo composito. Et qualiter absolutis rebus imponitur, et quomodo relatis. Et quando univoce significat, et tamen simul multa significat, declaravi quod naturaliter et non ad placitum significat illa. Et illa sic significata naturaliter sunt connotata apud theologos. Et expressi quomodo et quot per nomina divina possunt connotari, et per nomina creaturarum simplicium, et compositarum, et absolutarum, ac relatarum. Et sic per omnia jam dicta terminavi multas dubitationes graves, et multas veritates, per quas omnia sciuntur, quae sub quaestione et dubitatione versantur."

And I prove that it is a part of grammar and not that of another science. I do not, however, take these proofs from Augustine, in the second and third books of *De doctrina christiana*, although he treats these matters in a grammatical mode, as the rest of his treatise shows.[36]

The *Compendium studii theologiae*, the author's latest work, includes chapters on signs and signification close to the *DS*.[37] It consists of two parts, but the author mentions a "third treatise", whose content, although shorter, corresponds to this second part (II.2) of *Opus tertium*, chapter 27:

Now at the end of this chapter, I alert and summon the reader to consider how a vocal sound signifies many things in figurative expressions, of which the holy text is full, since besides a literal sense a vocal sound can signify three other senses, namely, allegorical, tropological and anagogical. But his consideration is appropriate for the *third treatise which is reserved for the sacred text*; likewise, how sacraments and other signs in the sacred text signify. However, let him who would prudently consider these things be aware and he will discover that the second mode of a natural sign is especially operative in them.[38]

Bacon already mentioned earlier a "third treatise" devoted to "purely theological questions", such as that of "original sin and the natural movements of the rational soul": "In this second treatise I shall explain only philosophical things (*philosophica*) which are of use <in resolving> questions taken from philosophy, granted I indicate concretely just how the things of which I shall treat will be useful for purely theological questions".[39]

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[36] *Opus tertium* I, 27, §157, 206 (following preceeding note): "Caeterum consideravi quomodo vox in Scriptura Sacra significat sensum spiritualem cum literali, et quibus modis signi; et quomodo sensus literalis significat spiritualem; et quomodo Vetus Testamentum est signum Novi; et quomodo sacramenta sunt signa; et multa intermiscui difficilia; ut de lingua prima Adae et qualiter dedit nomina rebus; et an pueri in deserto nutrito aliqua lingua per se uterentur, et si obviarent sibi invicem quomodo mutuos indicarent affectus; et multa alia quae non possum modo explicare. Unde reputo hanc partem grammaticae summe necessariam theologiae, et philosophiae, et toti sapientiae. Et probo quod sit pars grammaticae et non alterius scientiae. Et tamen non indico probationem ex Augustino de secundo et tertio libro *Doctrinae Christianae*, cum tamen ipse ista tractet grammatice, ut patet ex serie sui tractatus." This section (III.2 in our table) should have been separated from the first (III.1) in the new edition, just as it was in Bridge's first edition.

[37] See the notes and commentaries of Maloney's English translation of the *CST* and the *DS*, as well as the detailed commentary of our French translation.

[38] *CST,* §83: "Nunc in fine istius capituli innuo et excito lectorem, ut consideret qualiter vox significet multa in figurativis locutionibus, quibus maxime sacer textus plenus est, cum praeter sensum literalem potest vox significare tres alios sensus, scilicet, allegoricum et tropologicum et anagogicum. Sed haec consideratio propria est in *tertio tractatu qui appropriatur textui sacro*; similiter quomodo sacramenta significant, et alia signa sacri textus. Advertat tamen prudens considerator et inveniet quod secundus modus signi naturalis in his specialiter operetur" (I reproduce Maloney's translation, 83-85).

[39] *CST,* §40: "Sic arguo ad utramque partem propter motus naturales animae intellectivae. Sed determinari non potest sententia hic, cum difficillimae quaestiones sint de peccato originali et motibus naturalibus animae rationalis, *quae magis ad tertium tractatum pertinent, qui erit de pure theologicis.* In hoc quidem secundo tractatu explicabo solum principaliter philosophica quae sunt in

Such analyses are not present in the *CST*, and, as the editor points out, several other paragraphs likewise refer to passages that are not preserved, the *CST* being abruptly interrupted.[40] This §40 is instructive in that it distinguishes between a "philosophical" and a "theological" treatment of the same questions, to which the second and third treatises of the *CST* would have been dedicated respectively. This corresponds well to the conception of the relationship between philosophy and theology developed in *Opus maius*. The content of the "third treatise" sketched out in §83 of the late *CST* matches the summary of *Opus tertium*, chapter 27, namely that the analysis of signs and language in general (= III.1 in our table) was to be followed by the application of this analysis to different questions relevant for theology (= III.2).

Let us now analyze chapter 27 of *Opus tertium* in detail, comparing it with Opus maius III, in order to understand what his original motivations were in dealing with "the knowledge of languages", and the modifications he subsequently made to them.

1. *Al-Farabi and the "science of language"*. The section on languages is, as Bacon explains, "a part of grammar that has not yet been composed or translated by the Latins". The author insists on the originality of this section. What foreign source could have inspired him here? He himself indicates it in a much earlier text, his commentary to Aristotle's *Metaphysics* V, written around 1240-47. He asks the question, which the Modistae would later discuss, of whether it is the grammarian or the metaphysician who should impose names on things. After first suggesting that the grammarian should simply consider the names already imposed in order to establish the rules of their formation, he mentions the opinion of "others" who claim that there is indeed a "science of languages and idioms", and adds "we do not possess it". He then concludes that it is the grammarian's task to impose names.[41] The parallel with the later reference in the *Opus tertium* is clear. Here Bacon indicates its source, the "*De divisione scientiarum*", which is the title of Gundissalinus' translation-adaptation of al-Farabi's *De scientiis*.[42] In Gerard of Cremona's

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usu quaestionum suptarum ex philosophia, licet indico materialiter quomodo haec quae tractabo valeant *ad pura theologicas quaestiones*."

[40] Maloney, *Roger Bacon, Compendium studii theologiae*, 9.

[41] Roger Bacon, *Quaestiones supra libros Primae philosophiae Aristotelis*, edited by R. Steele and F. Delorme (Oxford: Clarendon Press, 1930) [OHI 10], 96-97; see 97.21-28: "Ideo dico quod gramaticus non habet considerare impositiones nominum set solum modum rectificandi et regulandi et formandi illas impositas [impositiones ?]. Alii dicunt quod est alia quae est *scientia linguae et ydyomatum*, et subalternat sibi gramaticam, et subalternatur ei, set *illam non habemus*. Et tunc dicendum quod gramatici, communiter loquendo, est imponere nomina, non metaphysici. Ad argumenta contra dico, quod quantum ad nos illa est prior methaphysica secundum rem. Ad aliud respondeo, quod scientia communis dupliciter, aut via scientiae, aut via doctrinae. Via scientiae dupliciter; aut a parte rei et sic metaphysica, aut a parte modi et sic logica. Si sit scientia communis via doctrinae et disciplinae, sic est illa quae docet imponere nomina, sive sit grammatica sive sit subalternata ei, sicut patet in libro *De divisione scientiarum*, quia illa non imponit nomina set subalternatur grammatice. Set de ista *non audivimus nec vidimus aliquid*."

[42] Let us recall that there are four different works: (1) al-Farabi's *De scientiis* in the complete translation of Gerard of Cremona, edited by Schupp, *Über die Wissenschaften (De scientiis)* and

version, as in that of Dominicus Gundissalinus, the *De scientiis* does indeed give, as the first science, the "*scientia linguae*", devoted on the one hand to the consideration of what words signify, and on the other hand to the study of rules, which is divided into seven parts. Certainly, the debate whether to assimilate this science of language with grammar has its origin with Gundissalinus. In his own *De divisione philosophiae*, Gundissalinus first deals with grammar in the same way as the Latins of his time, and with the common definition ("art and science of speaking and writing correctly"[43]); but then he resumes the Farabian exposition, with a first division of the "science of language" in two parts (the science of the meaning of imposed words and the science of their construction), followed by the division into seven parts of "grammar", which he borrows from *De scientiis*.[44] In the *De ortu scientiarum* attributed to him, al-Farabi mentions the "science of language, that is the science of imposing names on things" as the first of the sciences, but here he distinguishes it from "grammar", which deals with the composition of words, as well from logic and poetics.[45] The treatise "*Philosophica disciplina*" (ca. 1245) claims likewise to be inspired by al-Farabi, indicating the "science of language" as the first "science of discourse" (*sermocinalis scientia*), before grammar, poetics, rhetoric and logic, and then noting, like Bacon, the relationship of subalternation that prevails between these sciences and

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Galonnier, *Le 'De scientiis Alfarabii' de Gérard de Crémone*; old edition under the name *Catalogo de las ciencias*, edited by A. Gonzalez Palencia (Madrid: Universidad de Madrid, 1932); (2) al-Farabi's *De scientiis* in the translation-adaptation by Dominicus Gundissalinus (the title in the incipit is *Liber Alpharabii de divisione omnium scientiarum*), edited by J. H. Schneider, *De scientiis, secundum versionem Dominici Gundisalvi. Über die Wissenschaften* (Freiburg i.Br.: Herder, 2006); old edition: *Domingo Gundisalvo, De scientiis*, edited by P. M. Alonso Alonso (Madrid: Consejo Superior de Investigaciones Cientificas, 1954); (3) *De ortu scientiarum*, that circulated under the name of al-Farabi, but only known in latin, edited by Clemens Baeumker, *De ortu scientiarum, Über den Ursprung der Wissenschaften* (Münster: Aschendorff, 1916); (4) Dominicus Gundissalinus' *De divisione philosophiae*, edited by Fidora and Werner, *De divisione philosophiae* based on Dominicus Gundissalinus, *De divisione philosophiae*, edited by L. Baur (Münster: Aschendorff 1903).

[43] Dominicus Gundissalinus, *De divisione philosophiae*, edited by Fidora and Werner, 110.

[44] Dominicus Gundissalinus, *De divisione philosophiae*, edited by Fidora and Werner, 112: "Unde ad evitanda haec vitia *scientia linguae*, quae omnium scientiarum naturaliter prima est, primum in duo dividitur, scililcet in scientiam considerandi et observandi, quid unaquaeque dictio significet apud gentem illam, cuius lingua est, et in scientiam observandi regulas illarum dictionum. Illa est scientia intelligendi, ad quid significandum singulae dictiones sint impositae, ista est scientia ordinandi singulas dictiones in oratione"; 114: "Partes igitur *grammaticae* apud omnes gentes sunt septem, scilicet [...]."

[45] Al-Farabi, *De ortu scientiarum*, edited by Baeumker, c. 2, 22.8-10: "(1) primum principium omnium scientiarum est *scientia de lingua, id est de impositione nominum rebus*, scilicet substantiae et accidenti. (2) Secunda vero est *scientia grammaticae*, quae est scientia ordinandi nomina imposita rebus, et componendi orationes et locutiones quae significant dispositiones substantiae et accidentia eius et sequentia. (3) Tertia est scientia logicae, quae est scientia ordinandi propositiones enuntiativas secundum figuras logicas [...]. (4) Quarta vero est scientia poeticae, quae est scientia ordinandi dictiones secundum gravitatem et consequentiam [...]."

"grammar".[46] In the section on grammar, the treatise takes up the bipartite division already encountered, with the first part of grammar dealing with words considered absolutely, either with or without considering the composition and imposition of languages. It specifies, as Bacon will do, that "we do not have this first part", while the second part is the study of the parts of speech according to Priscian.[47]

All these parallels show that the "science of language" mentioned in the *Quaestiones supra libros Primae philosophiae Aristotelis* indeed originates in the divisions proposed or inspired by al-Farabi. It is considered as the first of the sciences and includes the imposition and signification of names. The different sources show some hesitations concerning the relations between this "science of language" and "grammar", especially when the common Latin acceptance of the discipline interferes with these developments, as in Gundissalinus' *De divisione philosophiae*. Bacon is in any case consistent in concluding that this science of the imposition of names belongs to grammar, and, in *Opus tertium*, chap. 27, he claims that it is indeed a "part of grammar" – insisting further that it has not been "translated" and is not yet available to Latins. He very consciously gives the term "grammar" a meaning different from the common usage of the time, namely, that of the discipline inspired by Donatus and Priscian, which he himself had taught in Paris, and within the frame of which he would later write his Greek and Hebrew grammars. The fact that he relies on Farabi to prove that this science of the composition of languages and of imposition is indeed a part of "grammar and not of another science", helps understanding why he needed to add that he did not draw his arguments from *De doctrina christiana*, as he could have done because Augustine also dealt with these questions *grammatice*.[48] Chapter 27 of *Opus tertium* ends as it began, emphasizing the importance and originality of this discipline "which is in the highest degree necessary for theology, philosophy, and wisdom in general". This study of the imposition and signification of names will be the core of the *DS*.

2. *The analysis of signs and language and Augustine's De doctrina christiana.* As we could read in the passage quoted above, the summary of the *Opus tertium* contains, in addition to this concluding sentence, another reference to Augustine, in the context of the division

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[46] *Philosophica disciplina*, edited by C. Lafleur, *Quatre introductions à la philosophie au XIIIe siècle: Textes critiques et étude historique* (Montréal and Paris : Institut d'Études Médiévales and Vrin, 1988): 274.317-333: "Modus accidentalis philosophiae, qui est sermocinalis scientia, diuitur in tres secundum aliquos: in gramaticam, rethoricam et logicam; secundum alios, in IIIIor: in tribus dictis et poeticam. Secundum vero Alfarabium additur quinta, *quae est scientia lingue, quae est de impositione nominum*. Set, quia ista et poetica sunt valde annexe gramaticae, ideo communiter loquendo continentur sub grammatica. Distinguuntur tamen ab ea sicut subalternans et subalternata, ut dicit Alpharabius. Nam scientia linguae primo est, secundo gramatica, tertio poetica, quarto rethorica, quinto logica. Istius autem divisionis sic patet sufficientia: quia oportet rebus nomina imponere, et hoc fit per scientiam linguae; secundo, recte ordinare et componere ... et hoc docet gramatica; deinde debet sermo delectare ... et hoc fit per poeticam ... deinde est sermo ad hoc quod persuadeat ... et hoc docet rethorica, quinto fidem debet facere ut proferenti credatur, et hoc fit per logicam."
[47] *Philosophica disciplina*, edited by Lafleur, 275.351-276.365.
[48] *Opus tertium* I, 27, §157, 208, end of the passage quoted above.

of signs. There is no explicit reference to Augustine in the *DS* on this subject, although several elements are clearly borrowed from the *De doctrina christiana*. On the other hand, at the beginning of the section on signs in the *CST*, Bacon states:

> Granted that before I saw the book of blessed Augustine *On Christian Doctrine*, I fell upon a classification of signs by dint of my own discovery – which I later found in the beginning of the second book of *On Christian Doctrine*, I say with his authority, granted I explicate his statements with reasons and examples, that according to him a sign is either from nature or given by a soul.[49]

Thomas Maloney discusses this assertion of Bacon, but seemed at first to accept Bacon's claim, that he did indeed invent the analysis of signs given in the *DS* in an original way and independently of Augustine[50] And while recognizing, in his translation of the *DS*, some knowledge of Augustine, he claimed that he did not see any "sign of Augustine influencing the development of his semiotics".[51] It seems to us, on the contrary, that the Augustinian inspiration for the definition and classification of signs is manifest, and that the relational theory of the sign present in Augustine's definition was essential in the development of his semiotics. What follows is a summary of our main arguments, which will be discussed in more detail in our French translation and commentary, to which I refer the reader.[52]

(a) The definition and division of signs, given in the *DS*, are close to Augustine's, and both are found, with explicit attribution and reference to the *De doctrina christiana*, in *Opus tertium* and later in the *CST*. The term "*signum*", systematically used in the *DS,* is distinct from the Boethian term "*nota*", and clearly marks the Augustinian origin,[53] as does the distinction, repeated several times, between "*signa data*" and "*signa naturalia*".[54]

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[49] *CST*, §25: "Et, licet antequam vidi librum beati Augustini *De doctrina christiana*, cecidi per studium propriae inventionis in divisionem signorum, quam postea inveni in principio secundi libri *De doctrina christiana*, dico eius auctoritate, licet explico dicta eius ratione et exemplis, quod signum secundum <eum> est a natura vel datum ab anima."

[50] Roger Bacon, *Compendium studii theologiae*, 22-24; Thomas S. Maloney, "Is the *De doctrina christiana* the Source for Bacon's Semiotics ?", in *Reading and Wisdom: The 'De doctrina christiana' of Augustine in the Middle Ages*, edited by E. D. English (Notre Dame: University of Notre Dame Press, 1995): 126-142; Gaëlle Jeanmart, "La théorie baconienne du langage est-elle augustinienne ?", *Revue des sciences philosophiques et théologiques* 82/3 (1998): 415-430.

[51] Maloney, *Roger Bacon, On signs*, 22-25.

[52] I indicate bellow the references to the paragraphs in the *DS*, and invite the reader to consult the analytical commentary related to them in our forthcoming French translation and commentary: each paragraph of the *DS* is indicated as §3 and the commentary on the paragraph as *§3.

[53] See for instance Pseudo-Kilwardby, who also mentions the definition, explicitly referring to Augustine and the *De doctrina christiana;* (Pseudo)-Robert Kilwardby, *Super Priscianum maiorem*, edited by K. M. Fredborg, N. J. Green-Pedersen, L. Nielsen and J. Pinborg, "The commentary on 'Priscianus maior' ascribed to Robert Kilwardby", *Cahiers de l'Institut du Moyen Age Grec et Latin* 15 (1975): 1-146, 2; see commentary *§2*.

[54] See commentary *§3.

(b) The definition and the divisions are well known and are extensively discussed in the commentaries on Book IV of Peter Lombard's *Sentences*,[55] dealing with the sacraments as signs, with explicit references to Augustine. Bacon expressly referred elsewhere to the "sacraments as signs", as indicated above.

(c) The most original element of the definition of the sign, its dual relational nature (relation to the interpreter and relation to the thing signified), is borrowed from the theologians Richard Fishacre and Bonaventure, who construct it from the famous definition of *De doctrina christiana* – no doubt Bacon was familiar with these discussions, and thus conscious of their Augustinian origin, which was always explicitly mentioned in such a context. Some theologians also proposed to modify and broaden the Augustinian definition to include non-sensible signs, as Bacon does.[56]

(d) That Bacon's analyses are original, make explicit use of other sources (Aristotle, al-Farabi, Avicenna, al-Ghazali etc.), and fit into the context of the debates of the second half of the thirteenth century in Paris and in Oxford is clear.[57] But this cannot be an argument to exclude any dependence on Augustine. The fact that this entire section is centered on signs is a first indication of this influence (cf. the title of book II of *De Doctrina christiana*: *De signis interpretandis in scriptura*). Several other elements of Bacon's analyses can be mentioned, notably the central notion of transference of meaning (*translatio*, *transumptio*), with explicit mention of Augustine's examples from the *De dialectica*, or the key-notion of a renewal (*renovatio*) of meaning that can be freely done by any user of language, present in Augustine's *Contra mendacium* X, 24.[58]

(e) The whole of *Opus maius* III is of Augustinian inspiration: it addresses linguistic questions (= III.1 in our table, corresponding to the *DS*) in so far as they serve theology (= III.2). The often-used expression "*cognitio linguarum*", which qualifies the purpose of this part of the *Opus maius*, is literally borrowed from Augustine.[59] One finds in the *De doctrina christiana* XI, 16 the same remark as Bacon's, concerning the knowledge of languages, which constitutes a "great remedy against ignorance of proper signs" (*Contra ignota signa propria magnum remedium est linguarum cognitio*).

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[55] Peter Lombard, *Sententiae in quatuor libros distinctae*, 3 vols, edited by I. C. Brady (Grottaferrata: Editiones Collegii S. Bonaventurae, 1971-1981), vol. IV, chap. 4, 233. On the analysis of signs by theologians, see Irène Rosier-Catach, *La parole efficace: signe, rituel, sacré* (Paris, Seuil, 2004), chap. 1 and 96-98.

[56] Rosier-Catach, *La parole efficace*, 69-73; see commentary *§1 et *§2.

[57] For a recent synthesis and the relevant bibliography, see Laurent Cesalli and Irène Rosier-Catach, "*Signum est in praedicamento relationis.* Roger Bacon's Semantics Revisited in the Light of His Relational Theory of the Sign", *Oxford Studies in Medieval Philosophy* 6 (2018): 62-99; Alain de Libera and Irène Rosier-Catach, "The Oxford-Paris Split Revisited", in *Modes, Terms and Propositions. Continental versus British Traditions in Medieval Logic*, edited by C. Rode and C. Kann (Leuven: Peeters, 2021).

[58] See *Rosier-Catach, La parole comme acte,* 143 sq; commentary *§154 and *§155.

[59] See for instance *Opus maius* III, 115.

(f) At an even higher level, it is easy to show that the *De doctrina christiana* is a major source for the *Opus maius* as a whole, and it is often explicitly cited. The very purpose of the *Opus majus*, which is to glorify knowledge as it can serve theology, is close to the Augustinian conception of wisdom. Bacon often relies on the *De doctrina christiana* to show the relevance of this or that science and how it applies to divine things.[60] One wonders why Bacon, who often quotes the *De doctrina christiana* in *Opus maius*, including *Opus maius* III (chap. 2, 88), could have suddenly forgotten it when writing the section on signs.

Why then does he not quote this work of Augustine in the *DS*, and why this statement in the *CST*? The latter can be understood from what Bacon already wrote in chapter 27 of *Opus tertium*. There he explained that he wanted both to authorize himself from Augustine and to show the originality and independence of his analysis of signs and of his project, hence the assertion that "this part has never yet been composed among the Latins". It should be remembered that the *DS* is part of the *Opus maius*, written to Pope Clement IV, at his request, in order to obtain subsidies to enable him to carry out his research projects aimed at a general reform of knowledge at the service of Christianity.[61] Such arguments could certainly weigh in, convincing the Pope of the legitimacy of his demands. Just as in these works of an earlier period (1267-68), Bacon, at the end of his life, in the *CST* (1292), still emphasized these two facets of his work, namely, the Augustinian authority alongside originality, at a time when he was still expressing anger towards his contemporaries, especially the theologians.

3. *Signs, language and theology.* The central role that Bacon gave to the *cognitio linguarum* in the service of theology and Bible reading, is well known.[62] The table above shows its various facets. But beyond the knowledge of foreign languages, it is more particularly the study of signs and significations that proves to be important for theology. A whole section was to be devoted to it both in the missing part III-2 of the *DS*, just as later in the missing third treatise of the *CST*. Yet these theological issues are already reflected in the preserved section of the *DS*, echoing questions tackled by contemporary theologians, with often divergent answers. We have already mentioned the analysis of signs, addressed in the commentaries on Book IV of Peter Lombard's *Sentences*, where we find not only the definition and classification of signs, but questions about conventionality and naturality, the permanent or non-permanent nature of signification after imposition, the double relation of the sign (to the speaker and to the thing signified), etc.[63] In the same way, the notion of "semantic transfer" (*translatio, transumptio*),[64] that plays a central role in Bacon's analysis of signification, just like the notion of analogy,[65] is

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[60] Rosier-Catach, *La parole comme acte*, 151-152; see *Opus maius* I, 13, vol. III, 30; *Opus tertium* I, 14, §75, 106.

[61] See Power, *Roger Bacon and the Defense*, chap. 2, for the context of the relations between Bacon and Pope Clement IV.

[62] Rosier-Catach, "Roger Bacon: Grammar"; Anheim, Grévin, Morard, "Exégèse judéo-chrétienne".

[63] See Rosier-Catach, *La parole efficace,* chap. 1; and our French commentary *§1, *§2, *§6, *§143, *147.

[64] See commentary *§155.

[65] See commentary *§40.

used by theologians to address the question of divine names. The classical and influential example from Boethius' *De trinitate,* "*Deus est iustus*",[66] is mentioned several times in the *DS*.[67] Here again Bacon will prove original in his analyses, since for him every transfer of meaning produces equivocation. The controversy over the problem of what Alain de Libera calls "la référence vide",[68] namely, whether a name retains its meaning when the thing it signifies has ceased to exist**,** whether it can univocally signify beings and non-beings, and whether predication is possible on empty classes (for instance of *man* when no men exist), which gave rise to Bacon's violent criticism of Richard Rufus of Cornwall, is linked to the theological problem of the humanity of Christ *in triduo mortis*.[69] On the origin of language, Bacon refers, in the summary of the *Opus tertium*, to the famous Psammetic experiment of children raised without any contact in a desert, but also to the episode of the imposition of names by Adam in *Gen* 2:27*,* whereas in the *DS* it is rather the model of the imposition of a name in the baptismal ceremony that is evoked*.*[70] Finally, references to topics mentioned in the summary of the *Opus tertium*, such as exegesis, typology (the way in which the Old Testament is a sign of the New), the different levels of meaning, parables and figures of Scripture, are present in Bacon's other works as well. He often insists that ignorance of languages, but also of the properties of things, prevents one from understanding the literal meaning, and thus the spiritual, allegorical, moral, and anagogical meanings, again with explicit references to the *De doctrina christiana*.[71] The relation between semantic and linguistic questions and the study of the Bible and theology is for Bacon a long lasting concern, just as it is for philosophy: the *Notes* studied by Etienne Anheim, Benoit Grévin and Martin Morard, probably dating from his entrance in the Franciscan order, show their elaboration over several years, before the writing of the *Opus maius*, and are still present in the late *CST*.

The analyses of the *DS*, just as of the later *CST*, thus provides a "technical" foundation to the treatment of the semantic and philological questions relevant for theology, the study of the Bible and exegesis. It is probable that the analysis of signs and signification

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[66] Luisa Valente, "*Talia sunt subiecta qualia praedicata permittunt.* Le principe de l'approche contextuelle et sa genèse dans la théologie du xiiᵉ siècle", in *La tradition médiévale des* Catégories *(xiiᵉ-xvᵉ siècles)*, edited by J. Biard and I. Rosier-Catach (Louvain: Peeters, 2003): 289-311.

[67] *DS*, §95, §99, §155 etc.; see commentary *§95, *99.

[68] Alain de Libera, "Roger Bacon et la référence vide. Sur quelques antécédents médiévaux du paradoxe de Meinong", in *Lectionum Varietates: Hommage à Paul Vignaux (1904-1987),* edited by J. Jolivet, Z. Kaluza and A. De Libera (Paris: Vrin, 1991): 85-120; A. de Libera, *La référence vide: théories de la proposition* (Paris: PUF, 2002).

[69] See commentary *§43-45 and *§139-141; for an updated bibliography on this topic, see Libera and Rosier-Catach, "The Oxford-Paris Split Revisited".

[70] *DS* §52 and §154, see commentary. It is worth mentioning in this respect Henri of Ghent's analysis of divine names, which approaches the meaning and the imposition of divine names starting from the texts of Augustine, but also drawing on Gen. 2, 27 as much as on Aristotle, Boethius and Averroes; see Irène Rosier-Catach, "Henri de Gand, le *De Dialectica* d'Augustin, et l'imposition des noms divins", *Documenti e studi sulla tradizione filosofica medievale* 6 (1995): 145-253.

[71] See for instance *Opus minus*, 385, 388-389; *CSP*, VI, §93 etc.

in general, which contains many discussions of interest to logicians (= III.1), had all its place in a collection of works such as the ones gathered in ms Digby 55. This collection contains a majority of texts pertaining to the Faculty of Arts, in particular grammatical and logical texts, and may have been for this very reason separated from the following (= III.2), which seem to be of interest only to theology. Bacon began his career in Paris, teaching grammar and logic as much as philosophy. When he turned to the study of foreign languages, Greek and Hebrew, and to the study of Bible, as the *Notes* testify, he included some of these technical semantic analysis in this new project,[72] and continued doing so to the end of his life. He remained involved in the intense semantic controversies of the Faculty of Arts, in Paris and Oxford.[73] The summary given in the relevant chapters of the *Opus tertium*, its comparison with the various versions of the *Opus maius* III, on the knowledge of languages, the relocation and reorganization of some of the material as that on persuasion or on the power of words, the inclusion of new analysis as those on the power of music, show the extent to which Bacon's diverse interests in language respond to each other. These interests belonged to a vast comprehensive project, carried out over more than fifty years of research.

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[72] Anheim, Grévin and Morard, "Exégèse judéo-chrétienne..." show in particular that he included in the *Correspondance* remarks on equivocity, signification, supposition, imposition, use of sophisms, etc., see 132, 148 and the corresponding passages quoted in the footnotes.

[73] Ana María Mora-Márquez, *The 13th-Century Notion of Signification. The Discussions and Their Origin and Development* (Leiden: E. J. Brill, 2015), chapter 2; Libera and Rosier-Catach, "The Oxford-Paris Split Revisited". See in particular the violent rejection of one of his distinctive theses, in an anonymous sophisma, edited by Alain de Libera and Leone Gazziero, "Le sophisma '*Omnis homo de necessitate est animal*' du Parisinus latinus 16135, f° 99rb-103vb", *Archives d'Histoire Doctrinale et Littéraire du Moyen Age* 75 (2008): 323-368, 342: "sic videtur de ista positione quod sit similis dementiae et ultra omnes dementias, quia nec laicus, nec clericus, nec demens, nec sapiens in tantum egressus et quin nomine rei praeteritae, quam cognovit, si ipsum audiat, moveatur in anima sua"; see commentary *§143. The tone of the anonymous author's criticism, on this crucial problem of the permanence of the signification when the thing signified no longer exists, here analyzed with the same example of the *circulus vini*, is just as violent as the one Roger Bacon often uses; see Sten Ebbesen, "Roger Bacon and the Fools of His Time", *Cahiers de l'Institut du Moyen âge Grec et Latin* 3 (1970): 40-44. On the controversy over the *circulus vini,* see Irène Rosier-Catach, "*Multa vocabula ceciderunt ab usu:* les mots, le cercle de vin et le *beneplacitum* du locuteur", in *Per Enrico Fenzi: Saggi di allievi e amici per i suoi ottant'anni*, edited by P. Borsa & al. (Firenze: Le lettere, 2020): 25-41; commentary *§147.