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ROBERT GROSSETESTE AND ARISTOTELIANISM
Editado por Cecilia Panti

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PRESENTACIÓN / INTRODUCTION

INTRODUCTION TO ROBERT GROSSETESTE AND ARISTOTELIANISM

Robert Grosseteste flourished in the key moment of a profound cultural transformation that swept through the Latin world. This transformation witnessed the initial assimilation of Aristotle's natural philosophy and metaphysics, accompanied by the fundamental commentaries by al-Farabi, Avicenna, and Averroes, and the first Parisian condemnations of Aristotelian theories. This crucial period spans roughly from 1200 to 1230, encompassing a long and rather obscure phase of Grosseteste's life. His university career and activity as a commentator of Aristotle's works were shaped during this period. Grosseteste wrote a full commentary on the *Posterior Analytics* and a series of notes and comments on the *Physics*, which remained unfinished and was likely assembled posthumously. These writings by Grosseteste appear to be the first Latin commentaries produced in the Latin Middle Ages on these Aristotelian works. Grosseteste also wrote a series of brief treatises (*opuscula*) on various scientific and philosophical topics. There, the influence of Aristotle and the Arabic Aristotelian philosophers becomes gradually stronger, although references to specific names remain infrequent.

Around 1230, Grosseteste started to teach theology at the Franciscan convent of Oxford and, from that date onwards, he seems to have engaged with the production of theological works and the study of Greek. In 1235, he was elected bishop of Lincoln. It was in this context that his translation work began, facilitated by the availability of funds and the help of his pupils and collaborators, mainly Franciscans and Dominicans. Grosseteste's translations of Aristotelian texts include two *inedita*: the first complete version of the *Nicomachean Ethics* – featuring segments of comments by Eustratius, Michael of Ephesus, Aspasius and by an anonymous commentator – and the first Greco-Latin partial version of the *De caelo*, which encompasses the second and the beginning of the third book and includes the translation of Simplicius' commentary on the same section of the work. To these two genuine translations, we may add the Latin versions of some pseudo-Aristotelian *opuscula*, such as *De virtutibus*, *De passionibus* and *De lineis insecabilibus*, whose attribution to Grosseteste remains to be confirmed. James McEvoy suggested that Grosseteste's motivation to learn Greek and venturing into translation, on the threshold of his fifties, might have been less about Aristotle and more about emulating the method of the Fathers in interpreting the Scriptures by directly accessing the Greek Bible and sources of Christianity. Regardless of his intention, it is worth noting that Grosseteste's last scholarly undertaking was – to the best of my knowledge – the incomplete translation of Aristotle's *De caelo*.

Grosseteste, therefore, read, commented on, and translated the works by Aristotle, especially those devoted to the scientific method, the natural world, and the foundations

of human wisdom. Thus, he played a significant role in the rediscovery of Aristotle and in his assimilation and dissemination in the Latin West. As a pioneer in the exploration of this vast and complex system of knowledge, he realised that the most controversial issues of Aristotle's thought required an understanding of Greek and the guidance of Greek interpreters. To the latter, he resorted as far as he could as an aid in his commentaries and translations, which let us envisage the 'hidden' presence of Proclus, Eustratius, Themistius, Simplicius, Philoponus, and other still unidentified Greek *expositores*. In his quest for understanding Aristotle's philosophy, Grosseteste also drew upon the insights of Arabic commentators, particularly Avicenna, but also al-Farabi and Ibn Gabirol (Avicebron). Neoplatonic influences, Greek, Arab and Christian, undeniably influenced Grosseteste's approach to Aristotle. However, he was also one of the first medieval scholars to refer to Averroes, whose understanding of controversial issues, such as the celestial movers and the eternity of the world, is used by Grosseteste as maintaining a reliable interpretation of Aristotle's true positions. Grosseteste, indeed, openly declared that the principles of Aristotle's thought could not and should not be unduly mixed with Christian principles. In the *Hexaemeron*, which is his major exegetical work, he vehemently criticised those who, misled by flawed translations, try to 'Christianise' Aristotle, most notably in the matter of the eternity of the world. According to Grosseteste, Aristotle's stance on this issue was unequivocal. This invective could be considered a leading example of a correct philological attitude toward pre-Christian philosophical thought, were it not that the features that characterise Grosseteste's Aristotelianism are in fact multiple and to some extent even conflicting. The importance of reading Aristotle's texts and interpreters directly in the Greek language seems to clash, therefore, with an exegesis strongly based on the Neoplatonic and Augustinian traditions. The pioneering interest in Aristotle's scientific method based on the science of demonstration is coupled with the value of experience and personal observation and an understanding of the natural world firmly rooted in the Christian worldview.

Modern scholars who questioned Aristotle's role in Grosseteste's thought have focused on each of these aspects. On the one hand, the scholarly interest in Grosseteste's Aristotelianism began, chronologically, with Ludwig Baur's *Die Philosophie des Robert Grosseteste* (1917), which emphasised the Neoplatonic character of Grosseteste's Aristotelianism. On the other hand, Ezio Franceschini delved systematically into Grosseteste's translations of Aristotle in his extensive work *Roberto Grossatesta vescovo di Lincoln, e le sue traduzioni latine* (1933), which provided a fundamental basis for the Aristoteles Latinus project, in which Franceschini actively collaborated. A few decades later, Thomson's comprehensive catalogue of Grosseteste's works allowed for a more methodical examination of Aristotle's influence on his writings, while the celebration of the seventh centenary of his death, in 1953, produced two volumes which marked a turning point in modern studies on the subject. Alistair Crombie's book *Robert Grosseteste and the Origins of Experimental Science* radically reshaped the view of Grosseteste's interpretation of the Aristotelian notion of science. For him, the bishop of Lincoln developed not only the notion of scientific knowledge but also a peculiar experimental approach to the study of nature,

positioning him as a forerunner of modern scientific methodology. Similarly, the celebratory volume *Robert Grosseteste Scholar and Bishop* edited by Daniel Callus focused on Grosseteste as a commentator and translator of Aristotle, picturing him as the key figure of English scholasticism.

In the second half of the twentieth century, investigations into Grosseteste's Aristotelianism gained momentum thanks to Richard Dales' edition of the *Commentary on the Physics* (1964), later followed by the publication of the *Commentary on the Posterior Analytics*, edited by Pietro B. Rossi (1986). Precisely in the 1980s, the presence of Aristotle was approached within the framework of two new and partly antithetical overall views on Grosseteste's philosophy. On the one hand, McEvoy's book *The Philosophy of Robert Grosseteste* (1983) pointed to a systematic reconstruction of Grosseteste's philosophy under the banner of Neoplatonism, the so-called 'metaphysics of light', and a reassessment of Grosseteste's theological thought. According to McEvoy, Aristotle played a diminished role in Grosseteste's reflections, with Neoplatonic commentators taking on prominent positions. McEvoy also highlighted the pervasive influence of Augustine and Augustinianism, positing that they constituted the primary and ubiquitous source of Grosseteste's view of the natural world. In contrast, Southern's groundbreaking book *Robert Grosseteste: The Growth of an English Mind in Medieval Europe* (1986) shaped a peculiar and 'anti-continental' view of Grosseteste's life and thought, focusing on the originality of his approach to Aristotle, diverging from the prevailing manner of the Parisian scholastic philosophers and marked by an inclination for experimentation and direct observation of nature.

More recent contributions are due to scholars who have also generously contributed to this special issue of *Revista Española de Filosofía Medieval*. I leave to the reader the pleasure of following the latest developments on this topic through the eight papers presented here. While each of them presents valuable insights, they all underscore the need for further research.

The first three articles deal with Grosseteste's pioneering approach to Aristotle's logic and scientific method in his *Commentary on Posterior Analytics*. My own study focuses on Grosseteste's working notes, and more specifically on the case study of Philoponus, one of the anonymous Greek *expositores* mentioned by Grosseteste. It outlines the debated medieval circulation of excerpts from Philoponus with the goal of verifying the presence of the Alexandrian *expositor* in Grosseteste's commentary. To this purpose, I adopt the Latin version of Philoponus' commentary edited by Philippus Theodosius (Venice 1542), which adds *marginalia* referring to Grosseteste. Next, the study by Pietro B. Rossi investigates the meaning and role of the numbered *conclusiones* that fix the doctrinal developments in Grosseteste's commentary. Rossi convincingly shows that, contrary to previous interpretations, these *conclusiones* are similar to the concluding statements found in the demonstrations of theorems in Euclid's *Elements*. Accordingly, the geometrical method is for Grosseteste a strategical tool for understanding the science of demonstration, namely logic, and the Aristotelian scientific methodology at a time. Third of the group, the paper by Michele Trizio contributes to the wide debate on one of the most crucial passages of

Grosseteste's commentary, namely the description of how the human mind forms universal concepts after the Fall. Trizio argues that Grosseteste likely reformulated an identical text from Eustratius' *Commentary on Nicomachean Ethics*, book 6, which Grosseteste translated only at a later stage. However, Trizio advances the hypothesis that Grosseteste had access to it much earlier than it is generally believed.

The second group of three studies focuses on Grosseteste's Aristotelian natural philosophy. Clelia Crialesi deals with the topic of 'spatial differences' in Grosseteste's *De differentiis localibus*, a hitherto understudied *opusculum* which offers a precious opportunity to dig into the debated issue of the Latin versions of Aristotle's *On the Heavens*, which Grosseteste had access to. Crialesi focuses mainly on Averroes' *Long Commentary on the Physics* as the real, though undeclared, source Grosseteste relied on to shape his peculiar conception of spatial differences according to the mathematical and the physical point of view. In turn, the paper by Sokratis-Athanasios Kiosoglou discusses another understudied topic, namely the reception of Proclus' *Elements of Physics* in Grosseteste's *Commentary* on Aristotle's *Physics* book 6. His analysis highlights, again, the fundamental role of Aristotle's *conclusiones*, recalled by Grosseteste to evaluate Proclus' partially unfaithful references to them. Kiosoglou's analysis reveals that Grosseteste "is a careful and moderately critical reader of Proclus". Finally, the study by Neil Lewis delves into Grosseteste's conception of corporeity and, particularly, his distinction between body as substance (*substantia*) and body as quantity (*quantum*). Lewis underlines that Grosseteste's understanding of *corpus-substantia* is framed within the 'metaphysics of light' first developed in the *De luce* and then partially reworked in the *Commentary on Physics* and other works. This notion of corporeity works as a sort of generating power for three dimensions resulting in *corpus-quantum*. Accordingly, Grosseteste's conception of corporeity, though based on Avicenna, is highly original and diverges from the latter's conception of corporeity as proposed by medieval and modern commentators.

The last two papers included in this issue have been authored by Pieter Beullens and Lisa Devriese, respectively, and expand on Grosseteste's role as a translator of Aristotle. Beullens examines Grosseteste's translation of the *Nicomachean Ethics*. He examines the medieval Latin translations of Aristotle's work with a view to answering the question of whether Grosseteste had access to a complete copy of the translation by Burgundio of Pisa, or only to the fragmentary version presently known to us. Beullens considers these versions as "fluid texts" that contain variants that change along the transmission, affecting the translator's original intention, and at the same time exert mutual influence, so as to generate new links within the same floating transmission. Devriese also introduces her study with an overview, which perfectly works as the conclusion of this special issue. She reconstructs the history of Grosseteste's Aristotelian translations within the context of the gigantic project *Aristoteles Latinus*, also shaping the *status quaestionis* of current scholarship and *in fieri* works. Grosseteste's version of the *Nicomachean Ethics* was edited by René-Antoine Gauthier in AL 26.1.3, while the fragmentary translation of the *De caelo*, with that of Simplicius' corresponding commentary, is present in the database version alone (ALD VIII.1), according to the provisional edition by Fernand Bossier. The second part of

her paper focuses on Grosseteste's translation method by drawing attention to Grosseteste's rendering of smaller Greek words, such as particles and conjunctions, into Latin, in order to disclose what can distinguish his genuine translations from those by other medieval translators. This method shows that Grosseteste did not translate the fragment *Quadratura per lunulas* – from Simplicius' *Commentary on the Physics* – that he himself copied among his *cedulae*.

Let me conclude this brief introduction to this special issue devoted to Grosseteste and Aristotelianism by recalling that, up to now, no comprehensive study has been exclusively devoted to such a relevant topic both for understanding the intellectual figure of Grosseteste and for retracing the history of a crucial phase of the reception of Aristotle in the Middle Ages. Hence, I am sincerely grateful to the editors of *Revista Española de Filosofía Medieval*, Alexander Fidora and Nicola Polloni, the executive editor, Maria Cabré Duran, and the editorial board of the journal for having keenly accepted the proposal of a special issue dedicated to Robert Grosseteste and facilitated its realisation. I wish to thank in particular Nicola Polloni for his constant and fundamental help in all the phases of the preparation of the volume. Last but not least, my greatest gratitude goes to all the brilliant scholars who have participated in this issue for their enthusiastic and generous response, and their excellent contributions.

Cecilia Panti, University of Rome Tor Vergata

ARTÍCULOS / ARTICLES

IN THE MARGINS OF THE *POSTERIOR ANALYTICS*: ROBERT GROSSETESTE AND THE "LATIN PHILOPONUS"

EN LOS MÁRGENES DE LOS *ANALÍTICOS POSTERIORES*: ROBERTO GROSSETESTE Y EL "FILÓPONO LATINO"

Cecilia Panti

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Abstract

Robert Grosseteste's utilization of Greek and Arabic Aristotelian commentators represents an intriguing aspect of his approach to Aristotle. This study centres on Grosseteste's quotations from John Philoponus' *Commentary on Posterior Analytics*, which Grosseteste employed to complement his own commentary on this Aristotelian work. After revisiting the debated medieval circulation of segments of Philoponus in connection with James of Venice's Aristotelian translations, the article delves into the Renaissance Latin versions of Philoponus' commentary. This includes the previously overlooked translation by Maurizio Zamberti (1516, unpublished) and the initial Venetian editions (1534, 1539, 1542). The Venetian prints were derived from an anonymous and unfamiliar Latin version that followed James of Venice's translation and terminology. This distinctive feature, along with the marginalia referencing *Lincolniensis* (i.e., Grosseteste) in Philippus Theodosius' revised text (Venice 1542), allows for a comparison of passages from Grosseteste and Philoponus to validate their correspondences. The final segment of this study investigates Grosseteste's sparse and elusive references to Aristotle's *On the Soul* in light of the possibility that they may stem from fragments of Philoponus' commentary accompanying James of Venice's translation of that Aristotelian work.

Keywords

Robert Grosseteste; John Philoponus; Aristotle; *Posterior Analytics*; James of Venice; Philippus Theodosius

Resumen

El uso que hace Roberto Grosseteste de comentaristas aristotélicos griegos y árabes es un aspecto intrigante de su aproximación a Aristóteles. El presente estudio se centra en las referencias de Grosseteste al *Comentario a los Analíticos posteriores* de Juan Filópono, que Grosseteste utilizó para complementar su propio comentario a la obra aristotélica. Después de examinar la controvertida circulación medieval de partes del texto de Filópono junto con las traducciones aristotélicas de Jacobo de Venecia, el artículo profundiza en las versiones latinas renacentistas del comentario de Filópono. Estás incluyen la traducción hasta ahora inadvertida de Maurizio Zamberti (1516, sin imprimir) y las primeras ediciones venecianas (1534, 1539, 1542), basadas en una versión latina, anónima y desconocida, que siguió la traducción y la terminología de Jacobo de Venecia. Esta característica, junto con las notas marginales que se refieren al *Lincolniensis* (es decir, a Grosseteste) en la versión revisada de Philippus Theodosius (Venecia 1542), nos permite comparar pasajes de Grosseteste y de Filópono para verificar sus correspondencias. En la última parte del estudio se examinan las pocas y esquivas referencias de Grosseteste a *Sobre el alma* de Aristóteles a la luz de la posibilidad de que puedan derivar de fragmentos del comentario de Filópono que acompañó la traducción de Jacobo de Venecia de dicha obra aristótelica.

Palabras clave

Roberto Grosseteste; Juan Filópono; Aristóteles; *Analíticos posteriores*; Jacobo de Venecia; Philippus Theodosius

At the beginning of the thirteenth century, the corpus of Aristotle's works on natural philosophy still needed to be properly examined and understood by Latin philosophers. Among them was Robert Grosseteste, who helped himself in this demanding task by attentively inspecting not only the Latin translations of Aristotle, but also the glosses and notes accompanying these works in the manuscripts he could access. Grosseteste copied some of these materials in his reading notes and in his own commentaries and, once he had learned Greek, accompanied his translations with supplementary Greek materials he also translated.[1] This practice is certainly not original and exclusive of Grosseteste:

[1] The bibliography on Grosseteste's Aristotelian commentaries and translations is large. Here, I limit the references to the pioneering study by Ezio Franceschini, "Roberto Grossatesta, vescovo di Lincoln, e le sue traduzioni latine", *Atti del Reale Istituto Veneto di Lettere, Scienze e Arti*, 93 (1933), 1-138; published also in Ezio Franceschini, *Scritti di filologia latina medievale*, Medioevo e Umanesimo (Padova: Antenore, 1976), 409-544. For the list of Grosseteste's translations, commentaries and works and their manuscript transmission, see S. Harrison Thomson, *The Writings of Robert Grosseteste, Bishop of Lincoln (1235-1253)* (Cambridge: Cambridge University Press, 1940), with the caveat that, to date, this catalogue is yet to be updated and revised. Other references will be given in the course of this study. On Aristotle in the Latinate Middle Ages and

interpreters and exegetes always recurred to previous interpretations for understanding, commenting and lecturing on thinkers from the past. Nonetheless, Grosseteste seems to be the first among Latin medieval scholars to use some of these sources in the works he wrote during the first decades of the thirteenth century. The most striking cases include Averroes and John Philoponus of Alexandria. The case of Averroes has received attention in past years with regard to Grosseteste's *Commentary on Physics* and, more recently, to his treatise on heavenly movements (*De motu supercelestium*), which turns out to be a collection of passages from the *Great Commentary on Metaphysics*, book 12.[2] Instead, the case of Philoponus has been given attention after the discovery by Pietro B. Rossi of a long quote and a few other parallel passages derived from the Alexandrian's *Commentary on the Posterior Analytics* in Grosseteste's commentary on the same work.[3] The present paper points attention, again, to Philoponus.

1. Robert Grosseteste's "Apology"

The majority of studies on the Greek sources of Grosseteste concern his activity as a translator, which occupied the last twenty years of his life, spent as bishop of Lincoln.

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the translating movement, see Joseph Brams, *La riscoperta di Aristotele in Occidente* (Milano: Jaca Book, 2003) ; *The Cambridge History of Later Medieval Philosophy. From the Rediscovery of Aristotle to the Disintegration of Scholasticism (1100-1600)*, edited by N. Kretzmann, A. Kenny, and J. Pinborg (Cambridge: Cambridge University Press, 2008), Part II. Aristotle in the Middle Ages, 45-98.

[2] For the *Commentary on Physics* see, also for previous bibliography, Neil Lewis, "Robert Grosseteste's Notes on the *Physics*", in *Editing Robert Grosseteste. Papers given at the Thirty-sixth Annual Conference on Editorial Problems, University of Toronto, 3-4 November 2000,* edited by E. A. Mackie and J. Goering (Toronto: University of Toronto Press, 2000), 103-134. For Grosseteste's *opuscula* and, in particular, his *De motu supercelestium*, which is made up of quotes from Averroes' *Great Commentary on Methaphysics*, book 12, see Cecilia Panti, *Moti, virtù e motori celesti nella cosmologia di Roberto Grossatesta. Studio ed edizione dei trattati* De sphera, De cometis, De motu supercelestium (Florence: Sismel-Edizioni del Galluzzo, 2001), especially the Appendix: *Averroè in Occidente. Il caso di Roberto Grossatesta*, at 347-383. On the chronology of Grosseteste's short writings, see Cecilia Panti, "Robert Grosseteste and Adam of Exeter's Physics of Light: Remarks on the Transmission, Authenticity, and Chronology of Grosseteste's Scientific *Opuscula*", in *Robert Grosseteste and His Intellectual Milieu*, edited by J. Flood, J. R. Ginther, and J. W. Goering (Toronto: Pontifical Institute of Mediaeval Studies 2013), 165-190.

[3] Pietro B. Rossi, "Tracce della versione latina di un commento greco ai *Secondi Analitici* nel *Commentarius in Posteriorum Analyticorum libros* di Roberto Grossatesta", *Rivista di Filosofia Neo-Scolastica* 70 (1978): 433-439; Pietro B. Rossi, "Introduzione" in Robertus Grosseteste, *Commentarius in Posteriorum Analyticorum Libros*, edited by P. Rossi (Florence: Leo S. Olschki, 1981), 20-21, 72. Further study on these quotes is due to Sten Ebbesen, in the context of his wide research on the entrance of Philoponus in the Latinate world. See in particular Sten Ebbesen, "Fragments of 'Alexander's' Commentaries on *Analytica Posteriora* and *Sophistici Elenchi*", in *Greek-Latin Philosophical Interaction: Collected Essays*, vol. 2, edited by S. Ebbesen (Aldershot: Ashgate, 2009), 187-201 [revised and augmented version of "New Fragments of 'Alexander's' Commentaries on *Analytica Posteriora* and *Sophistici Elenchi*", *CIMAGL* 60 (1990): 113-120]. Other bibliographic references are given in the course of the present study.

In line with contemporary practice, Grosseteste developed a strictly word-to-word translation method.[4] Still, he knew his translations would have been unintelligible if they were not accompanied by and clarified through reliable explicatory materials. In particular, he held that the most problematic passages should be explained in the light of interpretations by commentators who knew the original language, as he openly declares in a passage – or *apologia*, as James McEvoy calls it – from the *prolegomena* to his translation of the Pseudo-Dionysian corpus:

> It must also be recognised that in a Latin translation, and especially in one that is made word for word ... there must be occasions on which a lot of expressions will occur which are said ambiguously and with many meanings ... It follows that someone who comments on this book without having the Greek text before him or who does not know Greek, when he comes across such ambiguous meanings cannot but be in very many cases ignorant of the mind of the author in those expressions. ... For this reason, I say that even if people who do not know Greek may upon occasions expand upon ambiguous meanings ... and bring out true interpretations, or more subtle ones than [were proposed by] those who do know Greek ... when it comes to ambiguities, they [who know Greek] are better at guessing and conjecturing. [5]

This methodological manifesto fits well also with Grosseteste's approach to the Aristotelian writings. The necessity to scrutinise Aristotle's thought by means of reliable interpretations, which – as Grosseteste openly declares – are mainly those that originated in the Greek language, clarifies why he supplemented his version of Aristotle's *Nicomachean Ethics* with passages taken "from Greek commentaries interpolated with his personal notes" (*graecorum commentis proprias annectens notulas*)[6] and why his partial translation of *De caelo* is, in turn, accompanied by Simplicius'

[4] H. Paul F. Mercken, "Robert Grosseteste's Method of Translating. A Medieval World Processing Programme?", in *Tradition et Traduction: Les textes philosophiques et scientifiques Grecs au Moyen Age Latin: Hommage a Fernand Bossier*, edited by R. Beyers, J. Brams, D. Sacré, and K. Verrycken (Leuven: Leuven University Press, 1999), 323-370; see also Anna C. Dionisotti, "On the Greek Studies of Robert Grosseteste", in *The Uses of Greek and Latin. Historical Essays*, edited by A. C. Dionisotti, A. Grafton and J. Kraye (London: The Warburg Institute, 1988), 19-39. See Appendix II (at 36-39) for the 'Grosseteste Greek Library'.

[5] See James McEvoy, "Thomas Gallus Vercellensis and Robertus Grossatesta Lincolniensis. How to Make the Pseudo-Dyonisius Intelligible to the Latins", in *Robert Grosseteste. His Thought and Its Impact*, edited by J. P. Cunningham (Toronto: Pontifical Institute of Mediaeval Studies, 2012), 3-43, on 19-21. The Translation is at 21.

[6] See H. Paul F. Mercken, *The Greek Commentaries on the Nicomachean Ethics of Aristotle in the Latin Translation of Robert Grosseteste, Bishop of Lincoln (†1253)*, vol. 1, Corpus Latinum Commentariorum in Aristotelem Graecorum VI,1 (Leiden: Brill, 1973), 39*. The quotation is from Herman the German (*Hermannus Alemannus*) and is translated into English by Pieter Beullens, "Robert Grosseteste and the Fluid History of the Latin *Nicomachean Ethics*", *Revista Española de Filosofía Medieval* 30/1 (2023): 177-198**.** Beullens presents a detailed analysis of Grosseteste's version of the *Nicomachean Ethics* with special attention to the elements that determined changes, variants and interferences in textual transmission.

corresponding commentary.[7] However, Grosseteste's "apology" also justifies the presence of interpolations from Greek sources in his commentaries on the *Physics* and the *Posterior Analytics*, which are the first commentaries on these Aristotelian works in the Middle Ages. Both commentaries are based on James of Venice's translations and were written in the 1220s, namely before Grosseteste learned Greek. In particular, the *Commentary on the Physics*, book 6, transmits passages from Proclus' *Elementatio Physica*, which Grosseteste likely accessed thanks to the anonymous twelfth-century translation originated in Sicily, while Grosseteste's *Commentary on the Posterior Analytics* (hereafter: *On PAn*) quotes from Themistius' paraphrasis, which circulated in the Latin version by Gerard of Cremona from an Arabic translation.[8]

But Grosseteste's *On PAn* also presents interpolations from Philoponus' commentary on the same Aristotelian work, which according to modern scholarship was not yet translated into Latin at Grosseteste's time. Pietro B. Rossi first discovered and examined these *loci*, which include a verbatim quote and some other similar passages ("un luogo tradotto alla lettera ed alcune coincidenze fra i due commenti").[9] He suggests that Grosseteste might well have started to learn Greek while he was attending to his commentary, but excludes he had already reached a capacity for autonomous comprehension and ability to translate. Consequently, Rossi suggests that Grosseteste copied the verbatim quote and adjusted the other occurrences directly from a Latin source transmitting fragments or glosses from Philoponus' commentary.[10] The possibility that James of Venice might have been the translator of these and other passages taken from Philoponus – not only from his commentary on the *Posterior Analytics*, but also from those on the *Prior Analytics* and *Elenchi sophistici* – has been discussed at length by Sten Ebbesen and, more recently, other scholars, as we see below.

[7] See, also for previous bibliography, Cecilia Panti, "Il *De caelo* nel medioevo: le citazioni e la translatio di Roberto Grossatesta", *Fogli di filosofia* 12/2 (2019): 67-107; Pieter Beullens, "Robert Grosseteste's Translation of Simplicius' Commentary on Aristotle's *De caelo*. Tracking Down a Second Manuscript and the Greek Model", *Mediterranea*, 8 (2023): 565-59.

[8] James of Venice's translation is edited in: Aristoteles, *Analytica Posteriora*, in Aristoteles Latinus, IV 1-4, edited by L. Minio-Paluello and B. Dod (Leiden: Brill 1968). For Proclus see Pietro B. Rossi, "*Intentio Aristotelis in hoc libro*. Struttura e articolazione degli *Analytica Posteriora* secondo Roberto Grossatesta", and Sokratis-Athanasios Kiosoglou, "Divergent Reconstructions of Aristotle's Train of Thought: Robert Grosseteste on Proclus' *Elements of Physics*", *Revista Española de Filosofía Medieval* 30/1 (2023): 127-148. See also Lewis, "Robert Grosseteste's Notes on the *Physics*", 118-119. For Themistius' *Paraphrasis* see J. Reginald O'Donnell, "Themistius' Paraphrasis of the *Posterior Analytics* in Gerard of Cremona's Translation", *Mediaeval Studies* 20 (1958): 239-315. It is worth noticing that fragments from this paraphrasis are transmitted as glosses in a thirteenth-century copy of the *Posterior Analytics* in ms Assisi, Biblioteca del Sacro Convento, fondo antico 658, fols. 256v-257r. See *Catalogus Translationum et Commentariorum. Mediaeval and Renaissance Latin Translations and Commentaries*, vol. 8, edited by V. Brown (Washington D.C.: The Catholic University of America Press, 2003), 73.

[9] Rossi, "Tracce della versione latina", 435. See the bibliography at note 3 above. These passages are examined in detail in part 4 of the present study.

[10] See Rossi, "Introduzione", 20-21.

Thus, if Grosseteste came upon scholia of Greek provenance translated into Latin, he could not but be attracted by the potential "good interpretations" of difficult passages they might offer, as his "apology" asserts. In light of these considerations, it is not far-fetched to think that these materials were collected by him among his personal notes and used, when necessary, in his commentaries.

Grosseteste's *modus operandi* by means of reading notes and glosses is at the basis of much of his literary and philosophical production.[11] The Franciscan master William of Alnwick offers first-hand evidence concerning his personal inspection of Grosseteste's notes preserved in slips of parchment and in the margins of the books he left at the library of the Oxford convent. William mentions specifically that these included a copy of the *Physics* with "numerous glosses in Grosseteste's hand" and several slips of parchment (*multas cedulas*) bearing "not entirely authentic" writings.[12] We know that one of these *cedulae* actually contained a "not entirely authentic" writing, namely a demonstration of the squaring of the circle translated from Simplicius' *Commentary on Physics*, I.2. The existence of this *cedula* is testified by the colophon of a late-thirteenth-century direct copy: "I found this demonstration at Oxford <library>, in a certain slip of parchment of the Bishop of Lincoln" (*Hanc demonstrationem inveni Oxonie in quadam cedula domini Lincolniensis*), but it is unclear whether Grosseteste himself translated it from the Greek or copied a previous translation, given that Simplicius' demonstration circulated independently from the entire commentary.[13] Perhaps, Grosseteste's interest in this mathematical problem emerged from his reading about Bryson's proof in *Posterior Analytics* I.9 (75b37-76a3).[14] Now, similarly to what happens with Simplicius'

[11] His *Dicta*, for instance, is a good example in the field of theology of how *cedule*-materials were authorially gathered by Grosseteste in order to have a ready-to-hand textual collection for sermons or teaching. See Robert Grosseteste, *Dicta* (e cod. Oxoniense, Bodley 798), edited by J. W. Goering and E. J. Westermann (https://ordered-universe.com/wp-content/uploads/2018/10/dicta-1-147-bodley.pdf): "In hoc libello sunt 147 capitula, quorum quedam sunt brevia verba dum in scolis morabar scripsi breviter et incomposito sermone ad memoriam; nec sunt de una materia, nec ad invicem continuata, quorum titulus posui ut facilius quod vellet lector possit inveniri. Spondentque plerumque plus aliquo tituli quam solvant capitula lectori. Quedam vero sunt sermones quos eodem tempore ad clerum vel ad populum feci."

[12] See Richard C. Dales, "Introduction", in Robert Grosseteste, *Commentarius in VIII libros Physicorum Aristotelis*, edited by R. C. Dales (Boulder: Colorado: University of Colorado Press, 1963), XI; reported also in Rossi, "Introduzione", 16. This passage is from ms Città del Vaticano, Biblioteca Apostolica Vaticana, Pal. lat. 1805, fol. 10v.

[13] For Simplicius' and Grosseteste's demonstrations see *Aristoteles Latinus. Codices pars posterior*, edited by G. Lacombe (Cambridge: Cambridge University Press, 1955), 789, 798-799. There is another Latin version of Simplicius' demonstration (incipit: *quadratura circuli per lunulas hoc modo est*) as evidenced by Thomson, *A Catalogue*, 113. See also Marshall Clagett, *Archimedes in the Middle Ages.* vol. 1 (Madison: The University of Wisconsin Press, 1964), at 40 and 597, n. 17. Regarding the possibility that Grosseteste was not the translator of the fragment see Lisa Devriese, "The history of Robert Grosseteste's translations within the context of *Aristoteles Latinus*", *Revista Española de Filosofía Medieval* 30/1 (2023): 199-222.

[14] I will briefly mention Bryson's proof again in section 2 of this study.

demonstration, Grosseteste's *cedule* might have also transmitted fragments from Philoponus, which circulated in Latin in scattered and fragmentary extracts, either anonymously or under the name of "Alexander", as we see in the following paragraph.

2. The "Latin Philoponus" and James of Venice's Translations of Aristotle

John Philoponus of Alexandria (d. 565ca), who is also known by the epithet "the Grammarian" (*grammatikos*), was a Christian Monophysite, Neoplatonic philosopher and scientist who attended the influential school of Ammonius. Philoponus widely contributed to the diffusion of Ammonius' lectures on the *Organon*, but also on the *Physics*, *De generatione et corruptione*, *De anima*, and possibly *Meteorologica*, which he elaborated in huge commentaries that are partly genuine and partly a gathering of his master's courses. A noteworthy characteristic of these commentaries is that they incorporate numerous citations of different authorities, including poets and mathematicians, such as Proclus, Euclid, Themistius, "the Pythagoreans" and several others. Moreover, they introduce a critical view of the most controversial Aristotelian doctrines, among which are the eternity of the world, the quintessence and the projectile motion.[15] Philoponus' works circulated in the ninth-century intellectual circle of Baghdad, where his ideas against the eternity of the world influenced Al-Kindi's attack on eternalism.[16] At the beginning of the twelfth century, they played a pivotal role in the context of the Byzantine revival of Aristotle promoted in Constantinople at the court of Princess Ann Comnena by Michael of Ephesus, who had the habit of gathering commentaries to facilitate and complement the reading of the Aristotelian works. It was in this context that, at about 1120-1130, James of Venice likely accessed the Greek exemplars of Aristotle's works used for his Latin translations.[17] With them, therefore, he had also access to the Greek commentaries, including those by

[15] For a comprehensive study on Philoponus, especially on his critical attitude towards Aristotle's thought, see *Philoponus and the Rejection of Aristotelian Science, Second edition*, edited by R. Sorabji (London: Institute of Classical Studies – School of Advanced Studies – University of London, 2010), in particular the two large sections by Richard Sorabji, "New Findings on Philoponus Part 2 – Recent Studies", 11-40, and "Chapter I, John Philoponus", 41-81.

[16] Sorabji, "New Findings", 13-14.

[17] Sten Ebbesen, "Greek-Latin Philosophical Interaction", in Ebbesen, *Greek-Latin Philosophical Interaction*, 7-19. This study was originally published in the volume *Byzantine Philosophy and its Ancient Sources*, edited by K. Ierodiakonou (Oxford: Clarendon Press, 2002, 15-30), 13-15. On James of Venice's biography see Lorenzo Minio Paluello, "Iacobus Veneticus Graecus: Canonist and Translator of Aristotle", *Traditio* 8 (1952): 265-304, also published in Lorenzo Minio Paluello, *Opuscula. The Latin Aristotle* (Amsterdam: Hakkert, 1972); Lorenzo Minio Paluello, "Giacomo Veneto e l'aristotelismo latino", in *Venezia e l'Oriente fra tardo Medioevo e Rinascimento*, edited by A. Pertusi (Florence: Sansoni, 1966), 53-74. See also Pietro B. Rossi, "Fili dell'*Aristoteles latinus*", in *Petrarca e il mondo greco. Atti del convegno internazionale di studi, Reggio Calabria 26-30 novembre 2001*, edited by M. Feo *et alii* (Le Lettere: Firenze, 2007) [= *Quaderni petrarcheschi*, 12-13 (2002-03)]: 75-98, at 88-90.

Philoponus, which were sources "that James of Venice could find in Michael's study".[18] Indeed, the translator could find not only manuscripts with these commentaries, but also, as Ebbesen underlines, a kind of manuscript where Aristotelian texts and their exegesis were already combined:

> In Constantinople whole commentaries were often written in the margins; in the West this was rarer, but all the well-known elements may be found: glosses on single words and phrases, indications of argumentational structure, even *quaestiones*, but then miniaturized, as it were.[19]

The particular layout of these manuscripts would have provided not only a template, but also a valuable tool to better understand Aristotle's works in view of their translation into Latin. This seems to be the case as regards the *Posterior Analytics*, for which "apart from Themistius' paraphrase, the only ancient commentary available in Byzantium was Philoponus' on book 1".[20] It is important to note that the authorship of book 2 has been rejected since Wallies, the modern editor of Philoponus' commentary, had argued against it.[21] Thus, it seems that Philoponus started his circulation among Westerners through James of Venice's translations of Aristotle, which bore fragments of these commentaries likely in imitation of the layout of the Greek exemplars he used. Evidence of this early "marginal" circulation of Philoponus had already been discovered by Lorenzo Minio Paluello, in his studies on the Latin Aristotle. Minio Paluello showed that several Latin glosses with sections of the Alexandrian commentary on *Prior Analytics* and also on *Elenchi sophistici* sometimes provided with attribution to "Alexander" – though the identification with Alexander of Aphrodisias is untenable – frame a group of manuscripts from the late twelfth century.[22] Significantly for the present study, two fragments of a *Commentary on*

[18] Sten Ebbesen, "Philoponus, 'Alexander' and the Origins of Medieval Logic", in Ebbesen, *Greek-Latin Philosophical Interaction*, 157-170: 162; the text was originally published in *Aristotle Transformed*, edited by R. Sorabji (London: Duckworth, 1990), 445-461. See also David Bloch, "James of Venice and the Posterior Analytics", *Cahiers de l'Institut du Moyen Âge Grec et Latin* 78 (2008): 37-50, who discusses at length and rejects Ebbesen's view that James might have composed commentaries of his own. Bloch argues for considering these commentaries to be sections of Philoponus' *On PAn* translated by James.

[19] See Sten Ebbesen, "Late Ancient Ancestors of Medieval Philosophical Commentaries", in Ebbesen, *Greek-Latin Philosophical Interaction*, 97-106, at 103-104.

[20] Sten Ebbesen, "Review of *Interpreting Aristotle's Posterior Analytics in Late Antiquity and Beyond*, edited by F.A.J. de Haas, M. Leunissen and M. Martiin (Boston and Leiden: Brill, 2010)", *Aestimatio* 9 (2012): 355-366, at 364.

[21] John Philoponus, *In Aristotelis Analytica Posteriora Commentaria cum anonymo in librum II*, in Commentaria in Aristotelem Graeca, vol. 13.3, edited by M. Wallies (Berlin: Reimer, 1909), v–vi for the authorship of book 2.

[22] Lorenzo Minio Paluello, "Note sull'Aristotele Latino Medievale XIV – Frammenti del commento perduto d'Alessandro d'Afrodisia ai *Secondi Analitici* tradotto da Giacomo Veneto, in un codice di Goffredo di Fontaines (Parigi, B. N. Lat. 16080)", *Rivista di Filosofia Neo-Scolastica* 54/2 (1962): 131-147, at 131-137. The studies and wide discussion concerning these manuscripts, including Florence, Biblioteca Nazionale Centrale, Conv. Soppr. J.VI.34, and Oxford, Bodleian Library, Laud. Misc. 368 (*Anonymus Laudianus*) bearing scholia and marginalia with parallelisms with Philoponus

Posterior Analytics also attributed to "Alexander" but in fact taken from Philoponus' commentary are present in a manuscript bearing the logical works by Aristotle (Paris, BnF, lat. 16080) which once belonged to Godfrey of Fontaines. These scholia are part of a wide corpus of glosses framing Moerbecke's revision of James of Venice's translation of the *Posterior Analytics*, and including, by the way, also glosses from Grosseteste's commentary.[23] Around 1240, Richard of Fournival lists in his *Biblionomia* two manuscripts transmitting, respectively, *On Elenchi* and *On Posterior Analytics* by "Alexander of Aphrodisias"; but, as already mentioned, this name seems to hide, in reality, Philoponus.[24] Other recent and ongoing research corroborates the presence of Philoponus/"Alexander" in Albert the Great's commentary.[25] The reconstruction of the scholarly debate on this implicit transmission goes far beyond the limits and scope of the present study. Incidentally, however, I should recall that the same confusion in ascribing texts by Philoponus to Alexander also occurred among the Arabs, in relation to fragments taken from Philoponus' *Against Proclus*.[26]

Further evidence concerning James of Venice's role in the translation of Greek commentaries on Aristotle is also offered in the famous prologue of the Graeco-Latin version of the *Posterior Analytics* by "John" (*Iohannes*), a mid-twelfth-century translator whose version survives in a single manuscript.[27] This preface informs us that James of Venice's translation circulated among "masters in France" (*Francie magistri*) together with "Greek commentaries that James also translated" (*illam translationem et commentarios ab eodem Jacobo translatos*), though those masters "do not venture to manifest knowledge of that work (*i.e.* the *Posterior Analytics*)" because of its "being wrapped in impenetrable obscurity".[28] The expression "commentaries that James also translated" merits, in fact, attention. The adjective *translatos* clearly refers, here, to Greek commentaries that James of Venice actually *converted* from Greek into Latin.

has been summarised by Christina Thomsen Thörnquist, "Introduction" to *Anonymus Aurelianensis III in Aristotelis Analytica priora. Critical edition, introduction, notes, and indexes*, edited by C. Thomsen Thörnquist (Leiden and Boston: Brill, 2014); 1-12.

[23] See Minio Paluello, "Note sull'Aristotele Latino Medievale XIV". I have not been able to check this manuscript, and have no idea of the extent of these glosses, particularly those from Grosseteste.

[24] For these references, see the already mentioned studies by Minio Paluello, Ebbesen and Rossi.

[25] See Amos Corbini, "Alexander of Aphrodisias and the Medieval Exegetical Tradition of the *Posterior Analytics*", in *Alexander of Aphrodisias in the Middle Ages and the Renaissance*, edited by P. B. Rossi, M. Di Giovanni, and A. A. Robiglio (Turnhout: Brepols, 2021), 95-107.

[26] Ahmad Hasnawi, "Alexandre d'Aphrodise vs Jean Philopon: Notes sur quelques traités d'Alexandre 'perdus' en grec, conservés en arabe", *Arabic Sciences and Philosophy* 4 (1995): 53-109.

[27] For this version and the context of the entrance of the *Posterior Analytics* among Latins see Rossi, "Fili dell'*Aristoteles latinus*", 81-83 on the hypotheses about the identity of *Iohannes*.

[28] This famous prologue is printed in *Aristoteles Latinus. Codices. Pars prior*, edited by G. Lacombe (Rome: La libreria dello Stato, 1939), 122-123 (after Haskins' *Studies*, 229): "quamvis illam translationem et commentarios ab eodem Jacobo translatos habeant [the subject is *Francie magistri*], tamen notitiam illius libri non audent profiteri".

Indeed, had these commentaries been his own, they would not have needed to be translated. Yet, the possibility that James also *composed* commentaries emerges from two later pieces of information. The first one reports that James "commented on" (*commentatus est*) the *Topics*, *Prior* and *Posterior Analytics* and *Elenchi*; the second one attests that "in the commentary on *Posterior Analytics* James states" (*affirmat Jacobus in commento super Posteriora Analytica*) that Bryson demonstrated the squaring of the circle, though the proof is sophistic.[29] Without entering into details about these much debated passages, one wonders if these commentaries might have started to be ascribed to James of Venice simply because they accompanied his Aristotelian translations.[30] Be that the case or not, it seems clear that a wide apparatus of *marginalia* if not entire commentaries in Latin – and in particular sections from Philoponus' *Commentary on Posterior Analytics*, book 1, which is relevant for the present study – accompanied the first circulation of James' translations of the Aristotelian *Organon*.

Modern scholars agree in considering the "golden age" of Philoponus' legacy to be the Renaissance, when fresh Latin translations and first printed editions of his commentaries and treatises spread the fame of the Alexandrian philosopher among academic masters, humanists and scientists.[31] Thus, apart from a sparse – and again much debated – resurfacing of the Alexandrian commentator in the late Middle Ages in connection with the criticism of the Aristotelian doctrines of the eternity of the world and the projectile motion, there is a gap of about three hundred years between Philoponus' full Latin circulation and his obscure and "fragmented" first entrance in the Latinate world. During these centuries, segments of his commentaries circulated anonymously or under the name of "Alexander" or also as glosses or interpolated materials within copies of Aristotelian translations. Robert Grosseteste's implicit use of Philoponus – and, perhaps, of other Greek commentators he labels *expositores* in the *Commentary on Posterior Analytics* – happened in the context of this unaccounted and, regrettably, mostly unreconstructible transmission. Unfortunately, apart from Grosseteste's *Commentary*, no preceding Latin text known to me transmits the same fragments from Philoponus that I suppose Grosseteste accessed, either independently or in

[29] For the squaring of the circle and Grosseteste's interest in it see also what is said at note 15. The passage is from the *Anonymus Laudianus* – a commentary on *Elenchi sophistici* that refers to "Alexander's commentaries" (see note 24) and was first examined by Sten Ebbesen, "Jacobus Veneticus on the *Posterior Analytics* and Some Early 13th Century Oxford Masters on the *Elenchi*", *Cahiers de l'Institut du Moyen Âge Grec et Latin* 21 (1977): 1-9.

[30] See in particular Bloch, "James of Venice", for an updated examination and revision of these Philoponian references and James' involvement in their translation.

[31] See for instance A. C. Lloyd, "Athenian and Alexandrian Neoplatonism", in *The Cambridge History of Later Greek and Early Medieval Philosophy*, edited by A. H. Armstrong (Cambridge: Cambridge University Press, 2008), 302-325, at 316. See also Richard R. K. Sorabji, *Time, Creation and the Continuum* (London: Duckworth, 1983), 193-231. To give a sole example, scholars in history of science have much debated whether the fourteenth-century theory of impetus might have been derived directly from Philoponus, or developed independently from him. For bibliographic references on this issue see, for instance, Christian Wildberg, "John Philoponus", in *The Stanford Encyclopedia of Philosophy* (Winter 2021 Edition), edited by E. N. Zalta.

association with James' translation of the *Posterior Analytics*. To the best of my knowledge, the first complete Latin versions of Philoponus' commentary date back to the Renaissance, as examined hereafter.

3. The First Latin Translations of Philoponus' *Commentary on the Posterior Analytics*

In 1504, the Greek text of Philoponus' *Commentary on the Posterior Analytics* (hereafter *On PAn*) was published by Aldus Manuzio, in the context of his great project of editing the Greek Peripatetic tradition. After this date, some Latin versions of the work begin to appear, but their number, possible connections and diffusion are still to be fully examined. Their reconstruction, indeed, "does not seem to be fully clarified" as Rossi asserts in reconsidering the conclusions advanced by Charles H. Lohr and Koenraad Verrycken in the preface to the anastatic reprint of Venice 1542 (number 5 below).[32] Hereafter, I list the translations and editions in chronological order, on the basis of the first results of my study.

(1) 1516, translated by Bartolomeo Zamberti, unprinted

München, Bayerische Bibliothek, Clm 112

Title: *Joannis Alexandrini grammatici cognomine Philoponi philosophi platonici postillae et annotationes ex commentibus ammonii hermei platonici cum nonnullis propriis obiectionibus in primum Posteriorum Aristotelis, sive de demonstratione, bartholomeo zamberto veneto interprete.*

To my knowledge, no modern scholar has given notice of this complete Latin version of Philoponus' *On PAn*, so far. Hereafter, I cannot but offer a brief presentation of this interesting work, which survives in single manuscript.[33] This translation is by the Venetian Bartolomeo Zamberti (1453-1539). The online description dates it to 1501, but the colophon states, in fact, that it was completed in 1516, so that the Aldine edition might have been its Greek exemplar. The text is entirely in Zamberti's hand. He was a mathematician and translator, and editor of several works of Greek science and optics, including a complete Latin version of Euclid's work, issued in 1505. Other translations by him are preserved at the Bavarian Library.[34] The most striking feature of his version of Philoponus' commentary is

[32] Pietro B. Rossi, "New Translations of Aristotle's *Posterior Analytics* and the Cultural Milieu in Fifteenth-Century Florence", in *Raison et démonstration. Les commentaires médiévaux sur les «Seconds analytiques»*, edited by J. Biard (Turnhout: Brepols, 2015), 199-222, at 207-208.

[33] The translation is registered in the data base MIRABILE at: https://www.mirabileweb.it/calma/bartholomaeus-zambertus-n-1473-m-1556-1559/1542. I intend to present a more attentive description and study of this work on another occasion.

[34] See *Catalogus codicum manuscriptorum Bibliothecae Regiae Monacensis*, vol. 3/1 (München: Sumptibus Bibliothecae Regiae, 1894). These manuscripts are Clm 6 (Euclid's *Elements*, *On mirrors* and *Phenomena*, with commentaries by Proclus, Barlaam, and Hypsiclis); 117 (Alexander of Aphrodisias' and Philoponus' *On Prior Analytics*); 119 (Ammonius' *On Isagoge* and *De interpretatione*); 120 (dated 1524, Alexander of Aphrodisias' *On Sophistical Refutations*); 121 (dated 1521, Aphrodisias' *On Topics*; Zamberti's *On Topics*); 129-130 (Aristotle's *Methaphisics* and *Posterior Analytics*); 176 (dated 1508,

exactly its being rendered into Latin by a mathematician, who included exceptionally rich *marginalia* concerning technical aspects of the science of demonstration and numerous, polished and detailed geometrical figures and schemes. Moreover, the Aristotelian lemmas are subdivided into short textual fragments, each followed by the relevant section of Philoponus' comment. Each text plus comment is numbered and clearly evidenced by repeating the names "Aristoteles" and "Iohannes Grammaticus" at the beginning of, respectively, lemma and comment. Finally, the last forty pages of the manuscript are a huge alphabetically-ordered index of *res notabiles* referring to the entire commentary by Philoponus. Basically, this translation establishes a strict connection between Aristotle's text, Philoponus' commentary and Bartolomeo's glosses, so as to form a unit of sense that "translates" the *Posterior Analytics* and Philoponus' exegesis into a coherent geometrical exposition – at least as it seems at first sight. Again, on a basis of a very cursory examination, I have noticed that his other translations maintain very similar characteristics.

(2) 1524, translated by Eufrosino Bonini, unprinted

Charles Lohr pointed out that in 1524, likely on the basis of the Aldine version, Eufrosino Bonini, a pupil of Politian, realised the first complete Latin translation, which survives in two manuscripts. Pietro Rossi has given a very detailed description of this version.[35] Now, since Zamberti's version is eight years older than Bonini's, the latter is now the second translation to be realised. At first glance, it seems that the two translations are independent of one another.

(3) 1534, printed in Venice by Ottaviano Scotti (junior)

Title: *Ioannis Grammatici Alexandrei Cognomento Philoponi Expositiones dilucide in Primum et Secundum Posteriorum Aristotelis: iampridem latinitate donate: nunc primum vero in commune utilitatem studentium in lucem edite. Cum textu ipsius Aristotelis quam diligentissime riviso ac ad veram lectionem Grecam nuper recognito.*

Venetiis apud Octavianum Scotum MDXXXIIII

Nicomachus of Gerasa, *Arithmetics*, book 1). I hope to offer a more detailed description of this collection on another occasion. On Bartolomeo himself there is not much literature. I have fruitfully consulted the master thesis by Anna Bernante, *L'Euclide di Bartolomeo Zamberti e il Rinascimento della matematica e delle arti a Venezia tra la fine del Quattrocento e l'inizio del Cinquecento*, Laurea Magistrale 2019/2020 Università Ca Foscari Venezia (online on the repository on: dspace.unive.it).

[35] Rossi, "New Translations of Aristotle's *Posterior Analytics*. The first part of the study examines the humanistic translations of the *Posterior Analytics*, while the second section, at 205-208, deals with the editions of Philoponus' *On PAn*. See also Pietro B. Rossi, "Commenti agli *Analytica Posteriora* e gli umanisti italiani del Quattrocento. Una prima indagine", *Rivista di Filosofia Neo-Scolastica* 108 (2016): 759-774, which presents a wide analysis of the humanistic Latin translations of Aristotle's *Posterior Analytics*, and their continuities and breaks with the medieval transmission.

The dedicatory epistle is by an unidentified *Marinus Gru*. (?) *Catarensis* to bishop Giovanbattista Casali (d. 1536), ambassador of king Henry VIII in Venice. "Marinus" states that a few days after he had left Casali's house and came back to Padua, he found by chance a Latin version of Philoponus' commentary by an unknown translator ("Paucos enim post dies quum abs te discedens Patavium revertissem, Ioannis cognomento Philoponi in Aristotelis Posteriora Commentarii ab incerto auctore latinitate donati, fato quodam ac potius divinitus in manus nostras inciderunt"). Marinus asserts to have transcribed this version and, in agreement with the printer Ottaviano Scotti – i.e., the nephew of Ottaviano the elder, who had already died at that time – printed that work, which Ottaviano himself complemented with the Aristotelian lemmas.

(4) 1539, printed in Venice by Girolamo Scotti

Title: identical to Venice 1534.

Venetiis, apud Hyeronimum Scotum MDXXXIX

The dedicatory epistle is identical to Venice 1534.

Lohr and Verrycken indicated this edition as the earliest to be realised, but Rossi rightly points out that it is nothing but a new release of Venice 1534, with the dedicatory epistle "reconstructed by the printer", that is, Girolamo, another nephew of the elder Ottaviano Scotti.[36]

(5) 1542: printed in Venice by Girolamo Scotti

Title: *Commentaria Ioannis Grammatici Alexandrei cognomento Philoponi in libros posteriorum Aristotelis. Recens cum Graeco exemplari per doctissimum Philippum Theodosium collate. Ad Primarios celeberrime Academie et civitatis Maceratae*.

Venetiis, apud Hyeronimum Scotum 1542

This edition became the standard text of Philoponus' *On PAn*, and was reprinted several times. The anastatic reprint was published in 1995, with a preface by Lohr and Verrycken.[37]

The dedicatory epistle is by Philippus Theodosius to the authorities of the city of Macerata. Theodosius was a doctor of philosophy from Parma, who graduated in 1537

[36] Rossi, "New Translations of Aristotle's *Posterior Analytics*", 208. For Lohr and Verrycken see the next note.

[37] John Philoponus, *Commentaria in Libros Posteriorum Aristotelis*, übersetzt von Andreas Gratiolus und Philippus Theodosius, Neudruck der Ausgabe Venedig 1542 mit einer Einleitung von K. Verrycken und C. Lohr (Stuttgart: Frommann-Holzboog, 1995). In the preface, Lohr and Verrychen briefly examine Philoponus' Latin translations and editions in the Renaissance.

and taught at Bologna in the subsequent years.[38] In the epistle, he asserts to have revised a previous Latin translation, damaged and corrupted. After complaining about the difficult task of reworking such a text, he asserts he had to check the Greek text on several occasions in order to emend that Latin version. However, Theodosius' version is mostly identical to Venice 1534. The online copy I have inspected presents the misplacement of a folder, covering pages 49 to 55. Lohr and Verrycken suggest that Theodosius reworked Bonini's translation of book 1 of the commentary (namely, the genuine work by Philoponus) while the translation of the spurious commentary on book 2 is, in their opinion, a reworking by Andrea Grazioli, who also translated Eustratius' *Commentary on the Second Book of the Posterior Analytics*.[39] Hence, they indicate both names in the frontispiece of the anastatic reprint ("übersetzt von Andreas Gratiolus und Philippus Theodosius"), though there is no mention of Grazioli either in this or in the preceding Venice editions.

The main conclusions by Lohr and Verrycken, partly corrected by Rossi, about the connections of these early versions are, in brief, that Eufrosino Bonini's translation was actually the "anonymous Latin translation accessed by chance in Padua" mentioned in the dedicatory epistole of Venice 1539 – in reality, Venice 1534 as Rossi points out. Lohr and Verrycken refer to Venice 1542 as "the edition by Gratioli", but Rossi rightly underlines that "his name does not appear". Besides, they attribute no role to "Marinus" as regards Venice 1534/1539, though Rossi, again, underlines that "the narrative of the discovery of the translation and the decision to revise the text – in his view, too, it was Bonini's translation – is made by an unidentified 'Marinus Gru. Catarensis' in the dedicatory epistle".[40]

It seems to me that these conclusions are inaccurate. First, there is no mention of Gratioli in the three Venice editions. However, his translation of Eustratius' *Commentary on the Posterior Analytics* was also published in Venice in 1542 by Girolamo Scotti: that is, the same year and printer of Philoponus' *On PAn* (see item 5 above). Hence – I guess – this coincidence induced Lohr and Verrycken to think at Gratioli as the translator of the spurious book 2 of Philoponus' *On PAn*, as well. However, Gratioli's Eustratius is very different from the spurious commentary on book 2 in Philoponus. Instead, Theodosius'

[38] Rossi, "New Translations of Aristotle's *Posterior Analytics*", 208. On Theodosius' teaching, see Umberto Dallari, *I rotuli dei lettori, legisti e artisti dello Studio bolognese dal 1384 al 1799*, vol. 2 (Bologna: Regia Tipografia dei Fratelli Merlani, 1890), 85, 88, 91, 116, 119, 121, 124, 127, 130.

[39] The title is: *Eustratii Episcopi Nicaeni Commentaria in secundum librum Posteriorum resolutivorum Aristotelis ... Andrea Gratiolo Tusculano ex Benaco interprete. Venetiis apud Hyeronimum Scotum 1542*. Grazioli was a physician from Brescia who studied at Padua. See also Rossi, "New Translations of Aristotle's *Posterior Analytics*", 208, with reference to Charles H. Lohr, "Renaissance Latin Translations of the Greek Commentaries on Aristotle", in *Humanism and Early Modern Philosophy*, edited by J. Kraye and M.W.F. Stone (London: Routledge, 2000), 24-40.

[40] Rossi, "New Translations of Aristotle's *Posterior Analytics*", 208.

inspection of Gratioli's Eustratius might well justify the presence of glosses referring to Eustratius along Philoponus' *On PAn* book 2, as specified later.

Second, Marinus' narration deserves more attention. Unfortunately, the identity of "Marinus Gru." is unknown and the only unquestionable element for his identification remains his birthplace *Cattaro*, i.e. Kotor, a city of the Venetian Albania.[41] Marinus neither presents himself as a "professional" translator, nor states that he had checked the Greek text of Philoponus. He only says that he *transcribed* the Latin version he happened to find in Padua and that he had passed on his work to Ottaviano Scotti junior for a joint homage to bishop Casali. He adds that Ottaviano was a student in philosophy ("in philosophia … versatus") – indeed, Ottaviano actually studied philosophy and medicine. Marinus also underlines that the lemmas of the *Posterior Analytics* were added by Ottaviano "from the current Latin text" ("textum praeterea Aristotelis quem communem appellant apposuit") after a revision that Ottaviano himself had made on a Greek exemplar ("cum graeco exemplari collatum atque … emendatum"). In my opinion, the "current" Latin text of the *Posterior Analytics* was James of Venice's *antiqua translatio* that also Venice 1534 (and Venice 1539, consequently) follows quite verbatim. Moreover, Marinus' statement confirms that only Aristotle's text was emended on a Greek exemplar. Indeed, Philoponus' commentary reproduces again the mysterious "Latin version" found by Marinus in Padua.

Third, no indication points to identifying Bonini's version with that "Latin anonymous translation". According to my cursory comparison, neither Bonini's nor even Zamberti's versions – which, incidentally, are not "anonymous" – can be the Latin translation on which Venice 1534/1539 and again Venice 1542 are based. In my view, that version transcribed by Marinus resembled more a medieval than a humanistic translation. It followed James' *Posterior Analytics* as a guide for vocabulary and phrasing, a feature that the Venice editions actually reproduce. Instead, Bonini's and Zamberti's versions are humanistic translations, pretty far from the Venice editions' model.

Fourth, Theodosius' dedicatory epistle of Venice 1542 offers additional news. The scholar asserts that he had translated Philoponus' commentary on the basis of "a version not reliably translated and distorted in several parts" ("opus non fideliter translatum et multis locis depravatum"), so he had to recur to the Greek version – likely, the Aldine of 1503 – in order to re-establish it correctly ("maxima ex parte sui similem reddere") after numerous interventions ("misere discerptum antea depravatumque locis innumerabilibus restitutum vobis damus"). Yet, contrary to his declaration, Philoponus' text faithfully reproduces Venice 1534, from which the *marginalia* are also

[41] To my knowledge, the only Croatian author who matches the time is Marino Darsa (Marin Držić, 1508-1567), author of pastoral dramas and comedies, though he was born in Ragusa (Dubrovnik), near Cattaro. Marino lived mostly in central and northern Italy and died in Venice, but there is no evidence of any involvement with Ottaviano Scotti or bishop Casali. See for instance Rita Tolomeo, "Marino Darsa e il suo tempo", in *Marino Darsa e il suo tempo. Marin Držić i njegovo vrijeme*, edited by R. Tolomeo (Venice: La Musa Talìa, 2010), 7-21.

taken, though with fundamental additions, as we see below. It seems to me, therefore, that Theodosius, likely in agreement with Girolamo Scotti, renovated paratexts and layout alone of Girolamo's release (Venice 1539) of Ottaviano's first edition (Venice 1534). The enterprise caused him to add several *marginalia* not present in Venice 1534/1539 reporting Greek lemmas, a quite detailed division of the commentary into texts and sections, and additional references to sources mentioned by Philoponus, such as Themistius, Proclus and Alexander of Aphrodisias. Moreover, Theodosius also added glosses independent from Philoponus and referred to Simplicius and Eustratius. The latter's name repeatedly appears in the second book, and this suggests that Theodosius looked at Gratiani's translation of Eustratius' commentary, printed in the same year by Girolamo, as mentioned above.

Finally, and most importantly for our purpose, Theodosius also introduced references to *Lincolniensis*, namely Grosseteste's *On PAn*. It is not surprising that he might have known Grosseteste's commentary, as its transmission and fame were uninterrupted up to the Renaissance and the Scotto family printed it several times, from 1494 to 1552.[42] The surprising and highly interesting aspect is that Theodosius envisaged a number of parallelisms between Grosseteste and Philoponus. Let us now examine them in detail.

4. A Latin-to-Latin Comparison Between Grosseteste and Philoponus According to the References to *Lincolniensis* in Venice 1542

Grosseteste's quotes from Philoponus first examined by Rossi and also discussed by Ebbesen include a long verbatim passage, other less extended parallel passages and a couple of corresponding texts transmitted only in single manuscripts of Grosseteste's *On PAn*.[43] The majority of the quotes refer to book 1 of Philoponus' *On PAn*, which, as mentioned, is surely authentic. These quotes attest that Philoponus implicitly influenced some aspects of Grosseteste's interpretation of Aristotle's theory of science. Now, if those quotes came from *scholia*, Grosseteste may well have labelled them as "comments" (*expositiones*) and their author/authors as "commentators" (*expositores*), whose identity remained unknown to him. Now, Theodosius' glosses referring to *Lincolniensis* broadly correspond to the passages where Grosseteste mentioned these

[42] Rossi, "Introduzione", 74-77. On the authority of *Lincolniensis* in the Humanistic period and the Renaissance see also Pietro B. Rossi, "Grosseteste's Influence on Thirteenth- and Fourteenth-Century British Commentaries on *Posterior Analytics*", in *Robert Grosseteste His Thought and Its Impact*, edited by J. P. Cunningham (Toronto: Pontifical Institute of Mediaeval Studies, 2012) 140-166; Rossi, "Commenti agli *Analytica Posteriora* e gli umanisti italiani".

[43] Rossi, "Introduzione", 19-21; Ebbesen, "Philoponus, 'Alexander' and the Origins of Medieval Logic", 160-161. Hereafter, I examine some of these parallelisms, adding a few others and excluding those transmitted in single manuscripts of Grosseteste's *On PAn*. The latter excerpts are analysed by Corbini, "Alexander of Aphrodisias", in his detailed reconstruction of Rossi's and Ebbesen's findings.

expositiones, offering a "guide" to Theodosius' inspection. This does not mean that each reference implies that Grosseteste *quoted* from Philoponus; rather, he *accessed* the Alexandrian's (and others') comments, and either transcribed, revised or critically discussed them.

The eight instances hereafter presented reproduce (in bold) Theodosius' glosses mentioning *Lincolniensis* in Venice 1542. Philoponus' corresponding texts – also from Venice 1542 – are identified according to Wallies' edition. Grosseteste's related passages reproduce Rossi's edition. Aristotle's lemmas are in italics. A brief comment about the parallelism under examination accompanies each example.

4.1. Demonstration *ex necessariis*

The first marginal note on *Lincolniensis* in Venice 1542 associates Grosseteste with Themistius for their shared position *contra* (against) Philoponus on Aristotle's statement that "the things that belong per se to things are necessary" (*PAn* I.6.74b6-9). Clearly, this *contra* does not imply that Grosseteste quotes Philoponus, but only that he agrees with Themistius. However, Grosseteste's and Philoponus' passages run somehow in parallel. Philoponus states: "if everything belongs to something either per se or accidentally, and what does not belong accidentally belongs of necessity, and what belongs per se does not belong accidentally, it therefore remains that the things that belong of necessity belong per se. He (Aristotle) will infer the present point through a categorical deduction, in this way: every demonstration is based on necessary things; necessary things are per se; therefore, every demonstration is based on things that are per se" (Philoponus *On PAn* I.6, transl. 87).[44] Grosseteste, in turn, consider Aristotle's passage as if it were the latter's "sixth conclusion", that is: "demonstration is a syllogism based on predicates that inhere per se to the subject", and concludes by confirming that "every demonstration is a syllogism based on necessary things; all and only what inheres per se is necessary; therefore, every demonstration is a syllogism based on things that inhere per se".[45] Since the entire passage is quite long, I reproduce only the sentence referred to Aristotle's explanation:

Philoponus *On PAn*, 82.25-31; Venice 1542, 30 *in marg.*: **Contra Themistius et Lincolniensis**	Grosseteste *On PAn*, I.6, 129

[44] Here and below, the reference "transl." indicates the English translation from the series *Ancient Commentators of Aristotle*, edited by R. Sorabji. Specifically: Philoponus, *On Aristotle Posterior Analytics* 1.1-8 and 1.9-18, translated by R. McKirahan (London, New Delhi, New York, and Sidney: Bloomsbury, 2008 and 2012); and Philoponus, *On Aristotle Posterior Analytics* 1.19-34, translated by O. Goldin and M. Martijn (London, New Delhi, New York, and Sidney: Bloomsbury, 2012).

[45] Grosseteste's commentary, as fully examined in Rossi, "Intentio Aristotelis in hoc libro", is partly structured in the form of explanations of Aristotelian *conclusiones*. Translations from Grosseteste's *On PAn* are mine.

Concludet igitur propositum per syllogismum cathegoricum hoc modo. Omnis demonstratio est ex necessariis. Necessaria autem sunt per se, omnis ergo demonstratio est ex his quae sunt per se, quod monstrare proposuerat.	Et ostenditur hec VI conclusio hoc modo. Omnis demonstratio est sillogismus ex necessariis, omnia et sola per se inherentia sunt necessaria, ergo omnis demonstratio est sillogismus ex per se inherentibus.

4.2. Sophistic Syllogisms

This parallel passage also refers to *PAn* I.6, specifically to the sentence: "The sophists assume that knowing is having knowledge" (74b24). Philoponus explains this tenet through a sophistic syllogism: "Some explain this passage more sophistically, as follows. If knowing is having knowledge and having knowledge has knowledge, therefore knowing has knowledge" (transl. 91). Grosseteste repeats the syllogism as if it were the sophists' wrong explanation of, again, an Aristotelian "conclusion". Here, Theodosius' marginal note recites "others' exposition". It is not clear to me if he actually refers to Grosseteste:

Philoponus *On PAn*, 86.9-11; Venice 1542, 31 *in marg.:* **Comm. 19 Expositio aliorum**	Grosseteste *On PAn*, I.6, 131.58-61
Quidam autem exponunt hunc locum magis sophisticae sic: si scire est scientiam habere. Scientiam autem habere est scire, scire igitur scientiam habet.	verbi gratia sophiste credunt se demonstrare hanc conclusionem: sciens novit quid est scientia, hoc modo: scire est scientiam habere, sed habens aliquid novit illud quod habet, sciens igitur novit quid est scientia.

4.3. A Synthesis Concerning the Middle Term

This example concerns Theodosius' marginal note on Grosseteste's summary of a section of Philoponus' commentary, again, on *PAn* I.6 (75a1-7), on the issue that "when the conclusion is of necessity, nothing prevents the middle through which it was proved from being non-necessary" (transl. 94). Given that Philoponus' explanation is quite long and rich in exemplifications while Grosseteste offers only a summary of it, the parallel passage does not amount to a verbatim quote. I reproduce hereafter only a few extracts:

Philoponus *On PAn*, 89.25-91.23; Venice 1542, 32-33 *in marg.:* **Comm. 32 Sic Lincolniensis brevius**[46]	Grosseteste *On PAn*, I.6, 130.29-35

[46] Here, Venice 1534 presents the note "Commentum 32m", but not the reference to Lincolniensis.

Quoniam demonstravit quod necesse est ex necessariis propositionibus esse demonstrationem ... Possibile enim est et ex non necessariis necessarium concludere. ... Ex necessariis quidem propositionibus impossibile est non necessariam esse conclusionem, contingens autem ex contrario se habet cum necessario. Propositiones enim etiam si sint contingentes concludent aliquam conclusionem necessariam ...	Hec propositio: demonstratio est sillogismus ex necessariis, supra ostensa est ... quia quod scitur impossibile est aliter se habere. Ex hoc tamen non plene sequitur premissa in sillogismo demonstrativo esse necessaria, quia premissa non semper sunt scita secundum premissam diffinitionem eius quod est scire, et possibile est necessarium sequi ex contingentibus sillogistice.

4.4. Four Kinds of Deductions and the Moon Eclipse

This fourth example of parallel passages is worth presenting in full.[47] Indeed, it shows how Grosseteste changes the order of presentation (see numbers 7 and 8, here evidenced in bold) of a long text by Philoponus. The issue under discussion, still from *PAn* I.6 (75a12-16), is again about how deductions must be obtained through "a middle term that is necessary", whether or not the premises are immediate (as in the causal or 'why' deductions) or mediate (as in the inductive or 'that' deductions). Philoponus distinguishes these four kinds of deductions by means of *ad hoc* syllogisms concerning the Moon eclipse, establishing in turn (see numbers 3 to 6): the 'that' based on immediate premises, the 'that' on mediate premises, the 'why' on immediate premises, and the 'why' on mediate premises. Grosseteste faithfully repeats the examples, though, rightly, he collocates them at the end of the explanation. Theodorus' marginal note states: "exposition of text 35 according to the Latins":

Philoponus *On PAn*, 92.13-31, Venice 1542, 33 *in marg.:* **Expositio tex. 35 secundum Latinos**	Grosseteste *On PAn*, I.6, 134.110-16
(1) Quoniam igitur si scit demonstrative oportet de necessitate inesse, manifestum quoniam et per medium necessarium demonstrationem habere ...	Quoniam igitur si scit aliquis demonstrative, manifestum est quod oportet eum habere demonstrationem, id est, sillogismum ex necessariis.
(7) ... Quid rursus dicit hoc loco tale est, quod neque syllogismum probantem quia sciet, neque probantem propter quid, si contingens erit medius terminus per quem demonstratio facta est. Aut enim non sciens opinabitur scire, ignorans, quoniam contingens est medium terminus aut sciens quod contingens, non opinabitur scire.	... Dicit itaque quod oportet demonstrative scientem habere sillogismum ex necessariis aut non sciet propter quid conclusio est necessaria neque quia est necessaria, sed aut opinabitur se scire cum nescit si accipiat medium contingens tamquam necessarium, aut nec forte opinabitur se scire, ut si noverit medium esse contingens.

[47] Parallel comparison with the Greek text in Rossi, "Tracce della versione latina", 437-438.

(2) Ex syllogismis hi quidem aliqui quia probant, hi vero propter quid. Et ex his qui probant quia hi quidem sunt ex immediatis propositionibus, hi autem ex mediatis. Eodem modo et ex his qui propter quid.	Et per unam similitudinem currit res in hoc quod oportet scientem habere sillogismum ex necessariis sive ipse sciat quia per mediata vel per inmediata, sive sciat propter quid per mediata vel per inmediata.
(8) ... Hoc autem loco distinguit et immediatus quidem, in probante propter quid ordinavit. Mediatum autem in probante quia	Uterque enim sillogismus est tam mediatus quam inmediatus, licet proprie dicatur sillogismus propter quid qui demonstrat per causam inmediatam, et dicatur communiter sillogismus quia non solum qui ostendit per effectum, sed qui ostendit per causam mediatam. ....
(3) Verbi gratia Si enim sic dicam luna umbram non facit, umbram autem non faciens deficit, luna ergo deficit. Probavi quod deficit	Sillogismus quia mediatus est iste: luna umbram non facit, planeta umbram non faciens deficit, ergo luna deficit.
(4) Verbi gratia quod in plenilunio sit luna. In plenilunio autem existens non facit umbram. Umbram autem non faciens, in plenilunio deficit, luna igitur deficit. Hic igitur est immediatus syllogismus ...	Sillogismus quia inmediatus est iste: plena luna cum sit, umbram non facit, non faciens umbram in plenilunio deficit, ergo luna deficit.
(5) Simili modo in propter quid, mediatus erit syllogismus talis luna per diametrum est soli. Per diametrum autem existens deficit, luna igitur deficit. ...	Sillogismus propter quid mediatus est iste: luna secundum diametrum est cum sole, secundum autem diametrum cum sit deficit, luna igitur deficit.
(6) syllogismus talis luna per diametrum existens impeditur a terra, impedita vero deficit, luna igitur deficit, et est hic immediatus.	Sillogismus propter quid inmediatus: luna cum sit secundum diametrum a sole obicitur ei terra, ex obiectu autem deficit luna, ergo luna deficit.

4.5. Three Kinds of Definitions, the Example of Anger and the *Liber de anima*

This long parallel passage is the quote reported entirely by Rossi.[48] The commented text is from *PAn* I.8 (75b30-32), stating that a definition may be either a principle of demonstration or a demonstration, which can be of three kinds: from matter, from form or from both. Each kind of demonstration is illustrated by way of examples concerning the definition of anger: from matter it is "the boiling of the blood around the heart" and from form it is "the desire to cause grief in return of grief". Philoponus refers to Aristotle's *On the Soul*, namely *De anima* I.1 (403a30-33), where the definitions of anger are given. However, he reproposes the example of anger in a similar fashion also in

[48] Parallel comparison with the Greek text in Rossi, "Tracce della versione latina", 436-437.

commenting on *De anima* II.2 (413a16).[49] Even though the passage is quite long, Theodosius did not notice the equivalent in Grosseteste. This parallelism reveals the strong similarities between Philoponus' Latin texts in, respectively, the Venice editions and Grosseteste's quote. There are just two main differences between them: *appetitus vindictae* instead of Grosseteste's more literal *appetitus contrarii doloris* (i.e., *antilupesis*), also used by James of Venice ("Hic quidem enim appetitum contrarii doloris"); and *forma* (Venice 1542) instead of *species* (in Grosseteste).[50] Hence, this parallel passage shows that the anonymous Latin translation that the Venetian editions reproduced was actually close to the fragments from Philoponus that Grosseteste had accessed. The passage, eventually, is also useful for reconstructing a few *loci critici* of Grosseteste's text, here indicated in bold, concerning two misread words and two omissions.[51]

Philoponus *On PAn* 109.9-110.3, Venice 1542, 38	Grosseteste *On PAn* I.7, 142
Dictum autem est in anima quod tres sunt species diffinitionum. Haec enim sunt materiales, haec formales, haec autem simul ex utroque. Verbi gratia iram diffiniens materialiter fervorem esse sanguinis circa cor, formaliter autem appetitum vindictae, ex utroque autem fervorem sanguinis circa cor ob appetitum vindictae.	Dictum est in libro de Anima quod sunt tres species diffinitionis. Alie vero ex materia sunt, alie vero ex specie, alie autem ex utroque, ut iram diffiniens ex materia dicis accensum sanguinis esse circa cor, sed ex specie appetitus contrarii doloris; ex utroque autem accensum sanguinis circa cor propter appetitum pro dolore.
Formales igitur diffinitones principia sunt demonstrationum. Demonstrationes enim causata ex causis syllogizant. Causa enim est materiae forma, per talem enim formam talis **materia** est. Ad demonstrationem igitur **irae** utetur quis in ratione principia formali diffinitione, hoc modo aliquis appetit vindictam, appetentem vindictam **fervet sanguine circa cor,** fervet igitur aliquis sanguine circa cor. Ecce igitur in his	Ex specie igitur principia sunt demonstrationum, demonstrationes enim ex causis causata sillogizant, causa autem materie species est; propter autem huiusmodi species et tales erunt | **omnino** |. In demonstratione igitur | **ut** | usus est in principio a specie diffinitione hoc modo. Quidam appetit econtra tristari **<...>** accendit qui est circa cor sanguinem. Ecce igitur in his que est a specie diffinitione in principio demonstrationis usi sumus,

[49] John Philoponus, *In Aristotelis De anima libros commentaria*, Commentaria in Aristotelem Graeca, vol. 15, edited by M. Hayduck (Berlin: Reimer, 1897), 231, 5-28. English transl.: Philoponus, *On Aristotle's "On the Soul 2.1-6"*, translated by W. Charlton (Ithaca and New York: Cornell University Press, 2005), 32.

[50] See *De anima* I.1.403a30. The Renaissance Latin translation of Philoponus' *Commentary On the Soul* (Venice 1547 by Girolamo Scotti) for which see the note 63 below, translates "ira est fervor sanguinis circa cor ex ultioni impetu" and adopts "forma" (fol. 39vb).

[51] Rossi, "Tracce della versione latina", 437, Rossi rightly points out the two omissions, suggests *olos* as the Greek wrong reading which generated *omnino* in place of *materia* (*yle*) and suggests *ire* (the reading of Venice 1542) in place of *ut*, an error likely incurred in the Latin transmission alone, from a wrong reading of *ire*.

diffinitione formali ad principium demonstrationis usus sum.	
Materialem autem conclusionem fieri demonstrationis, non enim possible est demonstrantes principium demonstrationis materialem facere, **conclusionem autem formalem**. …	que vero est ex materia conclusionem fecimus. Sed non est possibile demonstrantem a materia principium facere **<…>**;
diffinitio autem ex utraque eadem est cum demonstratione, positione sola differens, propterea quod in diffiniendo a materia incipientes definimus in formam. Iram esse dicentes fervorem sanguinis circa cor ob appetitum vindictae. In demonstratione autem econtrario utimur ex forma incipientes et definientes in materiam. Si igitur omnis diffinitio principium est demonstrationis aut conclusionis aliqua demonstrationis aut demonstratione positione sola differens.	sed tamen ex utroque diffinitio idem erit cum demonstratione sola positione differens, quoniam in diffiniendo a materia incipientes pervenimus in speciem, iram esse dicentes accensum sanguinis circa cor propter appetitum contrarii doloris. Sed in demonstratione econtrario utimur, ex specie incipientes in materiam pervenimus. Si igitur omnis diffinitio est principium demonstrationis aut conclusio aut demonstratio sola positione differens
Ostensum autem est quod corruptibilium non est demonstratio, simul ostensum erit quoniam neque diffinitionem corruptibilium possible est dare.	ostensum est quod corruptibilium non est demonstratio, simul ostensum est quod neque diffinitionem corruptibilium assignare possibile est.

4.6. First Philosophy and Common Principles in Superior and Subordinate Sciences

This marginal reference in Theodosius' translation indicates a double exposition of a passage of *PAn* I.9 (76a15) asserting that the principles of superior and subordinate sciences have a common feature. I think that the parallelism between Philoponus and Grosseteste can be envisaged in the assertion that these sciences may share common principles from what is common to both, namely "first philosophy" (transl. 21), that is, "metaphysics".

Philoponus *On PAn*, 118.21; Venice 1542, 40 *in marg.:* **Duplex expositio. Prima sic commenta magna, secunda omnia hic Linconiensis**[52]	Grosseteste *On PAn*, I.8, 152.110-16
Talia inquit, id est, quae per principia generalioris scientiae demonstrantur simili	Dictum est quod demonstratio est ex appropriatis principiis, cui dicto subiungit

[52] Here, Venice 1534 presents the marginal note *Expositio Simplicii*; hence, *Commenta magna* might indicate Simplicius' commentary.

modo monstrantur cum aliis quae ex propriis principiis demonstrantur ... Sed horum principia habent commune pro eo quod est principia horum et inferiorum et superiorum ad communes omnium reducuntur, id est, ad primam philosophiam.	Aristoteles quod, licet ipsa principia sint appropriata, habent tamen commune, id est, habent communem philosophiam explanantem ipsa principia ut metaphysicam vel topicam.[53]

4.7. Fallacious Arguments Are Not in Sciences

This example stems from *PAn* I.12 (77b27-28) in which Aristotle states that fallacious argument does not occur in mathematics. After having distinguished among questions that are ungeometrical and not appropriate to the science, Philoponus observes that fallacious arguments (*paralogismi*) do not occur in sciences (*doctrinae*) in the same way as in dialectical conversations, since "falsehood is less troublesome in sciences than in dialectical procedures" (transl. 54). This happens because the middle term is employed twice. Grosseteste's explanation differs from Philoponus' but the marginal note in Theodosius' translation remarks to "look at the bishop of Lincoln, who says the same thing <as Philoponus>, and appropriately". Actually, Philoponus introduces a number of examples, while Grosseteste summarises and simplifies the explanation. I have reproduced only the opening of both texts, given that this case is not a quote, but rather a reworking.

Philoponus *InPostAn*, 154,13-20, Ven 1542, 51-52 *in marg.:* **Expositio texti 60. Vide Lincolniensiem qui idem videtur dicere et bene**	Grosseteste *InPostAn*., I.11, 178-179
In doctrinis autem non est similiter paralogismus, quoniam medium semper est duplex. Cum dixerit quae sint non geometricae interrogationes ...	*In doctrinis autem non similiter est paralogismus* et cetera. Dictum est in proxima littera quod in terminis doctrinalibus fiunt sillogismi ...

4.8. Twinkling Stars

Our last example is a parallel passage first outlined by Rossi and later discussed by Ebbesen, as it has an equivalent in Alexander Neckam.[54] The correspondence has been

[53] I wish to thank a reviewer of my paper for evidencing that reference to *Topics* is also in Themistius, *Paraphrasis of the Posterior Analytics*, ch 7. See O'Donnell, "Themistius' Paraphrasis", 264-265.

[54] Ebbesen, "Philoponus, 'Alexander' and the Origins of Medieval Logic", 160; for Alexander Neckam's passage (*De Naturis Rerum* lvi, 37-38), see also Richard Southern, *Robert Grosseteste: The Growth of an English Mind in Medieval Europe* (Oxford: Clarendon Press, 1986), 154-155.

used to prove the early-thirteenth-century diffusion of Philoponus in association with James of Venice's Aristotelian translations. The topic under discussion is from *PAn* I.13 (78a34-38), where Aristotle distinguishes between induction and perception and exemplifies a case of induction referring to the twinkling of stars as depending upon their distance: "since it is not because they do not twinkle that they are near, but because they are near that they do not twinkle" (transl. 68-69). Philoponus explains that stars – or better planets such as Venus – do not twinkle because the visual rays are stronger when acting at a shorter distance. Thus, the more distant the bright body is, the more it twinkles to sight. Grosseteste reworks Philoponus' line of reasoning by introducing the parameter of angular vision: a wider visual angle and a nearer object allow the visual rays to focus on details, so that one may have a clear and stable sight; conversely, a narrow visual angle and a greater distance cause a trembling of the visual spirits, so that the distant stars seem to twinkle. Curiously, the marginal note by Theodosius deems Grosseteste's argument to be more consistent than Philoponus': "For why stars seem to twinkle see the bishop of Lincoln, who better and more clearly argues about this <than Philoponus does>, that is, in the digression to comment 65". Again, I present only the opening words of both texts, as Grosseteste's reworking – and partial rejection of Philoponus' explanation – impedes accommodating the passages in facing texts:

Philoponus *On PAn*, 109.9-110.3, Venice 1542, 56 *In marg.:* **Quare errantes stellae videntur scintillare vide Linconiensem qui melius ac clarius de hac re dicit, scilicet in digressione commenti 65**[55]	Grosseteste *On PAn.*, I.12, 190
Quae autem *prope sint non scintillare*, ex inductione inquit et sensu sumatur. Verbum enim non disiunctive...	Quid autem sit dictum: *prope existens non scintillat* sic exponitur. Corpus dicitur distare longe a visu cum propter distantiam sui sub parvo angulo videtur et non subtiliter potest a visu discerni,...

The parallelisms and reworkings examined above present an interesting scenario, which lets us envisage the presence of other possible borrowings or reworkings from Philoponus in Grosseteste's *On PAn* and, perhaps, elsewhere in his writings.[56] This possibility must be supported with due attention to the texts. Regarding Grosseteste's *On PAn*, in particular, other Greek *expositores* were used, among whom indeed is included Themistius. Accordingly, a similarity with Philoponus, compared with Themistius' paraphrase, may suggest the latter as Grosseteste's source. This happens, for instance, in the comment on Aristotle's reference to "the puzzle in the *Meno*", which introduces

[55] Here, Venice 1534 presents the gloss: "Quare errantes stelle videntur scintillare". Again, Theodosius expands on it by introducing the reference to Grosseteste.
[56] On this issue, I am presently conducting research which will be published elsewhere.

the statement "you learn either nothing or what you already know" in *PAn* I.1 (71a29-30). Grosseteste (*On PAn*, I.1, 94-101) refers to it after mentioning that the sentence "what is known according to the universal and ignored according to the particular [literally: in self person]" is not by Aristotle but by commentators (*exponentes*). In this case, the commentator turns out to be Themistius, whose text is followed quite closely by Grosseteste. In particular, it is worth noticing that Grosseteste could hardly understand how the "puzzle" works, unless by accessing the *Meno*. Both Themistius and Philoponus explicate what Aristotle says by mentioning the slave, which Grosseteste also mentions but surely not from Aristotle, who does not explicitly refer to the episode narrated by Plato. Now, while Philoponus rightly mentions the slave's remembering of the "mathematical theorem", Themistius proposes, as a mere example of his own, the case of a fugitive slave, who cannot be captured unless the seeker knows his face. Grosseteste, who did not know the *Meno*, presents, in turn, Themistius' example as if it were the genuine explanation by Plato! Hereafter, I put in parallel, in English, how the examples run in the three authors:[57]

Philoponus *On PAn* I.14, 13, transl. 26	Themistius *On PAn*, transl. Achard, 24	Grosseteste *On PAn* I.1.97-98 (my transl.)
In response to this, Socrates brought Meno's slave and by asking him questions made him discover a theorem which he did not know....	... just like in the case, I suppose, of a household slave who has run away: if we do not know him, we cannot search for him, but if we know him, we are able both to search for him and to discover him.	And Plato proposed the example of the lord from whom a slave has run away; if the seeker does not know him [the slave], the seeker will not gain knowledge of him more than of any other person the seeker may meet.

In conclusion, the parallel passages examined so far show that Grosseteste quoted only two long passages from Philoponus (4.4 and 4.5), while the other occurrences are more elusive, being reworkings or summaries, at least according to Theodosius' glosses. Yet, both quotes demonstrate that the "Latin Philoponus" of the Venetian editions is pretty similar to Grosseteste's parallel passages. Rossi had already noted that Grosseteste's quotations from Philoponus "have the characteristics of James' versions".[58] Now, given that the Venice editions derive from a preceding Latin translation remained unidentified – in my opinion, neither Bonini's nor Zamberti's versions correspond to it –, one may wonder where this conformity came from, if not by a Latin translation similar to

[57] Themistius' translation is by Martin Achard, "Themistius' Paraphrase of *Posterior Analytics* 71a17-b8. An Example of Rearrangement of an Aristotelian Text", *Laval théologique et philosophique* 64/1 (2008): 19-34. On the early diffusion of Themistius' example see also Costantino Marmo, *Semiotica e linguaggio nella scolastica. Parigi, Bologna, Erfurt 1270-1330: La semiotica dei Modisti* (Rome: Istituto Palazzo Borromini, 1994), 21, note 5.

[58] Rossi, "Introduzione", 19, note 53: "I brani rinvenuti nel *Commento* non sono tradotti da Grossatesta, perché hanno le caratteristiche delle versioni di Giacomo Veneto".

the fragments accessed by Grosseteste three centuries earlier. May this translation have been a wider collection of James of Venice's glosses from Philoponus' commentary, or even his alleged (see above, at section 2) complete translation? I cannot but leave this question unanswered. For now, the *loci paralleli* examined so far allow us only to grasp Grosseteste's familiarity with the Greek commentator and his capacity to accommodate Philoponus' excerpts in his own line of reasoning. Indeed, Grosseteste was not a mere copyist of marginal glosses, but looked at them with a curious and critical eye, in search of the best "guess" in interpreting Aristotle's difficulties.

5. Concluding Remarks: Traces of Philoponus in Grosseteste's References to *De anima* and a Quote from Philoponus *via* Averroes

In conclusion of my examination, I want to discuss the three references to Aristotle's *De anima* in Grosseteste's *On PAn* and, briefly, consider a last indirect quote from Philoponus, this time accessed by Grosseteste through Averroes.

Let us first consider the references to the *Liber de anima* in Grosseteste's *On PAn*. Since the first quote opens the longest excerpt from Philoponus (passage number 4.5 above), one wonders if the two other mentions may derive from Philoponus as well. The second reference by Grosseteste (*On PAn* I.9, 166) pinpoints an example of how natural philosophy adopts conclusions "made up from opposite statements" (*contexte ex oppositis*). Grosseteste remarks that "of this kind is this conclusion from the *Book of the Soul*, namely that common sense is both divisible and indivisible" ("qualis est hec conclusio in libro De Anima: sensus communis est divisibilis et indivisibilis"). This passage indicates *De anima* III.2 (427a2-3), and, interestingly, introduces a division in "conclusions", in line with the system Grosseteste adopted in his commentaries *On PAn* and *On Physics*.[59] The passage, however, does not seem to have a correspondence in Philoponus' *On PAn* nor, as far as I have seen, in his *Commentary On the Soul*. The third and last reference to *De anima* in Grosseteste's *On PAn* (I.19, 286) states, in turn, that human passions are not considered in the science of logic, but "physical science deals with some of them in the *Book on the Soul*, and the science of ethics deals with others" ("in quasdam de aliis pertractat physica in libro de Anima, quasdam vero Ethica"). Here, Grosseteste is referring to *PAn* I.33 (89b7-9), where Aristotle states that opinion, prudence, wisdom and so on are partly pertaining to physics and partly to ethics. A vague connection with Philoponus is in the latter's remark that "physics" means, here, the study of beings *qua* beings, including both physical beings and those "above them".[60] Thus, if Grosseteste had read this passage, he might have credited those

[59] See note 45 above.

[60] Philop *On PAn* 33.30, 333.1. In Venice 1542, 112: "Haec quidem physicae illa vero etichae considerationis sunt magis. Physicam speculationem dicit non quia de rebus physicis tractet, quam proprie vocamus physiologiam, sed quae simpliciter de entibus tractet quatenus entia sunt sive physica sint, sive supra ista".

physical and "intellectual" beings to be the human beings, i.e., the subject of Aristotle's *De anima*. However, at present this is nothing more than a vague suggestion.

To my knowledge, there are no other explicit references to Aristotle's *De anima* in Grosseteste's writings. Contrary to contemporary scholars such as John Blund and Alexander Neckam, the bishop of Lincoln did not nourish a special interest in this Aristotelian work, and did not write a work dealing specifically with the human soul.[61] Moreover, his insights into the nature and functions of the soul and its relation to the body remained over the years strongly dependent upon Augustine, the pseudo-Augustianian *De spiritu et anima* and, partially, Avicenna, as James McEvoy convincingly concluded.[62] Nonetheless, Grosseteste's early treatise *On Sound Generation* shows an implicit presence of Aristotle's *De anima*, emerging from terminological correspondences with James of Venice's translation: the word *sonativum* (for *psophetikon*, "having the capacity to sound"), and the syntagm *connaturalis aer edificatus in auribus*, namely "the air of the same nature <as external air> built up in the ears", where *edificari* is for *egkatoikodomeo* (i.e. "to build in") and *connaturalis* for *sumphues* ("inborn").[63] This key expression is also present in Grosseteste's earlier *On the Liberal Arts* (*De artibus liberalibus*), where, similarly to what happens in *On Sound Generation*, it is inserted within an Augustinian frame.[64] Now, though the single terms of this expression

[61] The *Tractatus de anima* attributed to him is generally credited to be spurious. See Thomson, *A catalogue*, 89-90. It is basically a reworking from Philipp the Chancellor's *De anima*.

[62] See James McEvoy, *The Philosophy of Robert Grosseteste* (Oxford: Clarendon Press, 1982), 225-238.

[63] See Robert Grosseteste, *De generatione sonorum/On the Generation of Sound*, edited and translated by S. O. Sønnesyn, in *The Scientific Works of Robert Grosseteste*, vol. 1. *Knowing and Speaking: Robert Grosseteste's* De artibus liberalibus *'On the Liberal Arts' and* De generatione sonorum *'On the Generation of Sounds'*, edited by G. E. M. Gasper, C. Panti, T. McLeish, and H. E. Smithson (Oxford University Press: Oxford 2019), 244-255. Grosseteste follows partially Aristotle's *De anima* book 2, ch. 8. He first considers the movement of vibration transmitted to the air, then how it reaches the air internal to the ears, and finally the human voice. Grosseteste is silent on relevant topics that Aristotle dwells on, such as the distinction between sound in potency and actuality, soft and hard bodies in sound production, and high and low tones. Moreover, he develops in an original way the mechanism of oscillation needed to put in movement the air.

[64] In the *De generatione sonorum*, 244, this expression is followed by the Augustinian definition "an affection of the body not hidden to the soul", plus the conclusion "and so the sensation of hearing takes place" ("Et cum tremunt partes sonativi movent aerem sibi contiguum ad similitudinem sui motus, et pervenit usque ad aerem connaturalem in auribus edificatum et fit passio corporis non latens animam, et fit sensus auditus"). In *De artibus liberalibus/On the Liberal Arts*, edited and translated by S. O. Sønnesyn, in *The Scientific Works of Robert Grosseteste*, vol. 1. *Knowing and Speaking: Robert Grosseteste's* De artibus liberalibus *'On the Liberal Arts' and* De generatione sonorum *'On the Generation of Sounds'*, edited by G. E. M. Gasper, C. Panti, T. McLeish, and H. E. Smithson (Oxford: Oxford University Press, 2019), 74-93, at 82, Grosseteste refers to the Augustinian idea of the "numbers" as means of the soul's action in sense perception. Consequently, he asserts that the "number issued from the soul" meets and senses the "sounding number" produced by the vibration of the external air "in the air built up into the ears" ("cumque sonus auri illabitur, exercet anima numerum in aere connaturali in auribus edificato; quo numero exercito numero sonanti occurrit et sentit numerum sonantem"). This juxtaposition between Aristotle and Augustine may sound naïve, but Grosseteste assigns them a different place in the

are in *De anima*, the expression itself is a Latin transposition of an analogous syntagm in Philoponus' *Commentary on the Soul*.[65]

Evidence of the presence of this commentary by Philoponus in the Latin world dates back to after Grosseteste's death (1253), given that in 1268 William of Moerbecke translated the chapter on intellect from the third book, and not earlier than 1267 a few Latin excerpts from the first book were added to Moerbecke's version of Themistius' paraphrasis.[66] Hence, the possibility of a pre-existing Latin translation that Grosseteste might have accessed has no evidence. Unfortunately, the first complete Latin translation of Philoponus' *On the Soul*, printed at Venice in 1547 by Girolamo Scotto, lacks a preface and, to my knowledge, has never been studied accurately.[67] The heading (on fol. 5v) gives the name of the translator: *Matthaeo à Boue Veronensi interprete*. Now, if this "Matthew from Verona" is the humanist Matteo Bosso, born in Verona in 1427 and died in Padua in 1502, the translation dates back to more than half a century earlier than the Venice edition. In this case, Girolamo Scotto accessed Matteo's manuscript – presently not identified – and reproduced his translation.[68] Similar to the Venice

explanation of sound: Aristotle clarifies the mechanism of sound production, i.e. how the external vibration passes into the ears, and Augustine responds to how the soul perceives it as sound.

[65] This correspondence has been first envisaged by Sigbjørn Olsen Sønnesyn, Tom C. B. McLeish, and Giles E. M. Gasper, "Aristotle in *On the Liberal Arts*: An Exploration of Possibilities", in *The Scientific Works of Robert Grosseteste*, vol. 1. *Knowing and Speaking: Robert Grosseteste's* De artibus liberalibus *'On the Liberal Arts' and* De generatione sonorum *'On the Generation of Sounds'*, edited by G. E. M. Gasper, C. Panti, T. McLeish, and H. E. Smithson (Oxford: Oxford University Press, 2019), 152-165, at 157 note 14.

[66] Carlos Steel, "Newly Discovered Scholia from Philoponus' Lost Commentary on *De anima* III", *Recherches de Théologie et Philosophie Médiévales* 84/2 (2017): 223-243. According to Steel, Moerbecke translated the chapter *On intellect* using a Greek manuscript with the entire text of Philoponus. Moerbecke had already translated part of the first book of Philoponus before 1267, since excerpts are found in the margins of his translation of Themistius' paraphrase (completed on 22 November 1267). This indicates that the entire Greek commentary by Philoponus already circulated before that year. As Steel also remarks, the Greek manuscript used by Moerbecke "may probably be identified with the *commentum Iohannis Philoponi super librum de anima* mentioned in an old catalogue ... of the papal library ... composed in 1295". Interestingly, Grosseteste in his references to *De anima* in *On PAn* adopts the title *Liber de anima*, as well. The last analysis of these fragments from Philoponus' *On the soul* is by Fabio Acerbi and Gudrun Vuillemin-Diem, *La transmission du savoir grec en Occident. Guillaume de Moerbeke, le Laur. Plut. 87.25 (Thémistius, «in De an.») et la bibliothèque de Boniface VIII* (Leuven: Leuven University Press, 2019), part VI. The essay proves that the Greek model used by Moerbeke for his translation of Themistius' paraphrase did not contain such excerpts from Philoponus' commentary.

[67] As remarked by Steel, "Newly Discovered Scholia", Philoponus' *On the soul* is actually a collection of Ammonius' teachings titled: "Scholarly notes taken by John the Alexandrian on Aristotle's treatise *On the Soul* from the courses of Ammonius, son of Hermias, with some critical remarks of his own". The frontispiece of the Venetian Latin edition adopts the same Greek title: "Ioannis Alexandrei philosophi in tres libros De anima Aristotelis breves annotations ex dissertationibus Ammonii Hermei cum quibusdam propriis meditationibus, nuper e Greco in linguam Latinam conversae".

[68] This consideration, by the way, also explains why the text lacks a dedicatory epistle.

editions of Philoponus' *On PAn*, also this translation gives the Aristotelian lemmas according to James' translation of *De anima* and maintains a Latin terminology quite close to that model, at least at a first inspection.

The Latin-to-Latin comparison between these few passages of Grosseteste's *On Sound Generation* and the corresponding phrases in the Venice edition evidences the correspondence of the term *sonativum* and a similar rendering for the expression *aer connaturalis in auribus edificatus*, which in Venice 1547 is: *aer in concavitatibus aurium inaedificatus*. Moreover, it is interesting to note that Philoponus adopts a theory of sense perception grounded on the Neoplatonic view of the activity of the soul, which perceives bodily passions by means of the *pneuma* (i.e. *spiritus*), the primary sense-organ for sight, hearing and smelling.[69] Grosseteste follows a similar theory.[70] However, he mentions the "moving spirits" (*spiritus motivi*) of the voice, while Philoponus refers to the *spiritus* of the eardrum.[71] We can find a correspondence also in the term adopted for qualifying the stroke needed for generating a sound: *violenter* in Grosseteste and *violenter/violento ictu* in Venice 1547. The word *violenter/violentus* is missing from James of Venice's version of *De anima* and, again, Grosseteste might have intercepted it from a gloss bearing this fragment from Philoponus, as the term is repeated on several occasions (needless to say, once we exclude other potential sources, and one of these, for instance, could be Algazali's *Physics*).[72] The chart below shows these few parallelisms and their English translations:[73]

Philoponus, *On the Soul*	Philoponus, *Comm. De anima* (Venice 1547)	Grosseteste, *De gen. son.*	Grosseteste, *On Sound Gen.*
364.12-13, 50: For there is certain air that is inborn and built into the cavity of the ears ...	f. 60ra: Est enim congenitus quidam aer in concavitatibus aurium inaedificatus ...	§2. 244: ... et [motus] pervenit usque ad aerem connaturalem in auribus edificatum et fit passio corporis	§2: 245. thus, it [i.e. the movement] reaches the air of the same nature built up in the ears, and a passion of the body takes place,

[69] The "spirit" (*pneuma*) in Philoponus is the vehicle for the soul as attached to the human body, and a substance compounded of air and fire filling the nerves and transmitting vital and cognitive functions. See H. J. Blumenthal, "Body and Soul in Philoponus", *The Monist* 69/3 (1986): 370-382.
[70] See Cecilia Panti, "The Quadrivium and the Discipline of Music", in *The Scientific Works of Robert Grosseteste*, vol. 1. *Knowing and Speaking: Robert Grosseteste's* De artibus liberalibus *'On the Liberal Arts' and* De generatione sonorum *'On the Generation of Sounds'*, edited by G. E. M. Gasper, C. Panti, T. McLeish, and H. E. Smithson (Oxford: Oxford University Press, 2019), 112-151.
[71] Grosseteste, *On PAn.*, I.12, 190, as expressed, for instance, in the passage (referred to at 4.8) on stars' twinkling due to the "trembling of the spirits which receive the species of the visible thing" (*propter tremorem spirituum recipientium speciem rei visibilis*).
[72] Panti, "The Quadrivium and the Discipline of Music", 135.
[73] Philoponus, *On Aristotle's "On the Soul 2.7-12"*, translated by W. Charlton (Ithaca and New York: Cornell University Press, 2005).

366.35-37, 53 ... the air in the ear is built in unmoving	f. 61ra: Id est eo quod inedificatus auditui congenitus aer ... in auribus aer immobilis inaedificatus	non latens animam, et fit sensus auditus.	which is not hidden to the soul, and the sensation of hearing takes place.
364.14-16 ... and transmits them to the primary thing that perceives. This is the acoustic pneuma that resides in the eardrum itself.	f. 60ra: et sonorum operationes suscipiens ad primum sensitivuum transvehit, id est, autem sensitivuum spiritus, qui in ipsa est membrana collocatus.	§4. 246: Sed cuidam voci dat speciem et perfectionem ... figuratio motus spirituum motivorum instrumentorum vocalium.	§2: 247 [my translation]. Sed the active shaping itself of ... the movements of the moving spirits gives its species and perfection to a certain voice...
... he defines what it is that sounds: it is that he says which can change air keeping it one and continuous up to hearing	est sonativum nempe id quod potest unum et continuum aerem servatum ad auditum usque movere ...	§2. 244: Et cum tremunt partes sonativi movent aerem sibi contiguum similitudinem sui motus	§2: 245. And when the parts of the sounding body vibrate, they move the air surrounding them according to their movement;
355.1-2 (transl. 40): For the air that is caught up in them being forced out violently all at once makes the noise. 356.25 (transl. 42) ... but the air once pushed by the violent blow ...	fol. 59vb: ... in his enim qui intercipitur aer, conglobatus et violenter expressus, sonum facit. fol. 60 ra: ... et repercussus et violenter revolutus ...	§1. 244. Cum sonativum percutitur violenter, partes ipsius sonativi egrediuntur a situ naturali ...	§1. 245. When a sounding body is struck violently, the parts of the sounding body escape from their natural place...

These hints are not sufficient for envisaging a direct borrowing from Philoponus' *Commentary On the Soul*. Nevertheless, if we consider them in relation to the possibility that James of Venice might have accompanied his translations with glosses or interpolations taken from Philoponus, particularly when some terms are repeated more than once, the scenario changes. Indeed, if that is the case, it seems fairly plausible that Grosseteste might have intercepted these fragments in the margins of the copy of *De anima* he accessed, similarly to what happened in his *Commentary on Posterior Analytics*.

Grosseteste did not know "who" was Philoponus, the *expositor* hidden behind the fragments he quotes. However, he had met the name "John the Grammarian" (*Iohannes Grammaticus*) at least once. This happens in the context of another of Grosseteste's 'interpolations', namely a passage from Averroes' comment 41 of the *Great Commentary on Metaphysics*, book 12, that Grosseteste inserts in his *De motu supercelestium*. The latter,

indeed, includes extensive – and, again, unacknowledged – passages from comments 36 and 41 of Averroes' commentary.[74] Averroes, in turn, mentions Philoponus several times.[75] One of these occurrences is precisely in comment 41 on book 12, where Averroes exposes a difficulty that "John the Grammarian" poses about the corruptibility of the heaven, as a consequence of its being a body of finite power. Grosseteste quotes the entire passage, including Philoponus' objection. But, curiously, he avoids mentioning "John the Grammarian" and turns the sentence into a neutral form ("This statement poses a difficulty"), as we can see in the parallel words, hereafter underlined, which open the long quotation:[76]

Grosseteste, *De motu supercelestium*, 336	Averroes, *Comm. in Metaph. XII*, comm. 41, 324B-C
Sed in hoc sermone est difficultas: si enim omne corpus habet potentiam finitam, et celum est corpus, ergo habet potentiam finitam. Sed, cum omne habens potentiam finitam sit corruptibile, erit celum corruptibile ...	Iohannes autem Grammaticus movit magnam quaestionem et difficilem Peripateticorum. Dicit enim si omne corpus habet potentiam finitam et coelum est corpus, ergo habet finitam potentiam, et omne finitum est corruptibile, ergo coelum est corruptibile...

In this case, too, Philoponus enters into Grosseteste's writings silently and namelessly.

Glosses and interpolations, as it seems, governed the early, anonymous, and fragmentary circulation of sections of Philoponus' commentaries. These elusive and sparse traces attracted Grosseteste because of their collocation "in the margins" of Aristotelian works, from where, as he states in his "apology" mentioned above, they offered valuable conjectures in interpreting the difficult theories of Aristotle.

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[74] See Panti, *Moti, virtù e motori*, 187-204. For Grosseteste's use of Averroes see also above, note 2.
[75] On Averroes' references to Philoponus see for instance 'Abdurrahmàn Badawi, *Averroès (Ibn Rushd)* (Paris, Vrin 1998), Appendix 1: "Averroès face au texte qu il commente".
[76] See Panti, *Moti, virtù e motori*, 377-378. The edition of Grosseteste's *De motu supercelestium* is on 329-346. Averroes' commentary is edited in *Commentaria magna in Aristotelis Metaphysicorum libri XIIII cum Averrois Cordubensis in eosdem commentariis*, in *Aristotelis opera cum Averrois Commentariis*, vol. 8 (Venetiis apud Iunctas, 1562).

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INTENTIO ARISTOTELIS IN HOC LIBRO. STRUCTURE AND COMPOSITION OF THE *POSTERIOR ANALYTICS* ACCORDING TO ROBERT GROSSETESTE

INTENTIO ARISTOTELIS IN HOC LIBRO. STRUTTURA E ARTICOLAZIONE DEGLI *ANALYTICA POSTERIORA* SECONDO ROBERTO GROSSATESTA

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Abstract

This study shows how Grosseteste's *Commentary on the Posterior Analytics* adopts a peculiar criterion to structure arguments developed by Aristotle about the science of demonstration. Grosseteste places his commentary in the framework of the *ratio disserendi* by Cicero and Boethius; yet, the arguments he develops are summarised in *conclusiones*. After reviewing past and recent scholarship on the meaning of these 'conclusions' and their relationship to Aristotle's arguments, the study proposes to consider them as an application of Euclid's geometrical method.

Keywords

Robert Grosseteste; Aristotle; *Posterior Analytics*; Scientific Method; Demonstration; Euclid; Proclus

Abstract

Il primo commento medievale latino agli *Analytica Posteriora* a noi giunto è quello di Roberto Grosstesta ed è all'origine della tradizione esegetica di questo importante trattato di Aristotele, dedicato alla teoria della conoscenza scientifica fondata sulla dimostrazione. Scopo di questo articolo è far emergere e documentare come Grossatesta organizzi e interpreti la dottrina che Aristotele espone nel trattato, e come egli fornisca e segnali al lettore la suddivisione del testo che sta commentando. Grossatesta organizza e riassume le scansioni dottrinali del trattato ricorrendo a *conclusiones*, come del resto fa anche nelle sue glosse alla *Fisica*. Dopo una discussione della storiografia presente e passata sul significato di queste *conclusiones*, lo studio propone di considerarli come una applicazione del metodo geometrico euclideo, come Proclo fa nella

Elementatio Physica, testo che Grossatesta dimostra di conoscere quando glossa il libro VI della *Fisica*.

Parole chiave

Roberto Grossatesta; Aristotele; *Analitici secondi*; metodo scientifico; dimostrazione; Euclide; Proclo

È risaputo che quello di Roberto Grossatesta è il primo commento medievale latino agli *Analytica Posteriora* a noi giunto, e gli studiosi sono ormai concordi nell'assegnare la sua composizione agli ultimi anni '20 del Duecento.[1] Ruggero Bacone riferisce che un 'maestro Ugo' fu il primo che 'lesse' i *Posteriora* a Oxford, di cui vide lo scritto, ma sino ad ora non sono state rinvenute tracce dell'opera o notizie riguardanti tale maestro.[2] Sull'interpretazione della testimonianza di Ruggero molto è stato scritto, ma non è qui il caso di richiamare le possibili ipotesi, e neppure di ripercorrere la storia delle traduzioni medievali – quella arabo-latina e quelle greco-latine – degli *Analytica Posteriora* risalenti al secolo XII e al XIII, vicende ben note agli studiosi.[3]

È invece opportuno delineare il quadro delle possibili opere funzionali alla comprensione della teoria della conoscenza scientifica, esposta da Aristotele nei *Posteriora*, accessibili ai Latini a partire dal secolo XII. A questo proposito, un recente saggio di David Bloch su Giovanni di Salisbury – focalizzato in particolare sui libri III e IV del *Metalogicon* – delinea e analizza la nozione e la concezione di 'scienza' elaborata

[1] Per un quadro comparativo delle proposte sulla cronologia degli scritti di Grossatesta si veda Roberto Grossatesta, *La luce*, a cura di C. Panti (Pisa: Edizioni Plus e Pisa University Press, 2011), 1-5.

[2] Si veda Roger Bacon, *Compendium of the Study of Theology*, a cura di T. S. Maloney (Leiden, New York, København e Köln: E.J. Brill, 1988), 46, 12-13: "Nam beatus Edmundus Cantuariae Archiepiscopus, primus legit Oxoniae librum *Elencorum* temporibus meis. Et vidi magistrum Hugonem, qui primo legit librum *Posteriorum*, et librum eius conspexi".

[3] Per una sintesi della questione e la relativa bibliografia si può vedere Robertus Grosseteste, *Commentarius in Posteriorum Analyticorum libros*, a cura di P. Rossi (Firenze: Leo S. Olschki Editore, 1981), 12-21; Pietro B. Rossi, "Grosseteste's Influence on Thirteenth- and fourteenth-century British Commentators on *Posterior Analytics*", in *Robert Grosseteste. His Thought and Its Impact*, a cura di J. P. Cunningham (Toronto: Pontifical Institute of Mediaeval Studies, 2012), 140-166, 141-148, nel quale si riprendono spunti dal contributo di Pietro B. Rossi, "Fili dell'*Aristoteles Latinus*", in *Petrarca e il mondo greco.* I. Atti del Convegno internazionale di studi, Reggio Calabria 26-30 novembre 2001 (= *Quaderni Petrarcheschi*, 12-13 [2002-2003]: 75-98, alle pagine 75-83). Per un recente *status quaestionis* delle glosse derivanti dalla tradizione greca e la relativa bibliografia si veda: Amos Corbini, "'Alexander of Aphrodisias' in the Medieval Latin Tradition of the *Posterior Analytics*. Some Remarks", in *Alexander of Aphrodisias in the Middle Ages and the Renaissance*, a cura di P. B. Rossi, M. Di Giovanni e A. A. Robiglio (Turnhout: Brepols, 2021), 95-107.

dal vescovo di Chartres a partire anche dalla conoscenza che egli dimostra di avere di alcune parti degli *Analitici secondi*.[4]

1.

La lettura del commento permette di rilevare che Grossatesta attinge costantemente alla parafrasi temistiana degli *Analitici secondi* tradotta da Gerardo da Cremona e, inoltre, che egli aveva la possibilità di accedere a glosse corrispondenti a passi del commento di Filopono, probabilmente tradotte da Giacomo Veneto.[5] In due luoghi fa espressamente riferimento a *exponentes Aristotelem* e a *expositores*, denunciando che aveva la possibilità di attingere ad altre fonti o, più verosimilmente, a glosse interpretative, oltre che alla parafrasi di Temistio, non sappiamo se derivanti dalla tradizione esegetica greca o da quella araba[6]. Non va in ogni caso dimenticato che una glossa al *Chronicon* di Roberto di Torigny, abate di Mont-Saint-Michel, ci fa sapere che Giacomo Veneto tradusse i *Topici*, gli *Analitici primi* e *secondi* e gli *Elenchi*, e che li commentò.[7] Inoltre, quando identificò frammenti latini di un commento agli *Elenchi* attribuito nel Medioevo latino ad Alessandro di Afrodisia, Minio-Paluello aveva rilevato che nella sua *Biblionomia* Riccardo di Fournival fra i *libri dyalectici* elencava un commento di Alessandro agli *Elenchi* e pure un suo commento ai *Posteriora*, testimonianza questa che attesta la circolazione di frammenti di una tradizione esegetica greco-latina di questi trattati aristotelici attorno alla metà del secolo XIII.[8]

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[4] David Bloch, *John of Salisbury on Aristotelian Science* (Turnhout: Brepols, 2012). Su Giovanni si veda anche *A Companion to John of Salisbury*, a cura di. C. Grellard e F. Lachaud (Leiden e Boston: Brill, 2015).

[5] Si veda Pietro B. Rossi, "Tracce della versione latina di un commento greco ai *Secondi Analitici* nel *Commentarius in Posteriorum Analyticorum libros* di Roberto Grosatesta", *Rivista di Filosofia Neo-scolastica*, 70 (1978): 433-439, e la bibliografia citata nella nota nr. 3; inoltre, si veda Robertus Grosseteste, *Commentarius in Posteriorum Analyticorum libros*, 70-72.

[6] Si veda Robertus Grosseteste, *Commentarius in Posteriorum Analyticorum libros*, 97 e 114 rispettivamente.

[7] Charles H. Haskins, *Studies in the History of Medieval Science* (Cambridge, Mass.: Harvard University Press, [2]1927), 226-227; Lorenzo Minio-Paluello, "Jacobus Veneticus Grecus: Canonist and Translator of Aristotle", *Traditio* 8 (1952): 265-304, 267; ora anche in Lorenzo Minio-Paluello, *Opuscula. The Latin Aristotle* (Amsterdam: A.M. Hakkert Publisher, 1972), 199 ss.

[8] Si veda Lorenzo Minio-Paluello, "Note sull'Aristotele Latino Medievale, IX", *Rivista di Filosofia Neo-scolastica* 46 (1954): 223-231, e Lorenzo Minio-Paluello, "Note sull'Aristotele Latino Medievale, XIV", *Rivista di Filosofia Neo-scolastica* 54 (1962): 131-147 (ora anche in Minio-Paluello, *Opuscula*, 241-249 e 442-448 rispettivamente). Per il passo della *Biblionomia*, si veda Léopolde Delisle, *Le cabinet des manuscrits de la Bibliothèque Nationale*, vol. 2 (Paris: Imprimerie Nationale, 1874), 525: "23. Alexandri Affrodisii liber commentariorum in sophysticos elenchos Aristotelis, in uno volumine cujus signum est littera C. 23. Ejusdem liber commentariorumn in posteriores analecticos ejusdem Aristotelis, in uno volumine cujus signum est littera C.". Per un recente

Grossatesta poteva trovare nel *De divisione philosophiae* di Gundissalino una trattazione ben strutturata delle parti della logica con brevissima, ma chiara definizione della natura della dottrina esposta negli *Analitici secondi* – o *Liber demonstrationis* – con prestiti derivati dal *De scientiis* di Al-Fārābi che Gundissalino aveva tradotto.[9] Ben più ampia e articolata trattazione del 'sillogismo dimostrativo' trovava invece nella parte finale – la *Maneria quinta* – della *Logica Algazelis*.[10]

2.

È una valutazione condivisa dagli studiosi che il commento di Grossatesta sia una lettura degli *Analitici secondi* che, in qualche misura, vada oltre le notizie che noi possediamo delle conoscenze della teoria della dimostrazione scientifica diffuse fra i maestri del secolo XII, e studi ormai pionieristici e altri recenti hanno messo in luce l'effettiva comprensione e valutazione, da parte del vescovo di Lincoln, della dottrina esposta da Aristotele nel trattato, pur nel contesto di una visione filosofica con connotazioni riconducibili alla dimensione che definiamo platonica di alcune problematiche filosofiche. Qui, però, si vuole mettere in luce come Grossatesta abbia inteso e interpretato struttura e fasi del percorso dottrinale portato a compimento dallo Stagirita negli *Analitici secondi*, alla luce naturalmente delle dottrine dell'intero *Organon*.

Si è già accennato al ruolo importante avuto dalla parafrasi di Temistio. In essa, tuttavia, non incontriamo chiara e costante attenzione al procedere di Aristotele e la sintetica esposizione è condizionata dal lessico proprio delle versioni dalla lingua araba,

quadro della *vexata quaestio* della natura della *Biblionomia* con rinvii anche ai lavori di Sten Ebbesen sui frammenti di un commento agli *Elenchi,* si veda Christopher Lucken, "La *Biblionomia* et la bibliothèque de Richard de Fournival", in *Les livres des maîtres de Sorbonne. Histoire et rayonnement du collège et de ses bibliothèques du XIII^e^ siècle à la Renaissance*, a cura di C. Angotti, G. Fournier e D. Nebbiai (Paris: Édition de la Sorbonne, 2017), 63-96.

[9] Dominicus Gundissalinus, *De divisione philosophiae*, a cura di L. Baur (Münster: Aschendorff, 1903), 69-83, 73-74: "Proprium autem est demonstratiue dare scienciam certissimam de proposita questione uel apud se uel apud alium, cuius contrarium sit impossibile, in quo nulla fit fallacia. [...] Set quia ueritatis certa cognicio non habetur, nisi per demonstracionem, idcirco necessarium fuit, librum componi, in quo doceretur, qualiter et ex quibus demonstracio fieret. Propter quod compositus est liber, qui posteriora analetica siue liber demonstracionis". Per una recente indagine sulla paternità di alcuni testi arabi – compreso il *De scientiis* di Al-Fārābi – le cui doppie traduzioni sono attribuite a Gerardo e a Gundissalino, si veda Dag Nikolaus Hasse, "The Double Translations from Arabic into Latin by Gerard of Cremona and Dominicus Gundissalvi", in *Reading proclus and The Book of Causes*, II, *Translations and Acculturations*, a cura di D. Calma (London e Leiden: Brill, 2021), 247-274; sui prestiti derivati da al-Fārābi – ma non solo – nel *De divisione philosophiae* per quanto riguarda la logica e le sue parti, si veda Nicola Polloni, "Aristotle in Toledo: Gundissalinus, the Arabs and Gerard of Cremona's Translations", in *Ex Oriente lux. Translating Words, Scripts and Styles in Medieval Mediterranean Society*, a cura di C. Burnett e P. Mantas-España (Córdoba: Córdoba University Press, 2016), 147-185, 164 ss.

[10] Charles H. Lohr, "Logica Algazelis: Introduction and Critical Text", *Traditio* 21 (1965): 223-290, 282-288.

lessico che trovava una corrispondenza in quello della versione arabo-latina del testo aristotelico parafrasato, ma che non trovava in qualche modo riscontro nelle versioni degli altri trattati dell'*Organon*, che furono prevalentemente greco-latine. Come si è già rilevato altrove,[11] quello di Grossatesta agli *Analitici secondi* non è certo classificabile come un vero e proprio *accessus* secondo la tradizione, perché si limita a una dichiarazione e a un chiarimento sintetico dello scopo che si è prefissato Aristotele nel trattato in oggetto, e affronta subito la fondante enunciazione 'generale/universale' con cui Aristotele apre la trattazione. Si è fatto ricorso al sintagma 'generale/universale' per denotare la natura della proposizione che apre il trattato (*Omnis doctrina et omnis disciplina intellectiva ex preexistente fit congitione*) per rilevare che, con ogni probabilità, a quel tempo Grossatesta non aveva ancora accesso al testo dei commentatori greci della *Nicomachea*. Infatti, in Eustrazio avrebbe trovato sottolineato come Aristotele fosse solito iniziare i trattati – e così era anche l'incipit dell'*Etica* – con una enunciazione 'universale', che riguardasse una prerogativa di tutti gli uomini.[12] Inoltre, avrebbe trovato anche una trattazione della organizzazione del sapere secondo la tradizione aristotelica, all'interno della quale andava collocata la 'conoscenza' trasmessa negli *Analitici secondi*, come si incontra generalmente nei prologhi ad altri commenti.[13] Tuttavia, la peculiarità del commento di Grossatesta si segnala anche perché è nel penultimo capitolo del libro II che egli dà "la sua lettura dell'intero trattato: qui troviamo un riferimento implicito alla partizione della logica secondo il *De differentiis topicis* e l'*In Topica Ciceronis* boeziani. In queste poche righe Grossatesta colloca il trattato nella prospettiva della distinzione ciceroniano-boeziana della *ratio disserendi*, che è altro rispetto alla sillogistica, di cui si tratta negli *Analytica Priora*: lì abbiamo l'*inventio demonstrationis*, nei *Posteriora* si apprendono i criteri per 'giudicare' *de invento an sit completa demonstratio*".[14]

[11] Pietro B. Rossi, "Alcuni *accessus* agli *Analytica Posteriora*: da Grossatesta a Rodolfo il Bretone", in *La filosofia medievale tra Antichità ed Età Moderna. Saggi in memoria di Francesco del Punta*, a cura di A. Bertolacci e A. Paravicini Bagliani, con la coll. di M. Bertagna (Firenze: SISMEL-Edizioni del Galluzzo, 2017), 245-299, 249.

[12] Si veda *The Greek Commentaries on the Nicomachean Ethics of Aristotle in the Latin Translation of Robert Grosseteste, Bishop of Lincoln († 1253)*, v. I: *Eustratius on Book I and the Anonymous Scholia on Books II, III, and IV*, a cura di H. P. F. Mercken (Leiden: E.J. Brill, 1973), 7-8: "Consuete Aristoteles universale praeordinat et in praesenti doctrina. Plerumque enim propria incipiens negotia hoc faciens invenitur. Etenim in *Demonstrativa*: «Omnis» ait «doctrina et omnis disciplina intellectiva ex praexistenti fit cognitione", et in *Naturali auditu* : "Quia scire et intelligere contingit circa omnes methodos quarum principia vel causae vel elementa ex horum cognitione", et in his quae *Post naturalia* hoc idem: "Omnes homines scire desiderant natura». Quia igitur propositum est ipsi Aristoteli de humano fine quaerere si est aliquod bonum proprium hominis naturae ...".

[13] Rossi, "Alcuni *accessus* agli *Analytica Posteriora*", 249 ss.

[14] Rossi, "Alcuni *accessus* agli *Analytica Posteriora*", 249; si veda Robertus Grosseteste, *Commentarius in Posteriorum Analyticorum libros*, 401-402, ll. 236-255: "Completa est igitur scientia de sillogsimo in Prioribus et de demonstratione et scientia demonstrativa in hoc libro. Dicitur autem scientia demonstrativa tum habitus conclusionis acquisitus per sillogismum demonstrativum tum cognitio certa partium essentialium et accidentium essentialium sillogismi demonstrativi, et hec

Non si deve certo attendere di poter leggere il penultimo capitolo per conoscere come Grossatesta intenda la struttura e l'articolazione degli *Analitici*. Nel corso del commento è possibile, infatti, rilevare tre modi di segnalare al lettore le scansioni del trattato. Anzitutto, egli segnala la rilevanza 'teorica' del contenuto dei capitoli, da lui caratterizzato come *de substantia huius scientie* oppure come *de complemento bonitatis huius scientie*. Incontriamo questi 'avvisi per il lettore' non molte volte e limitatamente al libro I, ma in altri punti si avverte che il commentatore assegna una valenza maggiore al suo intervento per segnalare la centralità di quanto sta dicendo Aristotele.[15] Ci sono, poi, interventi per sottolineare una qualche relazione tra un capitolo e l'altro del trattato,[16] altri per segnalare l'*obscuritas* della lettera di Aristotele[17]; in un altro luogo sembra ritenere che lo Stagirita voglia tendere scientemente a mascherare il suo pensiero (*more suo occultandi gratia*) e in un altro ancora che egli tende a caricare le parole di più valenze semantiche *onerare verba quot sententiis possunt ad imitationem nature, que non facit pluribus instrumentis quod potest facere uno*.[18]

Più significativi sono ovviamente i passi in cui Grossatesta sottolinea il cammino fin lì fatto o segnala la particolare importanza del nucleo dottrinale affrontato:

1. A principio huius libri usque ad locum istum demonstravit Aristoteles ... intendit Aristoteles in hoc loco explanare ...[19]

tradita est in hoc libro. Et hac scientia habita facile est cognoscere de sillogismo proposito an sit demonstrativus. Si enim sillogismus propositus resolvatur in partes ex quibus est et in accidentia et inveniantur in eo conditiones dicte in libro isto, tunc manifestum est quoniam est demonstrativus; et si deficit aliqua conditionum essentialium, manifestum est quod non est demonstrativus. Ad hoc enim intendit liber iste ut cognoscens conditiones essentiales demonstrationis posset per resolutionem propositi sillogismi in partes suas et accidentia essentialia cognoscere an compleantur in ipso conditiones essentiales demonstrationis an deficiat illarum aliqua. Et ab hoc dicitur liber iste resolutorius et iudicativus. Non enim intenditur in libro isto inventio demonstrationis, sed inventi iudicatio; inventionem namque habet demonstrator cum dialectico, quia in propria materia invenit demonstrator medium per locum a diffinitione et a causa, sed per conditiones demonstrationis manifestas in libro isto iudicat de invento an sit completa demonstratio".

[15] Si veda Appendice, ll. 52-53; 59-60; 154-155; 169-171; 185-186: 209-210.

[16] Si veda Appendice, ll. 38-39; 63-64; 94-97; 110-112; 163-165: 350-353. Occorre rilevare che Grossatesta usa il termine *capitulum* riferendosi alla suddivisione del testo aristotelico, non a quella del suo commento, consuetudine che risulta attestata fra i maestri già nelle prime decadi del Duecento; si veda Mariken Teeuwen, *The Vocabulary of Intellectual Life in the Middle Ages* (Turnhout: Brepols, 2003), 228-231. Riguardo ai criteri messi in atto per stabilire la suddivisione in capitoli del commento di Grossatesta si veda Robertus Grosseteste, *Commentarius in Posteriorum Analyticorum libros*, 81-86.

[17] Si veda a questo proposito quanto rilevato in Pietro B. Rossi, "Robert Grosseteste and the Object of Scientific Knowledge", in *Robert Grosseteste: New Perspectives on His Thought and Scholarship*, a cura di J. McEvoy (Steenbrugge e Turnhout: In Abbatia S. Petri e Brepols, 1995), 95 nota 35.

[18] Si veda rispettivamente Appendice, ll. 264-267; 294-298.

[19] Si veda Appendice, ll. 119-130.

2. Ostenso in priori capitulo per viam divisionis quod est demonstratio maxime dicta ... et ostenso in precedentibus capitulis ... consequens est nunc dicere... [20]

3. Iam ostendit Aristoteles ... Intendit itaque consequenter explanare ...[21]

4. Ostendit itaque Aristoteles in hoc capitulo quinque, scilicet, quod predicata ...[22]

5. Ostenso in superiori capitulo quod positis extremis non possunt interponi media infinita, consequenter ostendit Aristoteles hoc quod inmediate sequitur ex ipso ... Et hoc ostenso aufertur error putantium ...[23]

6. Ostendit Aristoteles in proximo capitulo quomodo se habet demonstratio ad subiectum ... Consequenter ordine competente ostendit quomodo se habet demonstratio ...[24]

7. In precedentibus ostendit Aristoteles conditiones sillogismi demonstrativi absolutas et relativas et quomodo ... In hoc capitulo ultimo huius primi libri determinat nobis habitum acceptivum anime principiorum primorum ...[25]

8. Scita sunt quatuor secundum genus. Cum igitur demonstratio sit sillogismus faciens scire, ostensis in priori libro conditionibus demonstationis, superest in hoc secundo investigare ... Hec igitur sunt que consequenter explanat in hoc capitulo, scilicet ...[26]

9. Recapitulat autem Aristoteles duas precedentes conclusiones et consequenter ...[27]

10. Hic ergo intendit Aristoteles consequenter demonstrare ...[28]

11. His itaque obiectis, convertit se Aristoteles ad speculandum ...[29]

12. Ostenso hoc, redit ad modum quo contingit solvere ...[30]

13. Explanat autem Aristoteles per exempla ...[31]

[20] Si veda Appendice, ll. 137-144.
[21] Si veda Appendice, ll. 148-151.
[22] Si veda Appendice, ll. 172-176.
[23] Si veda Appendice, ll. 178-182.
[24] Si veda Appendice, ll. 268-274.
[25] Si veda Appendice, ll. 282-285.
[26] Si veda Appendice, ll. 306-323.
[27] Si veda Appendice, l. 365.
[28] Si veda Appendice, l. 377.
[29] Si veda Appendice, l. 382.
[30] Si veda Appendice, l.389.
[31] Si veda Appendice, l. 391.

14. Ostenso quod non scitur quid est per demonstrationem neque per vias alias supra enumeratas, consequens est ostendere viam ... Ante autem quam hoc faciat Aristoteles interponit quasdam conditiones ... cuius interpositionis ratio non satis est manifesta [32]

15. In isto capitulo redit Aristoteles ad assignandum artem diffiniendi et ipsemet continuat nunc dicenda de diffinitione eis que supra dicta sunt de diffinitione. Ars autem diffiniendi ...[33]

16. Ostensa artem diffiniendi per viam duplicem, docet nos Aristoteles ...[34]

17. In hoc capitulo redit Aristoteles ad complendum semonem suum de conditionibus causalibus ...[35]

18. Capitulum ultimum. Ostensis perfecte conditionibus demonstrationis ut possimus actu operari et demonstrare, docet nos in ultimo qualiter accipiantur principia ...[36]

19. In fine huius scientie ostendit Aristoteles ordinem huius ad alias et utilitatem eius et potestatem in aliis dicens ... [37]

3.

Oltre a questi due modi di segnalare al lettore l'evolversi della dottrina oggetto del trattato, modi che sono in qualche misura riscontrabili nell'*usus* della lunga tradizione esegetica occidentale antica,[38] il commento di Grossatesta si distingue per l'introduzione di una successione di *conclusiones* numerate, che a suo parere fissano di momento in momento lo svolgimento dottrinale. Anzi, ci sono almeno cinque luoghi in cui Grossatesta mette esplicitamente in relazione con Aristotele stesso le *conclusiones*:

- ... et hec est XXI conclusio huius scientie, secundum quod in littera proximo exposita dicit unam conclusionem, et non est solum explanatio XIX propositionis in conclusione, verumtamen ...[39]

[32] Si veda Appendice, ll. 416-422.
[33] Si veda Appendice, ll. 454-455.
[34] Si veda Appendice, l. 503.
[35] Si veda Appendice, ll. 521-523.
[36] Si veda Appendice, ll. 546-547.
[37] Si veda Appendice, ll. 554 ss.
[38] Si veda Jaap Mansfeld, *Prolegomena. Questions to be Settled Before the Study on an Author, or a Text* (Leiden, New York e Köln: E.J. Brill, 1994).
[39] Si veda Appendice, ll. 217-219.

- Et secundum hunc ordinem ponit Aristoteles has conclusiones, verumtamen ordinem probationum istarum conclusionum multum perturbat sermonibus intricatis.[40]

- Positis his conclusionibus duabus, exponit Aristoteles sermonem quem dixit: *quia est in parte aut si est simpliciter*, dicens ...[41]

- Iam igitur complete sunt probationes duarum conclusionum, scilicet II et III, ex quibus sequitur ...[42]

- Recapitulat autem Aristoteles duas precedentes conclusiones et consequenter illam ex qua habetur sicut corollarium quod ...[43]

Le *conclusiones* elencate da Grosseteste nel suo commento attirarono l'attenzione fin dall'inizio della sua diffusione, e probabilmente influirono anche sulla *divisio textus* dell'intero trattato. In un manoscritto contenente i trattati dell'*Organon*, conservato a Vendôme e risalente alla seconda metà del Duecento, una mano diversa da quelle dei copisti ha inserito al f. 143v una pagina con proposizioni/*excerpta* del commento di Grossatesta, e ha aggiunto nei margini dei fogli che recano il testo aristotelico – a pagina intera – le indicazioni dei capitoli e delle *conclusiones*, di cui fornisce il numero totale.[44]

Questo modo di dare un 'ordine progressivo' alla esposizione della dottrina di un trattato Grossatesta lo applica anche quando legge la *Fisica*, opera che non fu mai da lui portata a termine, e che è una iniziativa editoriale successiva alla sua morte.[45] È interessante rilevare in queste glosse alcuni luoghi in cui Grossatesta sembra usare indifferentemente – potremmo dire – i termini *conclusio*, *propositio* e anche *demonstratum*, ad esempio:

- Prima igitur proposicio huius sciencie demonstrata est ista: cuiuslibet facti sunt principia contraria, et hoc notatur ibi.[46]

- Hic ostendit quod prima principia nec sunt unum nec infinita, et hec est secunda conclusio.[47]

[40] Si veda Appendice, ll. 331-333.
[41] Si veda Appendice, ll. 335-337.
[42] Si veda Appendice, ll. 341-342.
[43] Si veda Appendice, ll. 365-366.
[44] Si veda la trascrizione delle prime righe del f. 143v e 144r nell'Appendice, ll. 566-571; per il codice e la bibliografia relativa si veda Robertus Grosseteste, *Commentarius in Posteriorum Analyticorum libros*, 32 e 36.
[45] Si veda per alcune notizie Robertus Grosseteste, *Commentarius in VIII libros Physicorum Aristotelis*, a cura di R. C. Dales (Boulder, Colorado: University of Colorado Press, 1963), xi ss.
[46] Robertus Grosseteste, *Commentarius in VIII libros Physicorum Aristotelis*, I, 18.
[47] Robertus Grosseteste, *Commentarius in VIII libros Physicorum Aristotelis*, I, 20.

- Quapropter cuiuslibet facti tria sunt principia et hoc est tercium demonstratum in hac sciencia.[48]
- *Tria igitur dicere elementa* et cetera. Quarta vero proposicio est quod non sunt plura tribus ibi: *plura autem tribus amplius non est*.[49]
- Sunt enim duo secundum rem et tria secundum racionem; et hoc est quinque demonstratum in hac sciencia.[50]
- Et hec diffinicio nature est prima proposicio huius libri.[51]

Inoltre, nel passo che apre le glosse al libro VI vediamo Grossatesta confrontare la lettura della dottrina aristotelica ivi esposta data da Proclo nelle 'proposizioni' dell'*Elementatio Physica* con le *propositiones/conclusiones* che egli ritiene segnino lo sviluppo del testo di Aristotele:

> *Si autem continuum est quod tangitur*. Proclus, qui huius sexti libri ordinat conclusiones, non penitus videtur sequi ordinem Aristotelis, sed quod Aristoteles primo syllogizando concludit, ipse Proclus quasi ultimo intentam facit conclusionem.[52]

Chi frequenta la storia del pensiero filosofico e scientifico medievale avverte che questa caratteristica di Grossatesta commentatore ben si colloca nel contesto teorico della seconda metà del secolo XII e dei primi decenni del XIII.[53] Per richiamare solamente le linee essenziali della evoluzione di questo contesto funzionali per la nostra circoscritta indagine, credo potremmo fare riferimento a un lavoro di Charles H. Lohr.[54] Mi sembra, infatti, che in poche pagine Lohr sia riuscito a riassumere categorie storiografiche condivisibili relative al costituirsi di quelli che potremmo chiamare

[48] Robertus Grosseteste, *Commentarius in VIII libros Physicorum Aristotelis*, I, 23.
[49] Robertus Grosseteste, *Commentarius in VIII libros Physicorum Aristotelis*, I, 23.
[50] Robertus Grosseteste, *Commentarius in VIII libros Physicorum Aristotelis*, I, 24.
[51] Robertus Grosseteste, *Commentarius in VIII libros Physicorum Aristotelis*, II, 32.
[52] Robertus Grosseteste, *Commentarius in VIII libros Physicorum Aristotelis*, VI, 116.
[53] Per quanto riguarda la questione delle *conclusiones* che Gossatesta elenca nel suo commento, riprendo qui notizie e considerazioni esposte nel mio intervento fatto nel "2nd Notre Dame University-KU Leuven Collaborative Workshop in Ancient, Medieval and Renaissance Philosophy" (Leuven, 1-2 June, 2022), dal titolo: *Robert Grosseteste's Notes on the Physics and the Early 13th Century Reading of Proclus in England*. Per approfondire in modo adeguato la relazione Grossatesta-Proclo, si veda il contributo di Sokratis-Athanasios Kiosoglou pubblicato in questo volume.
[54] Charles H. Lohr, "The Pseudo-Aristotelian *Liber de causis* and Latin Theories of Science in the Twelfth and Thirteenth Centuries" in *Pseudo-Aristotle in the Middle Ages. The* Theology *and Other Texts*, a cura di J. Kraye, W.F. Ryan e C.B. Schmitt (London: The Warburg Institute-University of London, 1986), 53-62. Per la rinascita del mondo latino nel secolo XII si veda: *A History of Twelfth-Century Western Philosophy*, a cura di P. Dronke (Cambridge: Cambridge University Press, 1988); *Grundriss der Geschichte der Phylosophie. Die Philosophie des Mittelalters*, a cura di R. Imbach e P. Schulthess, Band 3/1-2: *12. Jahrhundert*, a cura di L. Cesalli, R. Imbach, A. De Libera e T. Ricklin (†), con la collaborazione di J. G. Heller (Basel: Schwabe Verlag, 2021).

'nuovi generi letterari' che si venivano a costituire nel secolo XII, rispondenti a nuove esigenze di 'sistematizzazione' di ambiti delle nostre conoscenze, di quella religiosa in particolare. Egli apre il suo breve saggio con una significativa citazione dal *De causis et processu universitatis* di Alberto Magno, che dichiara che scopo del suo scritto sarebbe quello di prendere in considerazione le opere – come il *Liber de causis* – strutturate *per modum theorematum*, opere che andavano sotto il nome di Aristotele, e opere come gli *Elementi* di Euclide che furono di grande importanza per lo sviluppo delle teorie della conoscenza scientifica nel XII e nel XIII, secolo: furono anche concepite come esempi di metodo 'assiomatico' e 'matematico-assiomatico-deduttivo', fraintendendone in qualche modo la natura.[55]

Lohr inizia il suo cammino dal *De hebdomadibus* di Boezio e dai commenti del Porretano e di Clarenbaldo d'Arras a questo breve, ma significativo e problematico trattato, per illustrare la prima via attraverso la quale fu conosciuto dai Latini il 'metodo assiomatico'. Passa successivamente a considerare la 'forma assiomatica' degli *Elementi* di Euclide resi accessibili dalle traduzioni arabo-latine di Adelardo di Bath e di Gerardo di Cremona, forma applicata – potremmo dire – al discorso teologico nel trattato *De arte catholicae fidei* di Nicola di Amiens. Fu in questo contesto che il *Liber de causis* fu introdotto nel mondo latino. Lohr, poi, osserva che possiamo definire questo metodo 'deduttivo', ma non necessariamente 'assiomatico', e ne possiamo vedere l'applicazione nelle *Regulae de sacra theologia* di Alain de Lille.[56]

In questo contesto, come si colloca il procedimento per *conclusiones* che Grossatesta sviluppa in questi commenti aristotelici? Gillian R. Evans si occupò delle *conclusiones* quando fu pubblicato il commento agli *Analytica Posteriora*, e concluse la sua valutazione ritenendo che le *conclusiones* fossero da considerare come dei 'principi derivati' della scienza dimostrativa, essendo appunto conclusioni: Grossatesta sarebbe arrivato a ritenere di aver individuato i principi della 'scienza dimostrativa' così come emergevano dal trattato di Aristotele.[57]

Anni dopo, David Bloch si occupò a sua volta delle *conclusiones*, e concluse la sua analisi dicendo che le *conclusiones* elencate da Grossatesta nel commento dovevano

[55] Lohr, "The Pseudo-Aristotelian *Liber de causis*", 53.
[56] Lohr, "The Pseudo-Aristotelian *Liber de causis*", 54-56.
[57] Gillian R. Evans, "The 'conclusiones' of Robert Grosseteste's Commentary on the 'Posterior Analytics'", *Studi medievali* ser. III, 24 (1983): 729-734, a 733-734: "What are these *conclusiones*? Grosseteste regularly calls them: *conclusiones huius scientie*, or: *conclusiones de his que sunt de substantia huius scientie.* They are the principles – the derived principles, for they are conclusions not *principia* – of the science of demonstration. There is a strong probability that Grosseteste is the author of an analysis of the *Prior Analytics* into *Regulae* which suggests that even in this work which yields *principia* and *conclusiones* far less readily, Grosseteste was looking for the fundamentals which he found so intellectually satisfying in the *Posterior Analytics*. [...]. Grosseteste ... appears to have set out to discover the principles of the demonstrative science as the emerge from the book, and these are the conclusions he gives us in his two books (i. e. Analytics and Physics)".

essere considerate come teoremi, la cui prova però era spesso mancante: nonostante egli avesse la cura di individuare la connessione fra definizioni, ipotesi e conclusioni, è frequentemente assente un processo argomentativo.[58]

A mio parere, Gillian Evans ha frainteso la natura delle *conclusiones*, perché esse non possono in alcun modo essere ritenute 'principi' e nemmeno principi derivati. David Bloch valuta le *conclusiones* come se fossero a loro volta un tentativo da parte di Grossatesta di organizzare la teoria aristotelica della scienza come una teoria da questa derivata. A mio modo di vedere, le *conclusiones* non sono altro che la volontà da parte di Grossatesta di organizzare la dottrina aristotelica della conoscenza scientifica esposta negli *Analitici* in asserzioni simili alle conclusioni che concludono le dimostrazioni dei teoremi negli *Elementi* di Euclide e negli altri testi che riguardano problemi di geometria.

Da una parte, quindi, Grossatesta sembra applicare quanto ha appreso da Euclide, dall'altra tenta di organizzare la dottrina aristotelica dei *Posteriora* o della *Physica* enunciando *conclusiones* via via che illustra le dimostrazioni che Aristotele sviluppa nel testo: è Aristotele che procede 'assiomaticamente', non Grossatesta. Infatti, ritengo che per Grossatesta *conclusio* abbia l'accezione che il termine ha in geometria, come leggiamo nel prologo della traduzione degli *Elementi* di Euclide di Gerardo da Cremona:

> Ea a quibus procedit scientia, ex qua res que scitur comprehenditur sunt septem: propositum, exemplum, contrarium, dispositio, differentia, probatio, conclusio. Propositum autem est [...]. Conclusio autem est terminus scienti cum re scita consequens totum quod nominavimus.[59]

E come illustra a sua volta Anaritius nel suo commento ai libri I-IV degli *Elementi*, al termine del commento agli assiomi. Egli, infatti, in una sorta di introduzione ai teoremi, chiarisce i termini che si riferiscono alle fasi del processo dimostrativo:

> Nominantur tamen omnes figure scientie aut operationes nomine equivoco; unumquodque autem istorum, sc. scientia et operatio et inventio et si qua sunt alia, dividuntur in sex partes, id est: propositio, exemplum, differentia, opus, probatio, conclusio. [...] Conclusio est reversio propositionis, sicut si dicetur: manifestum est quod

[58] David Bloch, "Robert Grosseteste's 'Conclusiones' and the Commentary on the 'Posterior Analytics'", *Vivarium* 47/1 (2009): 1-23, a 21: "Thus, the *conclusiones* of Grosseteste's commentary may be conceived as theorems by their author, but the demonstrative arguments to prove them are often lacking. Even though he is sometimes careful to point out the connections between the individual definitions, suppositions and conclusions there is often no real argument involved; it is done simply by using words and phrases such as *consequenter* or *subnectitur haec conclusio.* To repeat, these are not demonstrative arguments but rather "instructions showing the reader which earlier theorems [that is, in Grosseteste s case, definitions, suppositions, explanations and conclusions] to use in order to obtain the proof".

[59] *The Latin translation of the Arabic version of Euclid's Elements commonly ascribed to Gerard of Cremona*, a cura di H.L.L. Busard (Leiden: Brill, 1984), 2.

> omnes tres anguli cuiusque trianguli sunt equales duobus rectis angulis. Dicetur ergo affirmative quoniam probatum est, ideoque nichil additur ei nisi 'ergo'.[60]

In conclusione, se volessimo avere un elenco nutrito delle accezioni che il termine *conclusio* ha assunto nel Medioevo latino, possiamo ora ricorrere anche all'indagine fatta da Olga Weijers della polivalenza semantica di cui questo termine è stato caricato dopo l'età classica fino al termine del Medioevo. Alle *conclusiones* di Grossatesta si accenna nella parte finale, attingendo a Evans e a Bloch.[61]

Per parte mia, ritengo che ci siano elementi sufficienti per affermare che Grosssatesta abbia sviluppato il modo di fissare il progressivo 'avanzamento' dell'esposizione di una dottrina ricorrendo a *conclusiones*, facendo proprio il metodo che aveva visto applicato da Boezio nel *De hebdomadibus* e ritrovato e arricchito dalla sua frequentazione di Euclide e di altri trattati, quali il *De quadratura circuli* di Archimede e il *De curvis superficiebus*, un trattato che in dieci proposizioni presenta un'epitome delle prove di Archimede sulla misurazione della superficie e del volume della sfera (*De sphera et cylindro*) dell'inglese, suo contemporaneo, John of Tynemouth, trattati che egli cita nel commento alla *Fisica*.[62]

In chiusura, vorrei citare due passi del commento di Grossatesta, entrambi passi noti. Nel primo egli esprime in modo non consueto il suo apprezzamento dello 'stile' argomentativo di Aristotele:

> Ecce quam elegans ordo. Primo demonstravit quod demonstratio est sillogismus ex veris. Prima autem divisio veri est per contingens et necessarium, propter hoc consequenter demonstrat quod demonstratio est ex necessariis; necessitas autem primo et maxime reperitur in propositionibus habentibus has tres conditiones: universalitatem, scilicet,

[60] *The Latin translation of Anaritius' Commentary on Euclid's Elements of Geometry, Books I-IV*, a cura di P.M.J.F. Tummers (Nijmegen: Ingenium Publishers, 1994), 36-37. Per un saggio approfondito sulle influenze arabe sul linguaggio della tecnica dimostrativa sul pensiero medievale si veda Charles Burnett, "The Latin and Arabic Influences on the Vocabulary concerning demonstrative Arguments in the Versions of Euclide's *Elements* associated with Adelard of Bath", in *Aux origins du lexique philosophique européen. L'influence de la 'Latinitas'*, Accademia Belgica, 23-25 mai 1996, a cura di Jacqueline Hamesse (Louvain-la-Neuve: Brepols, 1997), 117-135, e per il secolo XII si veda Charles Burnett, "Scientific speculations", in *A History of Twelfth-Century Western Philosophy*, a cura di P. Dronke (Cambridge: Cambridge University Press, 2011), 151-176.

[61] Olga Weijers, "Conclusio. Nouvelles réflexions sur un mot rebelle", in *Mots médiévaux offerts à Ruedi Imbach*, a cura di I. Atucha, D. Calma, C. König-Pralong e I. Zavattero (Porto: FIDEM, 2011), 175-183. Alle *conclusiones* di Grossatesta si accenna nella parte finale, attingendo a Evans e a Bloch.

[62] Robertus Grosseteste, *Commentarius in VIII libros Physicorum Aristotelis*, VII, 128: "Contra in libro *De quadratura circuli* et *De eternis* (da emendare in: *curvis*) *superficiebus* ..."; si veda Pietro B. Rossi, "Un contributo alla storia della scienza nel Medioevo", *Rivista di Filosofia Neo-scolastica* 67 (1975): 103-110, a 110 n. 35; Wilbur Richard Knorr, "Falsigraphus vs. Adversarius: Robert Grosseteste, John of Tynemouth, and Geometry in the 13th Century", in *Mathematische Probleme im Mittelalter: Der lateinische und arabische Sprachbereich*, a cura di M. Folkerts (Wiesbaden: Harrassowitz, 1996), 333-359, 335.

> tam ex parte subiecti quam ex parte temporis, et quod predicatum dicatur per se et quod de subiecto primo.[63]

Nel secondo fa ricorso alla metafora dell'albero per rappresentare la struttura della scienza dimostrativa:

> Est enim scientia una sicut arbor una, ex cuius subiecto uno procedunt multe conclusiones, sicut ex radice una rami multi. Cum igitur ex subiecto extrahatur conclusio una, sicut ramus ex radice sua, et iterum ex illa conclusione extrahatur alia conclusio, sicut ramus ex ramo, et sic deinceps donec completa fuerit una continua extractio, necesse est iterum redire ad principium sicut ad radicem, ut fiat ex parte alia extractio alia non dependens a priori. Et forte aliquando antequam compleatur extractio prior reditur ad secundam extractionem et iterum fit reversio ad complementum prioris, ut ex tali alternatione ostendatur neutram extractionem ex alia dependere, quod forte facit Aristoteles. Cum enim totus hic liber versetur circa diffinitionem et circa medium in quantum est causa, utrumque istorum tractatuum per alterum interrumpit, ut sic ostendat eos quodammodo equevos.[64]

A mia conoscenza, nei testimoni che tramandano il commento di Grossatesta non si riscontrano frequenti schemi nei margini, ed è il commentatore stesso che, a metà del libro II, offre al lettore una 'immagine' della struttura del sapere dimostrativo, quasi prevenendo la sua aspettativa.[65]

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[64] Robertus Grosseteste, *Commentarius in Posteriorum Analyticorum libros*, II, 3, 345-346, ll. 9-21.
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APPENDICE

1

Robertus Grosseteste, *Commentarius in Posteriorum Analyticorum libros* (Firenze 1981)[66]

Liber I

Cap. 1, 1-17: **Intentio Aristotelis in hoc libro est investigare et manifestare essentialia demonstrationis**; quapropter in scientia tradita in isto libro est demonstratio genus subiectum. Igitur, cum de subiecto oportet supponere quoniam ipsum est, necesse est Aristotelem in isto libro supponere demonstrationem esse. Et cum demonstratio sit sillogismus faciens scire, per consequens oportet presupponere quoniam scire sit, cui contradicebant Academici dicentes omnia ignorari et Platonici dicentes quod non est ignotum addiscere, sed oblitum reminisci. Quia igitur est contradictio philosophorum circa id quod scire sit, Aristoteli autem necesse sit in hoc libro sumere demonstrationem esse, et in hoc libro non possit demonstrare quoniam scire sit, quia nullius artificis est stabilire suum subiectum vel quod est ante suum subiectum, ne artem transgrederetur vel dubium aut falsum penitus sine ratione supponeret, **necesse habuit Aristoteles** ut ante initium huius scientie saltem modum ostenderet quo contingit scire esse et aliquid addiscere, et solvere oppositiones destruentium scire et addiscere. Modus autem quo contingit aliquid scire ... (p. 93)

His autem principiis positis, **subnectitur** hec I **conclusio**: demonstrativa scientia est ex veris et primis et inmediatis et prioribus et notioribus et causis conclusionis. (p. 100, 40-24)

Hoc facto **additur** II **conclusio**, scilicet quoniam premissa in sillogismo demonstrativo magis scimus quam conclusiones. (p. 102, 67-69)

III **conclusio** est hec: non potest quis magis scire conclusiones quam principia conclusionum ; hec sequitur inmediate ex proxima... (p. 102, 77-78)

IV **conclusio** est hec: ipsis principiis primis nichil magis scitur, cuius ratio est .... (p. 103, 103-104)

Cap. 3, 1-11: **Istud capitulum non est de substantia huius scientie**, sed est de complemento bonitatis huius scientie, purgans scilicet errorem qui vicinus est scientie superius acquisite. Supponentes enim quod supra demonstratum est, scilicet principiorum magis esse scientiam quam conclusionum et principiis nichil magis sciri et ita scientia esse principiorum, et non distinguentes in animo suo ambiguitatem huius nominis scire, necessario per fallaciam equivocationis incidunt in horum inconvenientium: vel quod nichil contingit scire vel quod omnium scitorum est demonstratio; et in hoc ultimo inconveniente sicut **corollarium** accidit circularem demonstrationem esse, quod est inconveniens. (p. 105)

Cap. 4, 1-5: Hoc **capitulum** est **coniunctum** capitulo **secundo** in ordine scientie hic tradite, et **demonstrat Aristoteles** in principio huius capituli **V conclusionem** huius libri, que consequitur inmediate supra dictas quatuor conclusiones. Est autem **V conclusio** hec: omnis demonstratio est sillogsmus ex necessariis. (p.109).

Ecce quam elegans ordo. Primo demonstravit quod demonstratio est sillogismus ex veris. Prima igitur divisio veri est per contingens et necessarium, propter hoc consequenter demonstrat quod demonstratio est ex necessariis; necessitas primo et maxime reperitur in

[1] Sono stati messi in grassetto il numero delle *conclusiones*, i termini e le frasi che segnalano al lettore il procedere dell'esposizione della dottrina.

propositionibus habentibus has très conditiones: universalitatem, scilicet, tam ex parte subiecti quam ex parte temporis, et quod predicatum dicatur de subiecto per se et quod de subiecto primo. Quapropter consequenter demonstrandum est quod demonstratio est ex propositionibus que has tres conditiones in se connectunt. Sed antequam istud demonstretur oportet ista tria diffinire, quia sine diffinitionibus non satis intellecta sunt. (p, 110, 31-41)

Cap. 5, 1-7: **Capitulum** istud est **secundum de his que purgant errores** et de his que **non sunt de substantia** huius scientie, sed de complemento bonitatis huius scientie. In proximo autem capitulo diffinitur universale et, licet nondum demonstretur, tamen innuitur satis quod demonstratio sit sillogismus ex universalibus, et quod conclusio demonstrativa sit universalis secundum predictam diffinitionem eius quod est universale. (p. 117)

Cap. 6, 1-4: Istud est **capitulum quartum** de eis que sunt **de substantia** huius scientie. Et **demonstrat Aristoteles** in hoc capitulo **VI conclusionem** huius scientie, scilicet hanc: demonstratio est sillogismus ex per se inherentibus. (p. 129)

Cap. 7, 1-6: *Quoniam autem ex necessitate* et cetera. In principio huius capituli **recapitulat** eadem **que recapitulavit** in fine precedentis capituli, sed in precedente recapitulavit ea epilogando, ut reduceret ea ad menoriam, hic autem recapitulat ea **ut concludat** ex VI conclusione huius scientie ostensa in precedente capitulo VII conclusionem huius scientie, que primo ostenditur in isto capitulo. Et est **VII conclusio** ista: primum inest medio et medium inest tertio propter ipsum; et sequitur inmediate ex ista: demonstratio est sillogismus ex per se inherentibus. (p. 135)

Ex VII conclusione nunc ostensa sequitur hec **VIII conclusio**: non contingit demonstrare descendendo ex genere uno in genus aliud. (p. 136, 37-38)

IX conclusio est ista: nocesse est conclusionem demonstrationis simpliciter esse perpetuam. Hec autem sequitur ex VII huius. Ut enim explanatum est superius, in VII huius completur probatio huius quod demonstratio est sillogismus ex universalibus, sed omne universale est perpetuum, necesse est igitur demonstrationem esse sillogismum ex perpetuis. **X conclusio** est hec: omnis demonstratio est ex incorruptibilibus; hec sequitur inmediate ex proxima, quia omne perpetuum est incorruptibile. (p. 139, 88-95)

Cap. 8, 1-2: **XI conclusio** huius scientie est ista: non omne quod sillogizatur ex veris et indemonstrabilibus et inmediatis scitur aut demonstratur. Et ratio huius est ... (p. 146)

Ex XI conclusione proximo ostensa et explanatione eiusdem conclusionis sequitur hec **XII** conclusio quod omnem demonstrationem necesse est esse ex principiis appropriatis conclusioni. Quod igitur dicit Aristoteles: *Quare ex his manifestum est quod non sit demonstrare unumquodque simpliciter*, recapitulatio est; et hec littera: *sed secundum quod ex uniuscuiusque principiis*, dicit hanc conclusionem XII. (p. 150, 102-107)

XIII conclusio huius scientie est quod nullius scientis est demonstrare propria principia, cuius ratio est quia principia alicuius scientie sunt prima omnium in illa scientia, et ex scientia principiorum dependet scientia reliquorum eiusdem scientie, et ... (p. 152, 146-149)

Et necesse est etiam principia communia cum veniunt in demonstrationem in scientia speciali appropriari generi subiecto in illa scientia. Et hec est **XIV conclusio** huius libri et sequitur ex XII conclusione huius, quia ... (p. 154, 191-192)

Cap. 9, 1-11: *Contingere autem idem affirmare* et cetera. **Ostendit Aristoteles** in proximo capitulo quod oportet communia principia appropriari generi subiecto. Et quia hoc possit

intelligi de principiis communibus que veniunt tantum in demonstrationem ostensivam, **ostendit in capitulo isto** quod etiam principia communia que accipiuntur in demonstrationibus ducentibus ad impossibile oportet appropriari generi subiecto et conclusioni. Et **dicit** etiam que sunt illa communia que accipiuntur in talibus demonstrationibus, quia illa communia sunt duo quorum alterum est necessarium, scilicet de quolibet affirmatio vel negatio, cui non potest falsigraphus contradicere, et reliquum est inpossibile, hoc scilicet: de aliquo eodem affirmatio et negatio. (p. 162)

XVI conclusio est ista: demonstratio deducens ad inpossibile recipit hoc principium commune de quolibet affirmatio vel negatio non universaliter, sed proportionatum generi subiecto. Sciendum tamen quod, secundum sententiam Themistii, quod dictum est hic de isto communi principio et de priori, scilicet quod affirmatio et eius negatio non sunt vera de eodem, totum est de commiditate docendi speciales scientias demonstrativas et non de substantia huius scientie, et est hoc totum de superiori capitulo. (p. 169, 167-174)

Cap. 11, 1-6: Capitulum undecimum, tamen **secundum sententiam Themistii** convenientius ponitur istud capitulum decimum, quia, sicut pretactum est, secundum eius sententiam non dividendum est superius capitulum in duo. Ostensum est in XII huius quod omnis demonstratio est ex principiis propriis, unde, sicut dictum est in XIV, communia principia necesse est fieri propria cum eis utitur demonstrator. Ex his ostendit **XVII conclusionem**, scilicet quod omnis questio quam querit demonstrator est ex propriis, cuius probatio est hec. (p. 173)

Cap. 12, 1-22: A **principio** huius libri **usque ad locum istum demonstravit Aristoteles** quod demonstratio est ex primis et veris et inmediatis et prioribus et notioribus et causis et necessariis et per se inherentibus et universalibus et perpetuis et incorruptibilibus et ex propriis tam principiis quam interrogationibus et conclusionibus ; et he omnes conditiones non aggregantur simul nisi in demonstratione maxime et propriissime dicta, que acquirit scientiam propriissime dictam, secundum quod diffinitum est scire in principio. Cum igitur dicatur scire propriissime et communiter et similiter demonstratio, que est sillogismus faciens scire, **intendit Aristoteles** in hoc loco **explanare** illud quod non solum est scientia propriissime dicta secundum diffinitionem sui in principio positam, sed etiam est scientia communiter dicta. Et similiter non solum est demonstratio propriissime dicta que aggregat in se omnes conditiones predictas, sed etiam demonstratio communiter dicta, secundum quod demonstratio et scientia cadunt in scientia naturali et in logica, secundum quod ipsa est pars philosophie, et in philosophia morali.

Complete igitur **ostensis** conditionibus que aggregantur in demonstratione propriissime, consequens est ut **convertat sermonem** ad demonstrationem communiter dictam. **Innuit** igitur **in hoc capitulo** divisionem demonstrationis per divisionem scientie acquisite per demonstrationem, et **continet capitulum** nisi divisiones scientie acquisite per demonstrationem cum exemplis explanantibus ipsas divisiones. (pp. 188-189)

Cap. 13, 1-10: **Ostenso in priori capitulo** per viam divisionis quod est demonstratio maxime et proprie dicta que acquirit scientiam que est maxime scientia, et quod est demonstratio per posterius dicta, scilicet illa que dicitur quia et acquirit scientiam per posterius dictam, **et ostenso** in **precedentibus capitulis** conditionibus que accidunt demonstrationi maxime et proprie dicte ex parte ea qua est demonstratio, secundum quas conditiones aggregatas acquiritur scientia maxime et proprie dicta, **consequens est** nunc **dicere** secundum quid acquirit demonstratio scientiam maxime et propriissime dictam ex parte ea qua est sillogismus.

Dicit ergo **Aristoteles** quod primus modus prime figure est magis faciens scire quam aliquis alius, et hec est **conclusio XVIII** huius scientie. (p. 199)[2]

Cap. 14, 1-10: **Iam ostendit Aristoteles** ex quibus conditionibus acquirat nobis demonstratio maxime scire, tam ex parte ea ex qua demonstratio est demonstratio quam ex parte ea qua est demonstratio sillogismus. **Intendit itaque** consequenter **explanare** ex quibus et qualiter nobis accidit ignorantia circa ea que veniunt in demonstrationem. Et quia ad ostensionem huius rei indiget suppositione huius, scilicet, quod sicut est propositio affirmativa inmediata sic est etiam negativa inmediata, **primo ostendit** quando et quomodo contingit negativam esse inmediatam; et hoc totum est de complemento bonitatis et ornatus huius scientie et **non de substantia ipsius**. (p. 203)

Manifestum est autem quod si aliquis sensus et cetera. **Explanatis** omnibus modis secundum quos accidit ignorantia secundum dispositionem dicta, consequenter **explanat Aristoteles** unde proveniat ignorantia secundum negationem dicta. Ut sermo suus sit completus de causis ex quibus accidit ignorantia. Unde etiam ista **particula** de causa ignorantie secundum negationem non inconvenienter poni potest de eodem capitulo cum proximo dictis, ut totum sit unum **capitulum de causa ignorantie**. (p. 212, 195-202)

Cap. 15, 1-17: **Explanavit Aristoteles** in proximo capitulo causas ignorantie veras et existentes ; **in hoc** autem capitulo **intendit explanare** causam ignorantie opinatam solum et non existentem et illam destruere. Causa autem hec est infinitas mediorum in via resolutionis, que est possibilis apud opinionem et inpossibilis in re; que si esset, nichil contingeret scire. Hanc igitur infinitatem in hoc capitulo **destruit Aristoteles**, et huius destructio est confirmatio cuiusdam demonstrati in prima propositione huius scientie, scilicet quod principia et inmediata et indemonstrabilia sunt. Et hoc capitulum **secundum iudicium meum est plus de complemento bonitatis** huius **scientie** quam de complexione huius scientie.

Ostendit itaque **Aristoteles in hoc capitulo quinque**, scilicet, quod predicata stant in sursum et quod stant in deorsum et quod finitis extremis finita sunt media, et quod predicationes non solum substantiales sed etiam accidentales et per se stant in sursum et deorsum; et ex his concludit ultimo quod via resolutionis non abit in infinitum, sed necesse est inmediata indemonstrabilia esse in quibus statur. (p. 217)

Cap. 16, 81-94: **Ostenso** in superiori capitulo quod positis extremis non possunt interponi media infinita, consequenter **ostendit Aristoteles** hoc quod inmediate sequitur ex ipso, scilicet, quod non omne quod predicatur de duobus subalternis predicatur de ipsis secundum commune aliquod. Et in hoc ostenso aufertur error putantium quod predicatio universalis et de primo non est nisi in terminis paribus. (p. 229, 1-6)

Ad omnem conclusionem demonstrativam sunt ordinata tot elementa quot sunt media demonstrativa ad eandem conclusionem; unde hec est **XIX conclusio** de his que sunt de substantia huius scientie, quia conclusiones in duobus proximis capitulis fuerunt **de complemento bonitatis** et ornatus huius scientie. Hec autem conclusio sic ostenditur... (p. 231, 46-51)

Cum autem indigeat demonstrare aliquid et cetera. **Creditur** quod Aristoteles **intendat** in hac **littera** usque ad sequens capitulum **explanare** quod medium non ponitur extra extremitates, id est, non interponitur medium cum fit resolutio quod sit supra maiorem

[2] Alle pp. 210-211, Grossatesta riassume i risultati raggiunti trattando del sillogismo 'deceptorius' ricorrendo come suo solito alla formulazione di una serie di *conclusiones*: «Iam igitur in hoc capitulo usque ad locum istum ostense sunt novem conclusiones, quarum prima est hec: nulla negativa est inmediata cuius subiectum est sub aliquo sub quo non est predicatum ...».

extremitatem vel sub minori extremitate, quod satis patet in prima figura, sed habet instantiam in secundo et quarto modo secunde figure et in tertia figura per totum, nisi quod in tertia figura et in quarto modo secunde figure non fit demonstratio, eo quod particulares sunt. Sed hec **sententia** de medio non ponendo extra extremitates attinet per se ad sillogismum simpliciter et non ad demonstrativum ex parte qua est demonstrativus. **Ideo forte verius dicitur** quod, cum Aristoteles in proximo ostendit nobis numerum inmediatorum principiorum respectu conclusionum, consequenter vult ostendere numerum inmediatorum affirmativorum. (pp. 232-233, 81-94)

Si itaque Aristoteles **intendit** dicere hanc **sententiam** in hac **littera**, tunc est hec **XX conclusio** huius scientie, scilicet, quod, cum ad omnem conclusionem demonstrabilem sint tot elementa quot media, ad conclusionem negativam est unum solum elementum negativum inmediatum et omnia alia affirmativa. (p. 234, 116-120))

Cap. 17, 1-17: Cum sillogismo demonstrativo accidant conditiones opposite ex parte ea qua est sillogismus ..., et iterum cum accidant ei conditiones opposite ex parte ea qua est demonstratio, ..., et iterum accidant ei conditiones opposite ex parte rerum super quas erigitur demonstratio, velut esse de concretis et abstractis et esse de simplicibus et magis compositis, **intendit Aristoteles in hoc capitulo** ostendere secundum quas de conditionibus oppositis dictis est demonstratio melior et dignior et certior. Et est **capitulum** istud in ordine sciendi ea que sunt **de substantia huius scientie** continuum cum eo quod supra demonstratur, quod figurarum magis faciens scire est figura maxime prima; sed, ut dictum est supra, post mentionem de eo quod magis facit scire conveniens fuit interpositio de his que faciunt ignorare et secundum veritatem et secundum opinionem. Et, ne esset sermo decisus, oportuit continuare ea que dicta sunt in proximo capitulo superiori eis que ostensa erant in ante proximo, cum sequantur ex illis inmediate.

Ostendit itaque **Aristoteles primo** in capitulo isto quod universalis demonstratio est melior particulari, et hec est **XXI conclusio** huius scientie, secundum quod in littera proximo exposita dicit unam conclusionem, et non est solum explanatio XIX propositionis in conclusione, verumtamen prius dubitat opponens de hoc, deinde solvit oppositiones. Antequam autem dicamus eius oppositiones, ad consequentium tamen evidentiam dicamus quid est Melius et quid dignius et quid certius. (p. 239-240, 1-24)

Hi visis, **redeo** ad oppositiones Aristotelis. **Dicit** ergo ... (p. 241, 48)

Quod autem demonstrato affirmativa melior et dignior sit negativa consequenter ostendit Aristoteles, et hec est **XXII conclusio** huius scientie et sic ostenditur... (p. 250, 222-224)

... et affirmativa melior est quam negativa ut predictum est, quare similiter ostensiva demonstratio melior est et dignior ducente ad inpossibile; et hec est **XXIII conclusio** huius scientie. (p. 252, 273-276)

Post hec **dicit Aristoteles** quod scientia certior est que prior est, hoc est que de prioribus, et hec est **XXIV conclusio** huius scientie. (p. 255-256, 337-338)

Hec est **conclusio XXV** huius scientie: scientia que eadem facit scire quia et propter quid melior est et certior ea que facit scire alterum tantum. (p. 257, 366-368)

XXVI conclusio est hec quod scientia que est de re abstracta certior est ea que de eadem re concreta. (p. 257, 373-374)

XXVII conclusio est hec: de duabus scientiis que eriguntur super res abstractas, illa est certior que erigitur super res simpliciores qua mea que erigitur super res compositiores, et hec patet ... (p. 258, 377-379)

Cap. 18, 1-12: *Una autem scientia est* et cetera. Sillogismus demonstrativus est instrumentum demonstratoris scientiam acquirentis et aggregantur plures sillogismi in

scientia una, nec tamen quicumque conveniunt uni scientie, sed qui unificati sunt in aliquo uno ex quo est scientia una, illi sunt uni scientie convenientes. Determinati igitur ex quibus et qualibus sunt sillogismi demonstrativi et quis alio sit melior et dignior et certior, cum sint instrumenta acquirendi scientiam, **consequens est cognoscere** qui sunt aggregandi ad scientiam unam comparandam vel aggregandam. Aggregandi autem sunt qui sunt unificati in aliquo uno ex quo est scientia una, propter hoc oportet determinare ex quo habeat scientia unitatem. Propter hoc in principio huius capituli **ponit Aristoteles** diffinitionem unius scientie dicens quod una est scientia que subicit genus unum... (p.259)

Ex iam dictis **patet** quod in una scientia aggregantur plures sillogismi demonstrativi, et non solum in una scientia, sed etiam ad conclusionem unicam sunt quandoque plures sillogismi demonstrativi. Propter hoc **consequenter ostendit Aristoteles** quod unius conclusionis possibile est plures esse demonstrationes per plura media unius ordinis, et hec est **XXVIII conclusio** huius scientie. (p. 261, 51-56)

Et quia exemplum illud **aliquid habet obscuritatis** et **dubitationis**, ad explanationem eius **dico quod Aristoteles** intelligit per transmutari ... (p.262, 64-66)

Propter hoc **Aristoteles** consequenter **docet** quod super res casuales non erigitur demonstratio; et hec est **XXIX conclusio** huius scientie. Deinde **docet** quod super res sensibiles, ex parte ea qua sunt sensibiles, non erigitur demonstratio; et hec est **XXX conclusio** huius scientie. **Dicit** ergo quod ... (p. 264, 115-119)

Sed **redeundum** est **ad propositum**. *Quoniam igitur demonstrationes sunt universales*, res autem universales non contingit sentire, cum sola demonstrabilia et universalia scientur, manifestum est quod non contingit scire per sensum. (p. 267, 163-166)

Mirum autem **videtur de hoc exemplo Aristotelis**, cum vitrum sit perspicuum sicut aer et aqua et per naturam perspicui suscipiat pertransitionem luminis, quomodo innuit quod per porositatem suscipiat pertransitionem luminis, nisi forte **more suo occultandi gratia** porositatem vocet vacuitatem a terrestritate tenebrosa. (pp. 269-270, 216-220)

Ostendit Aristoteles in proximo capitulo quomodo se habet demonstratio ad subiectum in via negationis, scilicet, quod demonstratio non est casualium vel sensibilium. Consequenter **ordine competenti ostendit** quomodo se habet demonstratio in via ngationis ad principia ex quibus est demonstratio, probans quod non ex eisdem principiis demonstrantur omnia ; et hec est **XXXI conclusio** huius scientie. Et hac ostensa probat consequenter quod una conclusio quecumque non demonstratur ex omnibus principiis, et hec est **XXXII conclusio**. (p. 270, 228-235)

Ostensis itaque his duabus conclusionibus, ex his non demonstrat, sed **confirmat Aristoteles** quod uniuscuiusque scientie sunt principia diversa et propria, quod supra demonstratum est. **Dicit** ergo: si non contingat demonstrari quidlibet ex omnibus per modum quo oportet demonstrationem vere fieri. Neque contingit demonstrari rem unius generis ex principio alterius generis. **Quasi diceret**: neque est demonstrare omnia ex eisdem principiis, quia ... (pp. 276-277, 362-368)

Cap. 19, 1-15: In **precedentibus ostendit Aristoteles** conditiones sillogismi demonstrativi absolutas et relativas et quomodo aggregandi sunt in constitutionem scientie unius. **In hoc** autem **capitulo ultimo** huius libri primi **determinat** nobis habitum anime acceptivum principiorum primorum, ex quibus sunt sillogismi demonstrativi, et habitum acquisitum per demonstrationem supra conclusionem et habitum perceptivum medii, qui tres habitus vocantur intellectus, scientia, sollertia. Scientiam autem non diffinit in hoc loco, quia in principio diffinita est, sed **determinat** eam secundum comparationes quas habet ad intellectum et opinionem; tunc enim completa est cognitio rei cum cognoscitur sin se et secundum comparationes quas habet ad res alias. Et **necesse habet** determinare scientiam secundum differentias quas habet ad opinionem, ne putetur opinio habitus

acquisitus per demonstrationem; et similiter, ne putetur opinio habitus principiorum, **oportet dicere differentiam** ipsius et intellectus. (p. 278)

Et **credo** quod **Aristoteles** has duas intentiones **simul coniunxit** in sermone uno, quia **mos est philosophorum** onerare verba quot sententiis possunt ad rem pertinentibus **ad imitationem nature**, que non facit pluribus instrumentis quod potest facere uno. Et quod hec sit intentio opinionis certum est ex semonibus usitatis, quia opinio in quantum huiusmodo non est certa, ... (p. 282, 1001-106)

Has dubitationes **solvit Aristoteles** dicens quod opinio et scientia non sunt eiusdem rei simpliciter, sicut visus et gustus non sentiunt idem simpliciter ... (p. 283, 132-134)

De aliis vero viribus anime que non ordinate sunt ad opus demonstrationis non est huius loci pertractare, sed quasdam de aliis pertractat physica in libro de Anima, quasdam vero Ethica. (pp. 285-286, 178-180)

Liber II

Cap. 1, 1-24: Scita sunt quatuor secundum genus. Cum igitur demonstratio sit sillogismus faciens scire, **ostensis** in priori libro conditionibus demonstrationis, **superest** in hoc secundo **investigare** an omnia scita sint per demonstrationem scita. Et cum constet nobis quod tria de numero scitorum sciuntur per demonstrationem, tunc **superest investigatio** an quartum sit scitum per demonstrationem. Et postquam de eo **posuit Aristoteles** rationem ad utramque partem, **ostendit** nobis quod quartum, scilicet, quod quid est, non scitur directe per demonstrationem, licet possibile sit ut eliciatur ex demonstratione, sicut econverso ex ipso elicitur demonstratio. Cum igitur quod quid est sciatur per demonstrationem et reliqua tria scita sciantur per demonstrationem et **intentio Aristotelis** sit hic complere artem qua omne dubitatum scibile fiat actu scitum, necesse est ut **tradat nobis** artem in hoc loco qua sciamus quod quid est. Et hec est ars diffiniendi, hoc est ars inveniendi et stabiliendi rerum diffinibilium diffinitiones ; et hec ars est longe alia ab arte que traditur in Topicis in mehodo diffinitiva, ut satis patebit post. Et iterum preter causam predictam alia est causa necessaria qua oportet in hoc libro tradere artem diffiniendi, que est quia omnis demonstratio est per medium quod est diffinitio. Ad hoc igitur ut habeatur actu demonstratio oportet actu accipere diffinitionem rei quesite, que, si fuerit ignota, non invenitur nisi per artem diffiniendi. Ut igitur sit completa ars demonstrativa, oportet sicut partem eius interponere artem diffiniendi. (pp. 287-288)

Dubitabilia autem et quesita sunt quatuor secundum genus, ergo scita sunt eadem quatuor: et hec est **I conclusio**. (p. 290, 62-64)

Hec igitur sunt que **consequenter explanat** in hoc capitulo, scilicet, quod querentes si est simpliciter aut quia est ponentes in numerum, querimus medium si est; et hec est **II conclusio**. Et iterum querentes quid est aut propter quid est querimus medium quid est; et hec est **III conclusio**. Et ex his duabus conclusionibus sequitur hec **IV conclusio**, scilicet, quod in omnibus questionibus queritur aut si est medium aut quid est medium. Et ex hac sequitur hec **V conclusio** quod omnia que queruntur sunt questiones medii. Et secundum hunc ordinem **ponit Aristoteles** has conclusiones, verumtamen **ordinem** probationum istarum conclusionum **multum perturbat sermonibus intricatis**. **Dicit** ergo quod ... (p. 295-296, 175-185)

Positis his conclusionibus duabus, **exponit Aristoteles** sermonem quem dixit: *quia est in parte aut si est simpliciter*, dicens quod intelligit esse in parte, scilicet, ponens in numerum, quia esse per adiunctum predicatum trahitur in particularitatem, ... (p. 296, 191-194)

Hoc igitur posito quasi sit ingressus sequentis capituli, **redit ad explanandum** quod est idem in omnibus quid est et porter quid est, sicut quid est lune defectus ... (p. 299, 260-262)

Iam igitur **complete sunt probationes** duarum conclusionum, scilicet II et III, ex quibus sequitur quoniam omnis questio est questio an sit medium vel quid sit medium, et

ex hac statim sequitur quod omnis questio est questio medii, ut eius per quod debet veniri in notitiam ignoti quesiti. Tamen Aristoteles explanat istam conclusionem signo medii sensibilis, quia ... (p. 299, 294-298)

His dictis recapitulat que sequuntur ex premissis, ut ex his que dicta sunt ante hoc exemplum de luna sequatur quod idem est scire quid est et propter quid est ; sed quid est proprie pertinet ad esse simpliciter ... (p. 302, 316-318)

Cap. 2, 1-9: Huius **capituli continuatio supra dicta est**. **Dicit** ergo Aristoteles: quomodo quod quid est eliciatur ex demonstratione et quis sit modus et que sit ars inveniendi diffinitionem et quid sit diffinitio et que sint diffinibilia et ex quibus sit diffinitio dicimus opponentes primo de his rebus. In primis ergo ostendendum est illud quod ostensum possit esse principium dicendorum post et quod sit magis proprium principium rationibus consequentibus, et hoc est quoniam non omnis rei est diffinitio cuius est demonstratio, hoc est, non omne scitur per diffinitionem quod scitur per demonstrationem; et hec est **VI conclusio**. (p. 303)

Deinde **querit** Aristoteles an cuiuslibet sit demonstratio cuius est diffinitio aut non, et quod non sit probatur [...]. Et ita **ostenditur** hec que est **VII conclusio**, quod non quelibet res scitur per demonstrationem que scitur per diffinitionem. (p. 305, 49-58)

Post hoc querit Aristoteles utrum cuiuslibet eiusdem sit diffinitio et demonstratio aut nullius eiusdem sit diffinitio et demonstratio. Et ostendit quod nullius eiusdem, hoc est nichil simpliciter idem scitur diffinitione et demonstratione ; et hec est **VIII conclusio**. (p. 306, 64-67)

Recapitulat autem **Aristoteles** duas precedentes conclusiones et consequenter illam ex qua habetur sicut **corollarium** quod non est demonstratio et diffinitio idem, licet hoc possit haberi ex diffinitionibus diffinitionis et demonstrationis, unde hoc non esse idem supra suppositum est. (pp. 307-308, 92-96)

Hoc est igitur quod **consequenter probat Aristoteles**, scilicet quod demonstratio vel sillogismus non facit scire diffinitionem de diffinito per modum quo est oratio diffinitiva explicans quid est res, vel quid est esse rei ; et hec est **conclusio IX**. (p. 309, 117-120)

Quia divisio est via inveniendi diffinitionem, ut in arte diffiniendi patebit, posset credi quod per divisionem necessario infertur diffinitio de diffinito secundum quod diffinitio; propter hoc consequenter ostendit Aristoteles quod per divisionem non sillogizatur vel demonstratur diffinitio de diffinito in quantum explicans quid est diffinitum; et hec est **X conclusio**. (p. 312, 186-191)

Hic ergo **intendit Aristoteles** consequenter **demonstrare** quod methodus diffinitiva non demonstrat orationem diffinitivam per modum quo est oratio diffinitiva explicans substantiam diffiniti, et hec est **XI conclusio**. (p. 316, 281-284)

Redeo itaque **ad sermonem Aristotelis** dicentem quod si scitur quid est, necessario scitur quia est; ergo, si demonstrabit aliquis de re una ... (p. 324 , 445-446)

His itaque obiectis, **convertit se Aristoteles ad speculandum** quid in his oppositionibus *dicitur bene et quid non bene, et quid sit diffinitio*. Verumtamen quidditas diffinitionis verius explanabitur in his que subsequuntur in arte diffiniendi ; et **convertit** se etiam ad **speculandum** an illud quod quid est aliquo modo demonstretur aut nullo modo demonstretur, sed solum sit diffinitio faciens cognoscere quid est. Demonstrat itaque in primis quoniam illud quod est diffinitio demonstratur per medium quod est diffinitio, et hec est **XII conclusio**. (p. 329, 534-543)

Ostenso hoc, **redit** ad modum quo contingit solvere predictas oppositiones et videre quid in eis dicitur bene et quid non bene. (p. 331, 581-582)

Explanat autem **Aristoteles per exempla** quod per quid est scimus si est simpliciter, et hec est **XIII conclusio** in eisdem exemplis. (p. 333, 620-621)

Sequitur hec **XIV conclusio** quod ex omni demonstratione potest elici diffinitio et manifesta est diffinitio, et etiam econverso ex omni diffinitione potest elici demonstratio, quia si ex demonstratione habita extrahatur terminus medius cum terminus medius sit diffinitio, iam extracta est diffinitio. (p. 335, 661-665)

Quoniam ostensum est iam quod diffinitio demonstratur per diffinitionem, non autem explanatum est que diffinitio sit demonstrans et que demonstrata, **ponit Aristoteles** divisionem diffinitionum et earum differentias, ut **ostendat** que sit demonstrans et que demonstrata. Et demonstrat nobis quod diffinitio formalis est demonstrans diffinitionem materialem de diffinito et non demonstratur formalis de diffinito suo, et hec est **XV conclusio**. Et ex hac sicut **corollarium** manifestum est quod diffinitio composita ex diffinitione materiali et formali est demonstrata alterata in situ. Et dico: cum quatuor sint cause, necesse est ut ex qualibet earum sumatur diffinitio ... (pp. 335-336, 671-679)

Explanato iam tertio modo diffinitionis rei, **recapitulat** eosdem tres modos dicens: *hec autem est que est ipsius quid est demonstrationis conclusio*, vel **alia littera**: *hoc autem* et cetera. Si autem est in **littera** 'hoc', tunc ... (p. 340, 774-777)

Post hoc **recapitulat** breviter omnia dicta in hoc capitulo, que recapitulatio manifesta est per se. (p. 341, 800-801)

Vocat autem **Aristoteles diffinitionem multis nominibus**. Dicitur enim apud illum, tam sillogismus quam diffinitio, ratio, eo quod ratio primo dicta est virtus cadendi super occulta. Hec autem virtus discurrit in cognitionem occulti super aliquid notum per quod venit in notitiam ignoti. Ea autem super que discurrit sunt sillogismus et diffinitio ... (pp. 343-344, 837-841).

Cap. 3, 1-22: Ostenso quod non scitur quid est per demonstrationem neque per vias alias supra enumaratas, **consequens est ostendere** viam qua cognoscitur quod quid est et qua venatur diffinitio. Ante autem quam hoc faciat **Aristoteles interponit** quasdam conditiones que accidunt medio dimonstrativo ex parte ea qua ipsum est medium demonstrativum, cuius **interpositionis ratio non satis est manifesta**, cum ex dicendis proximo non dependeant dicenda in arte diffiniendi, nisi forte hunc ponat ordinem quia scientie **alterius** gaudent demonstrationibus. **Est enim scientia una sicut arbor una**, ex cuius subiecto uno procedunt multe conclusiones, sicut ex radice una rami multi. Cum igitur ex subiecto extrahatur conclusio una, sicut ramus ex radice sua, et iterum ex illa conclusione extrahatur alia conclusio, sicut ramus ex ramo, et sic deinceps donec completa fuerit una continua extractio, necesse est iterum redire ad principium sicut ad radicem, ut fiat ex parte alia extractio alia non dependens a priori. Et forte aliquando antequam compleatur extractio prior reditur ad secundam extractionem et iterum fit reversio ad complementum prioris, ut ex tali alternatione ostendatur neutram extractionem ex alia dependere, quod **forte facit Aristoteles**. Cum enim totus hic **liber versetur circa diffinitionem et circa medium** in quantum est causa, utrumque istorum tractatuum per alterum **interrumpit**, ut sic **ostendat** eos quodammodo equevos. **Demonstratur** igitur in primis in hoc capitulo ... (pp. 345-346)

Ostenso quod per quatuor causas contingit demonstrare, **consequenter ostendit** quod contingit idem demonstrare per plures causas, et hec est **XVII conclusio**. Dicit ergo ... (pp. 352-353, 161-163)

Post hoc **docet nos Aristotels** in quibus rebus maxime accidit idem posse probari per duas causas predictas, scilicet, per materialem et finalem ; et dicit quod in rebus naturalibus maxime accidit hoc, quia res naturales non fiunt frustra, sed quecumque facit natura facit propter aliquem finem, et finis rei est illud ad quod apta nata est ; et hoc est notum in Physico Auditu. (pp. 355-356, 220-225)

Post hoc **ostendit** Aristoteles quod causa que vere est causa essendi rei, hoc est tota causa que non indiget conditione ad hoc ut effectus eius proveniat ex ea, eadem est causa fiendi et facti esse et futuri esse ; et hec est **XVIII conclusio.** (p. 357, 253-255)

Et hec est **XIX conclusio**, scilicet, quod in causa et causato que non simul sunt ita quod ens cum ente, factum cum facto, futurum cum futuro, semper est sillogismus a posterius facto ; et posterius factum est principium sillogisticum eorum que facta sunt prius et facta prius sunt principium sicut causa et non sicut medium sillogisticum eorum que posterius, quia a priori non est sillogismus. (p. 359, 285-291)

Post hoc **ostendit Aristoteles** quod in rebus in quibus est generatio circularis est demonstratio circularis, et hec est **XX conclusio**. (p. 361, 327-328)

Consequenter ostendit Aristoteles quod eorum que non semper sunt, sed frequenter, sunt principia non semper sed frequenter; e hec est **XXI conclusio.** (p. 363, 368-370)

Cap. 4, 1-9: In isto capitulo **redit Aristoteles** ad assignandum artem diffiniendi et **ipsemet continuat** nunc dicenda de diffinitione eis que supra dicta sunt de diffinitione. Ars autem diffiniendi est via inveniendi diffinitionem rei proposite secundum quod explicat quid est res proposita. Hec autem via duplex est. Una namque est per compositionem et alia per resolutionem, viam autem inveniendi diffinitionem componendo primo docet Aristoteles, eo quod hec via est sicut progressio ad universalibus et simplicibus in magis composita; via autem resolutionis est econtrario illi. (p. 364)

Docens ergo **Aristoteles hanc artem** primo **demonstrat** quoniam primi accipiendum est genus rei diffiniende et ea que consequenter sunt posterius genere in descendendo sub ipso genere, donec aggregatum ex his sit convertibile cum re diffinienda, cum tamen quelibet partium totius aggregati sit in plus. Et hec est **XXII conclusio**. (p. 366. 55-59)

Dictum est proximo quod genus cum his que consequuntur genus in descendendo aggreganda sunt, donec totum aggregatum sit convertibile cum re diffinienda. **Consequenter ostendit** modum quo facienda est hec aggregatio, et modus iste est divisio generis per specificas differentias. Dicit ergo quod genus rei diffiniende primo dividendum est usque ad species indivisibiles, et aggregande sunt differentie consequenter cum genere donec sumatur per viam divisionis rei diffinitio ; et hec est **XXIII conclusio**. (p. 369, 115-122)

Divisio namque duplicem dat utilitatem in diffiniendo, unam quod ordinat recte partes diffinitionis, et alteram quod facit nullam partem diffinitionis extra relinqui. Et hec est **XXIV conclusio**, scilicet, quod divisio hanc duplicem affert utilitatem. **Dicit** ergo quod utilis est divisio ... (pp. 370-371, 148-151)

Post hoc **inducit Aristoteles** opinionem quorundam destruentium artem diffiniendi et artem dividendi. Dicebant enim quod ... (p. 372, 174-175)

Dixit proximo ante hanc opinionem quod prima divisio est in quam divisum omne incidit, et illi dicto coniungatur quod nunc **subinfertur**: *Omne autem incidere in divisionem* et cetera, **quasi diceret**: in via divisionis petitur principium cum sumitur altera differentia de re dividenda, sed divisum omne incidere in divisionem, si sit divisio facta per differentias oppositas inmediatas, non est petitio principii, quia necesse est divisum omne in altero dividentium esse, si sit ipsius prima divisio. Post hec **subiungit Aristoteles conclusionem XXV** hanc, scilicet, ad habendam diffinitionem accipienda sunt predicantia de re diffinienda in eo quod quid est et accipienda sunt eadem secundum ordinem naturalem, scilicet, ut quod primum est in natura sit primum ordinatum in diffinitione, et quod secundum secundo, et accipienda sunt omnia que insunt rei diffiniende. (pp. 373-374, 201-213)

Post hoc **demonstrat Aristoteles** quod omnia predicta integrant artem diffiniendi per viam compositionis, scilicet divisio aggregans partes dffinitionis et methodus de accidente ostendens quod insunt et methodus de genere ostendens quod insunt in eo quod quid est et ratio ordinans partes diffinitionis. Et hec est **conclusio XXVI**. (pp. 374-375, 230-234)

Cognita sic arte diffiniendi per viam resolutionis, consequenter **Aristoteles docet** venari diffinitionem per viam resolutionis, hoc est per viam accipiendi primo compositiora,

hoc est inferiora, et ascendendi ab ipsis per partitionem usque ad superiora simplicia. (p. 376, 256-259)

Hec autem ars sic potest colligi in unam propositionem: investiganti diffinitionem per viam resolutionis primo accipiendum est in quo conveniunt secundum nomen diffiniendum res maxime indifferentes, de quibus predicatur nomen diffiniendum, et deinde accipiendum in quo conveniunt secundum nomen diffiniendum res similiter adinvicem indifferentes, differentes vero a prius acceptis plus qua mille adinvicem ; et tertio accipiendum quid commune primo et secundo acceptis et ita deinceps si sint ulterius differentes convenientes in nomine diffiniendo: et hec est **XXVII conclusio**. (pp. 378-379, 313-321)

Ostensa artem diffiniendi per viam duplicem, **docet nos Aristoteles** quod sicut in sillogismo demonstrativo acquiritur in nobis habitus qui est certa visio mentalis esse complexi et veritatis, sic per diffinitionem acquiritur in nobis certa visio substantie rei. Et hoc est manifestum ex diffinitione diffinitionis, quia cum diffinitio sit oratio que indicat quid est esse, quod autem indicat est generans certam visionem in eo cui indicat rem quam indicat. Manifestum est itaque quod diffinitio facit certam visionem substantie, et hec est **XXVIII conclusio**, et ex hoc sequitur quod ambiguorum nominum non est querenda diffinitio una. Licet enim nominis ambigui intentio sit aliquo modo una ... (p. 379, 329-331)

Ex hoc etiam quod diffinitio acquirit in nobis visionem certam, sequitur quod non est diffiniendum aliquid metaphoris, eo quod metaphora est causa ambiguitatis. Et he due que sequuntur ex XXVIII sunt **XXIX et XXX conslusiones**.

Ostensa arte diffiniendi integre tam per viam compositionis et divisionis uam per viam resolutionis, **docet nos Aristoteles** quod non ex omni divisione neque ex omni resolutione extrahitur quevis diffinitio, ... (p. 380, 340-347)

Hec igitur est **XXXI conclusio**, scilicet, quod ad diffinitiones intentas et propositas habendas eligende sunt divisiones universalium et decisiones, hoc est resolutiones singularium. Et explanatio huius est totum quod sequitur usque ad finem huius capituli, sicut hoc quod primo dicit ... (p. 381, 364-368)

Cap. 5, 1-9: In hoc capitulo **redit Aristoteles** ad **complendum sermonem** suum **de conditionibus causalibus** secundum quas medium demonstrativum comparatur ad conclusionem. Et **intendit** in capitulo isto **demonstrare** quoniam unius demonstrati per se et non secundum accidens est una causa et medium demonstrativum unum ; et hec est **conclusio XXXII**.

Et in explanatione huius conclusionis et questionibus tendentibus ad eius explanationem cum incidentibus ex questionibus consistit hoc capitulum totum. (p. 390)

Completa est igitur **scientia de sillogsimo in Prioribus** et de demonstratione et scientia demonstrativa in **hoc libro**. Dicitur autem **scientia demonstrativa** tum **habitus** conclusionis acquisitus per sillogismum demonstrativum tum **cognitio** certa partium essentialium et accidentium essentialium sillogismi demonstrativi, et hec tradita est in hoc libro. Et hac scientia habita facile est cognoscere de sillogismo proposito an sit demonstrativus. Si enim sillogismus propositus resolvatur in partes ex quibus est et in accidentia et inveniantur in eo conditiones dicte in libro isto, tunc manifestum est quoniam est demonstrativus ; et si deficit aliqua conditionum essentialium, manifestum est quod non est demonstrativus. **Ad hoc** enim **intendit liber iste** ut cognoscens conditiones essentiales demonstrationis posset per resolutionem propositi sillogismi in partes suas et accidentia essentialia cognoscere an compleantur in ipso conditiones essentiales demonstrationis an deficiat illarum aliqua. Et ab hoc **dicitur liber iste resolutorius** et **iudicativus**. Non enim intenditur in libro isto inventio demonstrationis, sed inventi iudicatio; inventionem namque habet demonstrator cum dialectico, quia in propria materia invenit demonstrator medium per locum a diffinitione et a causa, sed per conditiones demonstrationis manifestas in libro isto iudicat de invento an sit completa demonstratio. (pp. 401-402, 236-255)

Capitulum ultimum. Ostensis perfecte conditionibus demonstrationis, ut possimus actu operari et demonstrare, **docet nos in ultimo** qualiter accipiantur principia prima demonstrationum *et quid est habitus cognoscens ea*, primo **querens** et **dubitans** utrum principiorum inmediatorum cognitio eadem sit cum cognitione conclusionum aut non eadem. Et **iterum querit** an conclusionum et principiorum sit scientia aut non, sed conclusionum solum sit scientia et principiorum aliquis habitus alius, et utrum habitus principiorum non sint nati in nobis, sed fiant postquam non fuerunt in nobis, an fuerunt in nobis sed latentes. Ostendit igitur in primis quod hoc ultimum est inconveniens, scilicet, habitus principiorum esse in nobis ab initio latentes, ... (p. 403, 1-9)

In fine huius scientie **ostendit Aristoteles ordinem huius** ad alias et utilitatem eius et potestatem in aliis dicens quod hec scientia similiter se habet ad omnes res tam mathematicas quam naturales quam metaphysicas et etiam logicas, et non dicit similiter quia in omnibus est eque certitudo. Completio enim certitudinis non est solum a natura demonstrationis, sed etiam per naturam rerum super quas erigitur demonstratio. Res autem de quibus sunt scientie sunt magis et minus elongate ab apprehensione, et propter hoc a certitudine et demonstratione in omni similiter se habente. (p. 408, 108-116)

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Ms. Vendôme, Bibliothèque du Parc Ronsard (Bibliothèque Municipale), 171, ff. 143v-165v

Hic inferius in margine habetur distinctio libri Posteriorum per capitula et conclusiones secundum Lincolniensem, qui istum librum commentavit. Et sunt in primo libro 19 capitula et 33 conclusiones, et in secundo sunt 10 capitula et 32 conclusiones. Et sic in toto libro sunt 29 capitula et 65 conclusiones, que signantur in margine. Et etiam in folio ante principium istius libri et in margine **consequenter** habentur alique **propositiones** et **disgressiones** notabiles extracte a Linconiense. (f. 144r, marg. sup.)

<Liber I>

Omnis doctrina. Capitulum primum in quo Aristoteles ostendit modum quo contingit scire et destruit opiniones negantes scire; et istud capitulum non est de esse (?) huius scientie, sed precedit scientiam sillogismi demonstrativi, (f. 144r. marg. sup.)

Capitulum 2, in quo Aristoteles incoat scientiam sillogismi demonstrativi, in quo (?) ponit duas diffinisiones et unam suppositionem, ex quibus concludit primam conclusionem huius scientie, scilicet demonstratio est ex primis et veris et c (?) et ... (?) alique (?) tres conclusiones. (f. 144r, marg. dex.; cfr. Grosseteste, *Comm. in Post.,* p. 99 sqq.)

Capitulum tertium, in quo purgat errores istius scientie, scilicet dicentium quod ... (f. 145r, marg. sin.; cfr. Grosseteste, *Comm. in Post.,*, p. 105 sqq.)

ROBERT GROSSETESTE AND EUSTRATIUS OF NICAEA ON CONCEPT FORMATION AFTER THE FALL

ROBERTO GROSSETESTE Y EUSTRACIO DE NICEA SOBRE LA FORMACIÓN DE CONCEPTOS DESPUÉS DE LA CAÍDA

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Abstract

This paper explores the similarities between a crucial passage in Robert Grosseteste's commentary on *Posterior Analytics* and the commentary on *Nicomachean Ethics* 6 written by the Byzantine commentator Eustratius of Nicaea (d. ca. 1120). According to the present author, Eustratius may be the direct source of Grosseteste's epistemology and concept formation theory in the commentary. A tentative revision of the chronology of Grosseteste's Greek studies may be necessary to account for the relationship between the two texts.

Keywords

Robert Grosseteste; Eustratius of Nicaea; *Posterior Analytics*; Theory of Knowledge; State of Perfection

Resumen

Este artículo analiza las similitudes entre un pasaje crucial en el comentario de Roberto Grosseteste sobre los *Analíticos posteriores* y en el comentario sobre la *Ética a Nicómaco* 6 escrito por el comentarista bizantino Eustracio de Nicea (m. ca. 1120). Según el autor, Eustracio podría ser la fuente directa de la epistemología y de la teoría de la formación de conceptos de Grosseteste en su comentario. Al parecer, es necesaria una revisión tentativa de la cronología de los estudios griegos de Grosseteste para dar cuenta de la relación entre los dos textos.

Palabras clave

Roberto Grosseteste; Eustracio de Nicea; *Analíticos posteriores*; teoría del conocimiento; estado de perfección

Robert Grosseteste wrote the first known commentary on *Posterior Analytics* in the Western Middle Ages.[1] The text has been preserved in many surviving manuscripts and has influenced the later generations of scholars. Research shows that Grosseteste's commentary is a crucial source for the commentary written by Albert the Great, the giant of thirteenth-century scholasticism, and several other Medieval and Renaissance commentators in England and continental Europe.[2] Nonetheless, Grosseteste's commentary has proven challenging concerning its sources as it witnesses a Greek commentary tradition not entirely known to us.

Our knowledge of these sources has considerably improved thanks to the diligent work of modern scholars such as Minio-Paluello, Dod, Ebbesen, and Rossi.[3] Nevertheless, Grosseteste's Greek sources in his commentary on *Posterior Analytics* require further findings. This paper contributes to earlier scholarship with a new modest proposal concerning one of the most crucial passages in Grosseteste's work. This wrought passage concerns concept formation following the loss of our Edenic

[1] Robert Grosseteste, *Commentarius in Posteriorum Analyticorum libros*, ed. P. B. Rossi (Firenze: Olschki, 1981). On the Medieval Latin commentary tradition on this Aristotelian work, see Steven J. Livesey, "Medieval Commentaries on the *Posterior Analytics*", in *In Aristotelis Analytica Posteriora: estudos acerca da recepçâo medieval dos Segundos Analiticos*, edited by A.C. Storck (Porto Alegre: Linus Editores, 2009), 13-45.

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[2] See *e.g.* Pietro B. Rossi, "Grosseteste's Influence on Thirteenth- and Fourteenth-Century British Commentators on Posterior Analytics. A Preliminary Survey", in *Robert Grosseteste. His Thought and Its Impact*, edited by J. P. Cunningham (Toronto: Pontifical Institut for Medieval Studies, 2012), 140-166; Pietro B. Rossi, "New Translations of Aristotle's Posterior Analytics and the Cultural Milieu in Fifteenth Century Florence", in *Raison et démonstration Les commentaires médiévaux sur les* Seconds Analytiques, edited by J. Biard (Turnhout: Brepols, 2015), 199-221; Pietro B. Rossi, "Commenti agli 'Analytica Posteriora' e gli Umanisti italiani del quattrocento: una prima indagine", *Rivista di Filosofia Neoscolastica* 108/4 (2016): 759-774.

[3] See *e.g.* Lorenzo Minio-Paluello, "Jacobus Veneticus Graecus Canonist and Translator of Aristotle", *Traditio* 8 (1952): 265-304; Bernard G. Dod, *The Study of Aristotle's Posterior Analytics in the Twelfth and Thirteenth Centuries* (Oxford: Unpublished Dissertation, 1970); Sten Ebbesen, "Anonymus Aurelianensis II, Aristotle, Alexander, Porphyry and Boethius. Ancient Scholasticism and Twelfth-Century Western Europe", *Cahiers de l'Institut du Moyen-Âge Grec et Latin* 16 (1976): 1-128; Sten Ebbesen, "Philoponus, 'Alexander' and the Origins of Medieval Logic", in *Aristotle Transformed. The Ancient Commentators and their Influence*, edited by R. Sorabji (Ithaca NY: Cornell University Press, 1990), 445-461; Pietro B. Rossi, "Tracce della versione latina di un commento greco ai Secondi Analitici nel *Commentarius in Posteriorum Analyticorum libros* di Roberto Grossatesta", *Rivista di Filosofia Neoscolastica* 70 (1978): 433-439. On the general issue of the reception of Ancient Greek philosophy in the West, see Sten Ebbesen, "Greek-Latin Philosophical Interaction", in *Byzantine Philosophy and its Ancient Sources*, edited by K. Ierodiakonou (Oxford: Oxford University Press, 2002), 15-30.

perfection. I argue that Grosseteste has possibly paraphrased or rephrased a nearly identical text found in the commentary on *Nicomachean Ethics* 6 written by the byzantine commentator Eustratius, the metropolitan of Nicaea (d. after 1120). Grosseteste translated into Latin Eustratius' commentaries on *Nicomachean Ethics* 1 and 6 at a later stage. However, I would like to advance the hypothesis that at the time of the composition of his commentary on *Posterior Analytics*, Grossteste had access to a Greek manuscript preserving the Greek-Byzantine commentaries on *Nicomachean Ethics*.[4]

1. Concept Formation after Adam's Fall

Before methodically explicating Grosseteste's passage, I shall briefly present Aristotle's text from which Grossteste's comment originates.[5] In *Posterior Analytics* 1.18.81a38-81b9, Aristotle writes:

> Φανερὸν δὲ καὶ ὅτι, εἴ τις αἴσθησις ἐκλέλοιπεν, ἀνάγκη καὶ ἐπιστήμην τινὰ ἐκλελοιπέναι, ἣν ἀδύνατον λαβεῖν, εἴπερ μανθάνομεν ἢ ἐπαγωγῇ ἢ ἀποδείξει, ἔστι δ' ἡ μὲν ἀπόδειξις ἐκ τῶν καθόλου, ἡ δ' ἐπαγωγὴ ἐκ τῶν κατὰ μέρος, ἀδύνατον δὲ τὰ καθόλου θεωρῆσαι μὴ δι' ἐπαγωγῆς (ἐπεὶ καὶ τὰ ἐξ ἀφαιρέσεως λεγόμενα ἔσται δι' ἐπαγωγῆς γνώριμα ποιεῖν, ὅτι ὑπάρχει ἑκάστῳ γένει ἔνια, καὶ εἰ μὴ χωριστά ἐστιν, ᾗ

[4] I expand on chronological matters in the conclusions of this paper.

[5] In light of its importance for understanding Grosseteste's epistemology, the passage at hand has been described, among others, in Étienne Gilson, "Pourquoi saint Thomas a critiqué saint Augustin", *Archives d'Histoire Doctrinale et Littéraire du Moyen Âge* 1 (1926-1927): 5-127, at 95-96; Lawrence E. Lynch, "The Doctrine of Divine Ideas and Illumination in Robert Grosseteste", *Mediaeval Studies* 3 (1941): 171-173, at 169; A. C. Crombie, *Robert Grosseteste and the Origins of Experimental Science* (Oxford: Clarendon Press, 1953), 73-90; Eileen F. Serene, "Robert Grosseteste on Induction and Demonstrative Science", *Synthese* 40 (1979): 97-115; Steven P. Marrone, *William of Auvergne and Robert Grosseteste: New Ideas of Truth in the Early Thirteenth Century* (Princeton N.J: Princeton University Press, 1983), 166-178; Steven P. Marrone, *The Light of Thy Countenance: Science and Knowledge of God in the Thirteenth Century*, 2 vols. (Leiden: Brill, 2001), vol. 1, 99-100; Pietro B. Rossi, "Robert Grosseteste and the Object of Scientific Knowledge", in *Robert Grosseteste: New Perspectives on his Thought and Scholarship*, edited by J. McEvoy (Turnhout: Brepols, 1995), 53-76, in part. 70; James McEvoy, *Robert Grosseteste* (Oxford: Oxford University Press, 2000), 83-84; Jeremiah Hackett, "Robert Grosseteste and Roger Bacon on the *Posterior Analytics*", in *Erkenntnis und Wissenschaft/ Knowledge and Science Probleme der Epistemologie in der Philosophie des Mittelalters/ Problems of Epistemology in Medieval Philosophy*, edited by M. Lutz-Bachmann, A. Fidora and P. Antolic-Piper (Berlin: Akademie Verlag, 2004), 161-212, at 187; Christina Van Dyke, "A Divinely Aristotelian Theory of Illumination: Robert Grosseteste's Epistemology in his Commentary on the *Posterior Analytics*", *British Journal for the History of Philosophy* 17/4 (2009): 685-704; Christina Van Dyke, "The Truth, the Whole Truth, and Nothing but the Truth: Robert Grosseteste on Universals (and the *Posterior Analytics*)", *Journal of the History of Philosophy* 48/2 (2010): 153-170. On medieval theories concerning the loss of the state of perfection, see Luciano Cova, *Peccato originale: Agostino e il Medioevo* (Bologna: Il Mulino, 2016) and Gianluca Briguglia, *Stato di innocenza. Adamo, Eva e la filosofia politica medievale* (Roma: Carocci, 2017).

> τοιονδὶ ἕκαστον), ἐπαχθῆναι δὲ μὴ ἔχοντας αἴσθησιν ἀδύνατον. τῶν γὰρ καθ' ἕκαστον ἡ αἴσθησις· οὐ γὰρ ἐνδέχεται λαβεῖν αὐτῶν τὴν ἐπιστήμην· οὔτε γὰρ ἐκ τῶν καθόλου ἄνευ ἐπαγωγῆς, οὔτε δι' ἐπαγωγῆς ἄνευ τῆς αἰσθήσεως.
>
> It is evident too that if some perception is wanting, it is necessary for some understanding to be wanting too – which it is impossible to get if we learn either by induction or by demonstration, and demonstration depends on universals and induction on particulars, and it is impossible to consider universals except through induction (since even in the case of what are called abstractions one will be able to make familiar through induction that some things belong to each genus, even if they are not separable, in so far as each thing is *such and such*), and it is impossible to get an induction without perception – for of particulars there is perception; for it is not possible to get understanding of them; for it can be got neither from universals without induction nor through induction without perception. [6]

i) According to Grosseteste (212.203-215, ed. Rossi), we should read this Aristotelian text against the background of the earlier *Posterior Analytics* 1.16.79b23-28, where Aristotle distinguishes two types of ignorance, namely ignorance 'in virtue of a negation' (κατ' ἀπόφασιν) and ignorance 'as a disposition' (κατὰ διάθεσιν).[7] Nevertheless, in this latter passage, Aristotle does not define what ignorance in virtue of a negation is, he only provides a definition for ignorance as a disposition and explains that this is an "error that comes about through deduction". In Robert's view in *Posterior Analytics* 1.18.81a38-81b9, Aristotle finally accounts for ignorance by a negation. Robert explains that when one of the senses is deficient, so will the related type of knowledge of the specific object for that sense. Thus because induction moves from the individuals, which are the proper object of sense-perception, a deficient sense will affect the inductive process and, thereby, the intellectual cognition of that singular. As the deficiency of sensorial cognition affects induction and intellectual knowledge, the universal notions that are the terms of the demonstration will also be fallacious. Finally, given that science properly-so-called can only be demonstrative, fallacies in the demonstration will also affect the science related to a specific class of individuals. In

[6] Aristoteles, *Analytica Posteriora*, I.18.81a38-82a9. All translations of *Posterior Analytics* are taken from Jonthan Barnes, *Aristotle. Complete Works* (Princeton, NJ: Princeton University Press, 1991).

[7] Aristoteles, *Analytica Posteriora*, I.16.79b23-28: Ἄγνοια δ' ἡ μὴ κατ' ἀπόφασιν ἀλλὰ κατὰ διάθεσιν λεγομένη ἔστι μὲν ἡ διὰ συλλογισμοῦ γινομένη ἀπάτη, αὕτη δ' ἐν μὲν τοῖς πρώτως ὑπάρχουσιν ἢ μὴ ὑπάρχουσι συμβαίνει διχῶς· ἢ γὰρ ὅταν ἁπλῶς ὑπολάβῃ ὑπάρχειν ἢ μὴ ὑπάρχειν, ἢ ὅταν διὰ συλλογισμοῦ λάβῃ τὴν ὑπόληψιν. τῆς μὲν οὖν ἁπλῆς ὑπολήψεως ἁπλῆ ἡ ἀπάτη, τῆς δὲ διὰ συλλογισμοῦ πλείου ("Ignorance – what is called ignorance not in virtue of a negation but in virtue of a disposition – is error coming about through deduction. In the case of what belongs or does not belong primitively this comes about in two ways: either when one believes *simpliciter* that something belongs or does not belong, or when one gets the belief through deduction. Now for simple belief the error is simple, but when it is through deduction there are several ways of erring").

other words, whereas ignorance as a disposition concerns deduction, ignorance in virtue of a negation affects the induction of universal terms from sense perception.

ii) Afterwards, the text (212.216-213.228, ed Rossi) diverges from the explanation of Aristotle's text. It presents Grosseteste's account for the reason and origin of ignorance: 1) not all sciences, writes Robert, require induction from sense-perception. All sciences are contained in their purest universal form in God's Mind. Not only does God's Mind possess in itself all universals, but it also knows the individuals in their universality, whereas we only grasp them together with their accidental individual properties; 2) by the same token while receiving irradiation of God's perfect science, also the lower angelic intelligencies share the same universal knowledge and—in a way which is reminiscent of texts from the Arabic source-material—while knowing the superior cause each of the lower intelligencies also knows itself and that which comes after it as its cause;[8] 3) thus, Grosseteste claims that those intelligencies whose knowledge is not sense-perception based are granted science in its most complete form.

iii) Unlike the separate intelligences and God, following the loss of Edenic perfection, the rational human soul has lost its capacity to act purely intellectually (213.229-214.244, ed. Rossi). 1) Because of the bond with the body and the flesh, the rational soul can no longer receive the same irradiation of divine light as the higher intelligencies and the unembodied souls; 2) As "the purity of the eye of the soul" – a Platonizing metaphor which Grosseteste refers to the intellectual part of the soul – is obnubilated and burdened by the body, bodily affections and lower impulses, men's purely intellectual activity is somewhat asleep and only relies on sense-perception data; 3) yet, after long time and experience with sense-perception data, reason and rationality somehow awaken and ascend from the undifferentiated and confused sense-perception based knowledge to more and more abstracted and complex notions; 4) accordingly, by ascending to a more abstract level of cognition through experience, the intellect first forms what Grosseteste calls "universale incomplexum", in which the mind graps a simple universal or notion by separating something's accidental features from its essence; 5) then it becomes capable of a more complex operation ("universale complexum experimentale") consisting in associating one or more simple universal in propositions concerning natural laws or phenomena. 6) already at this point, the rational part of the soul is involved in the process, as the "eye of the soul" must be pure from bodily hindrances in order to divide the common trait from the manifold individuals and to infer the general law in which the different terms relate with each other.

iv) Grosseteste describes (214.255-215.272) the passage between the formation of these two types of universals within two epistemic stages. First, one needs at least two

[8] The available literature on Arabic intellect theories and their cosmological implications is vast. See the introductory Herbert A. Davidson, *Alfarabi, Avicenna & Averroes on Intellect* (Oxford-New York: Oxford University Press, 1992). On the sources of Grosseteste's reference to separate intelligences and their mode of cognition, see Rossi, "The Object", 70.

sensibilia to form what he calls an *intentio aestimata* resulting from the mind noticing that one event is frequently associated with another; then the *intentio* thus formed must undergo a thought experiment that validates the same *intentio*. Here Grosseteste draws a concrete example from Avicenna: [9]

> when someone many times sees the eating of scammony accompanied by the discharge of red bile and he does not see that scammony attracts and draws the red bile, then from the frequent perception of these two visible things, one begins to form a notion of the third, invisible element, that is that scammony is the cause that draws out red bile.

v) Finally (215.272-216.291 ed. Rossi), Grosseteste expresses his conviction that knowledge properly so-called is not confined to the sensorial level but must ascend to the intelligible level. In its present state, following the loss of Adamic perfection, the intellectual power of the soul is clouded over. Accordingly, the soul's capacity to understand (*aspectus*) is inseparable from its loves (*affectus*) and cannot transcend them.[10] Thus, the *aspectus*, namely reason, must desire to be turned away from the sensible world.

> When the latter (*scil.* the *affectus* or one's loves) are turned towards the body and the seductions of matter that sorround us, they entice the capacity for truth to dally with them and they distract it from its true light, leaving the mind in a darkness and idleness that only begin to be relieved when it issues through the external senses into a light, which is a reminder of that other Light, its birthright.[11]

The task for the soul is to transcend the ephemeral objects towards proper knowledge, which in Grosseteste's view, means that the intellectual part of the soul turns from sensorial knowledge to the intelligible contents present in God and in the lower intelligences.

Let me summarize the passage's content: according to Grossteste, knowledge is coordinated with the nature of the knower. Whereas God and the separate intelligences know things in their universality – either because the universals are found in God's mind, or these are irradiated among the intelligences – the human rational soul must initially rely on sense-perception-based data. In Grosseteste's epistemology, due to the loss of the perfection that followed Adam's sin, the mind alone cannot relate two

[9] Robert Grosseteste, *Commentarius*, 214,254-215,261. The reference goes to Avicenna, *Canon*, I.ii.2. I cite the text in the English translation by Simon Oliver, "Robert Grosseteste on Light, truth and 'Experimentum'", *Vivarium* 42/2 (2004): 151-180, at 173. On this passage, see Bruce S. Eastwood, "Mediaeval Empiricism: The Case of Grosseteste's Optics", *Speculum* 42/2 (1968): 306-321, at 308-309; John R. Milton, "Induction Before Hume", in *Handbook of the History of Logic* (vol. 10), *Inductive Logic*, edited by D. M. Gabbay, S. Hartmann and J. Woods (Oxford and Amsterdam; North Holland, 2011), 1-41, at 17-18.

[10] On *aspectus* and *affectus* in Grosseteste, see Brett W. Smith, "A Theme Song of His Life: *Aspectus* and *Affectus* in the Writings of Robert Grosseteste", *Franciscan Studies* 76 (2018): 1-22. See also Brett W. Smith, *Aspectus et Affectus in the Thought of Robert Grosseteste* (Rome: If Press, 2023).

[11] McEvoy, *Robert Grosseteste*, 84.

sensibilia within a cause-effect relation but requires an additional illumination, or better irradiation, from the supreme Light. However, this condition is not a definitive one. By repeating sensorial experiences and transcending bodily impulses and passions, the intellectual power in the human soul awakens. This allows the soul to rediscover its intellectual nature and to receive illumination or irradiation from above, thus acquiring knowledge of something. This process involves at least two stages: first, grasping single terms from sense perception, then the capacity to relate these terms to a proposition or law of nature.

In the next paragraph, I shall address the central issue of Grosseteste's source in this passage.

2. A Medieval Greek Source?

As stated above, the importance of this passage for reconstructing Grosseteste's epistemology has not escaped the attention of modern scholars.[12] However, all attempts so far at detecting the source or sources of the passage have yet to be successful. In general, when looking for sources, scholars have pointed out the combination between Aristotle's induction theory and Augustine's illuminationism. This seems reasonable since, when talking about illuminationism in medieval epistemology, Augustine is undoubtedly the most important and most cited source.[13] Grosseteste himself famously pays tribute to Augustine's authority in his *Tabula*, a prospect of some 440 topics divided into nine subjects where the bishop of Lincoln listed biblical, patristical, theological, and profane sources for each subject.[14] Here Augustine is the most frequently cited author on human and divine knowledge.

According to Grosseteste light is not just a metaphor for describing God but rather an essential property of God himself. Accordingly, if this is the case, everything God created exists and acts insofar as it participates in light.[15] Notably, Grosseteste's theory

[12] See the literature collected at nt. 5.

[13] The available literature on the topic is vast. See the introductory Lydia Schumacher, *Divine Illumination: The History and Future of Augustine's Theory of Knowledge* (Oxford: Wiley-Blackwell, 2011), 58-65 *et passim*. On Grosseteste'scholarship on Augustine and other Church Fathers, see Pietro B. Rossi, "Magna magni Augustini auctoritas: Grossatesta e i Padri", in *Ipsum verum non videbis nisi in philosophiam totus intraveris. Studi in onore di Franco De Capitani*, edited by F. Amerini and S. Caroti (Parma: E-theca OnLineOpenAccess Edizioni, 2016), 437-469, *esp*. 457-58.

[14] Harrison S. Thomson discovered the *Tabula*. See Harrison S. Thomson, *The Writings of Robert Grosseteste Bishop of Lincoln, 1235-1253* (Cambridge: Cambridge University Press, 1940), 122-124. See also Philipp W. Rosemann, "Robert's Grosseteste's *Tabula*", in *Robert Grosseteste: New Perspectives*, edited by J. McEvoy (Turnhout: Brepols, 1995), 321-355.

[15] See McEvoy, *Robert Grosseteste*, 91. See also Jack Cunningham, "*Lumen de Lumine*: Light, God and Creation in the Thought of Robert Grosseteste", in *Bishop Robert Grosseteste and Lincoln Cathedral Tracing Relationships between Medieval Concepts of Order and Built Form*, edited by N. Temple, J. Shannon Harris and Ch. Frost (Farnham: Ashgate, 2014), 81-98.

of light is complex and based on several sources, including works written in Arabic.[16] However, unsurprisingly, when explaining in his *Hexaemeron* that light is the most subtle of all things of bodily nature and is the first corporeal form, Grosseteste appeals once more to the authority of Augustine.[17] The importance of Augustine becomes even more evident if one thinks that on some critical issues in Grosseteste's commentary on *Posterior Analytics*, Augustine could provide plenty of material for building up the epistemology sketched in the previously mentioned crucial passage (212.203-216.291, ed. Rossi). For instance, consider Grosseteste's reference (212.216-213.228, ed. Rossi) to God as possessing all Universals or Forms in his Mind. Few would deny a similarity with *quaestio* 46 of Augustine's *Quaestiones LXXXIII*, where the bishop of Hippona famously described Plato's forms as existing in the divine Mind.[18] Grosseteste himself refers to this text several times in his work, including in the *Commentary on Posterior Analytics*.[19]

Nevertheless, no text in Augustine matches Grosseteste's passage under scrutiny. Instead, a passage from the commentary on *Nicomachean Ethics 6* written in Greek by the commentator and theologian Eustratius of Nicaea should be considered as a source. As specialists would know, later in his life, Grosseteste went on to translate Eustratius' commentaries on books 1 and 6, along with other ancient and Byzantine commentaries on the same work.[20] In what follows, I shall cite the two texts one after the other.[21]

> Eustratius, *Commentary on* Nicomachean Ethics 6, ms. Eton College 122, f. 108rb: *Si* quidem igitur non ordinem illum et legem quam ex Creante assumpsit transgressus esset, sed ad ordinem meliorem sui ipsius aspiciens et annuens permansisset et illius irremisse

[16] On Grosseteste's complex theory of light and its sources, see the excellent Cecilia Panti, *Roberto Grossatesta. La luce* (Pisa: Pisa University Press, 2011), 87-174.

[17] See Robert Grosseteste, *Hexaemeron*, 1.10.1, edited by R. C. Dales and S. Gieben (London: The British Academy, 1996).

[18] Aurelius Augustinus, *Quaestiones LXXXIII*, q. 46.1-2, edited by A. Mutzenbecher, CCSL 44a (Turnhout: Brepols, 1975), 70-73.

[19] See *e.g.* Robert Grosseteste, *Commentarius*, 139-140; Robert Grosseteste *Commentarius in VIII l. Physicorum Aristotelis*, edited by R. C. Dales, (Boulder, Col.: University of Colorado Press, 1963), 55. Grosseteste collected several Augustinian passages on this topic in his *Tabula*, under the entry "De rationibus in mente divina". See Robert Grosseteste, *Tabula*, edited by R. Rosemann, CCCM 130 (Turnhout: Brepols, 1995), 268.

[20] The translation of the Greek-Byzantine commentaries on Aristotle's *Nicomachean Ethics* is dated 1246-1247 by Mercken, but the same author admits that Robert indeed started earlier translating this *corpus*. See H. Paul F. Mercken, *The Greek Commentaries on the Nicomachean Ethics of Aristotle: Eustratius on Book I and the anonymous scholia on Books II, III, and IV* (Leiden: Brill, 1973), 40*. On the medieval Latin reception of these commentaries, see Michele Trizio, "From Anne Komnene to Dante: The Byzantine Roots of Western Debates on Aristotle's *Nicomachean Ethics*", in *Dante and the Greeks*, edited by J. Ziolkowski (Cambridge, MA: Harvard University Press, 2014), 105-139.

[21] I use bold and italics to distinguish between Grosseteste's close quotations from Eustratius' commentary and Grosseteste's paraphrase of it, respectively. Grosseteste's translation of Eustratios' commentary on *Nicomachean Ethics 6* still needs to be edited. I am preparing the critical edition of the text. The text of Eustratios' passage cited in this paper has been collated from ms. Eton College 122 (thirteenth century, second half, copied in England).

desiderans fruitionem, a deterioruibus autem tantum abstinuisset quantum praecognovisset ipsa secundum proportionale convenientis ipsi et ordinis et naturae, *permansisset utique ipsi et perfectum inconcussum. Quia autem avidus fuit circa deteriora et ea quae secundum sensum frui vita praeconcupivit, eam quae ad meliora negligens annuitionem, propter hoc et a propria excidit perfectione et generationi succubuit et corruptioni*, **et intellectualis ipse oculus gravatus est et convelatus, grossiori carne et mortali perturbante ipsum**. *Hinc et a sensibili ligatus est cognitione, immediate quidem operante circa propria cognoscibilia, exsuscitante autem ipsum quemadmodum generatione obdormientem et ex quibus ipsa cognoscit singularibus occasionem ipsi ad universalis supponente constitutionem et ex immediata operatione sua, quam circa particularia ostendit, largitionem ipsi tribuente communes conceptiones inductive constituere, ex quibus immediatis existentibus quoniam et ex immediatis occasionibus ipsas intellectus congregavit, scientificas conducit conclusiones.* Hinc et ignorantiae deponit velum, et sui ipsius fit *et a ponderoso passibilitatis exoneratus*, aspicit et annuit ad meliora et ad ipsum Factorem. Si enim non et ipse intellectus sub corruptionem secundum substantiam cecidit, sed quidem secundum substantiam coniugatus corruptibilibus, corruptus est et ipse secundum operationem, non potens neque in imperfectis servare perfectum neque in corruptis omnino incorruptum. Consequenter ergo ei quae ex principio intellectivi animae perfectioni et ei qui postea casui inductio dignitatum in scientiis superaccidit constitutio.

Grosseteste's text runs as follows:

Robert Grosseteste, *Commentary on* Posterior Analytics (213,229-216,282, ed. Rossi): Et similiter *si* pars suprema anime humane, que vocatur intellectiva et que non est actus alicuius corporis neque egens in operatione sui propria instrumento corporeo, **non esset mole corporis corrupti obnubilata et aggravata**, ipsa per irradiationem acceptam a lumine superiori *haberet completam scientiam absque sensus adminiculo,* sicut habebit cum anima erit exuta a corpore *et sicut forte habent aliqui penitus absoluti ab amore et phantasmatibus rerum corporalium.* **Sed, quia puritas oculi anime per corpus corruptum obnubilata et aggravata est**, **omnes vires ipsius anime rationalis in homine nato occupate sunt per molem corporis**, *ne possint agere, et ita quodammodo sopite. Cum itaque processu temporis agant sensus per multiplicem obviationem sensus cum sensibilibus, expergiscitur ratio ipsis sensibus admixta* et in sensibus quasi in navi delata ad sensibilia. *Ratio vero expergefacta* incipit dividere et seorsum aspicere que in sensu erant confusa, utpote visus, colorem, magnitudinem, figuram, corpus confundit, et in eius iudicio sunt hec omnia accepta ut unum. [...] *Verumtamen non novit ratio hoc esse actu universale nisi postquam a multis singularibus hanc fecerit abstractionem et occurrerit ei unum et idem secundum iudicium suum in multis singularibus repertum. Hec est igitur via qua venatur universale incomplexum a singularibus per sensus adminiculum. Universale enim complexum experimentale non acquiritur a nobis habentibus mentis oculum indefecatum nisi sensus ministerio.* [...] Manifestum est itaque quod deficiente aliquo sensu in nobis habentibus **mentis oculum mole corporis corrupti** occupatum deficiet etiam universale incomplexum ex singularibus sensus deficientis venatum, et deficit etiam universale complexum experimentale ex eisdem singularibus sumptum, et per consequens omnis demonstratio et scientia que erigitur

> supra universalia sic venata. *Ratio enim in nobis sopita non agit nisi postquam per sensus operationem, cui admiscetur, fuerit expergefacta.* **Causa autem quare obnubilatur visus anime per molem corporis corrupti** est quod affectus et aspectus anime non sunt divisi, nec attingit aspectus eius nisi quo attingit affectus sive amor eius.

Comparing the two texts suggests that Grosseteste possibly re-elaborated Eustratius' passage by rephrasing it or citing it almost *verbatim*. This Eustratian passage may have escaped scholarly attention because Eustratius' commentary on *Nicomachean Ethics* 6 remains unedited. Upon close inspection, the structure of Eustratius' text has been preserved in Grosseteste's commentary. For example, both texts begin with a conditional sentence introduced by 'si'. In both texts, the conditional sentence explains that, had man preserved his perfection, he would have been capable of pure intellection. After the loss of Adamic perfection, men are bound to sensorial knowledge. Let me focus more closely on the intertextualities between the two texts.

1) Both texts explain that in the present condition, the "eye of the soul", a platonic imagery that describes the intellectual power of the soul, is obscured and clouded over by the burden of the body and the flesh.[22] Furthermore, four times in his commentary (213.231; 213.236-237; 215.273; 215.279-216.280 ed. Rossi), Grosseteste reverberates Eustratius' description of the intellectual power as obstructed by the flesh and the bodily impulses. Eustratius writes:

> propter hoc et a propria excidit perfectione et generationi succubuit et corruptioni, et intellectualis ipse oculus gravatus est et convelatus, grossiori carne et mortali perturbante ipsum.
>
> For this reason, man lost his perfection and fell within the realm of generation and corruption. Furthermore, his very intellectual eye has been burdened and clouded by the thicker and mortal flesh that disturbs it.

Eustratius' reference to the "ticker and mortal flesh" (*grossiori carne et mortali*) as that which obstructs the intellectual capacity in the human soul matches Grosseteste's description of that same intellectual capacity, the eye of the soul, which is obstructed "because of the weight of the body" (*per molem corporis* or *mole corporis*). Furthermore, the two authors describe the detrimental effect of flesh and body over knowledge by using almost the exact words: Eustratius writes that the eye of the soul "has been burdened and clouded over" (*gravatus est et convelatus*) by the body, Grosseteste echoes Eustratius and writes that men's intellectual power is "obnubilated and burdened by the corrupt body" (*mole corporis corrupti obnubilata et aggravata*). He also writes that the purity of the eye of the soul "has been obnubilated and burdened" (*obnubilata et aggravata est*) by the same body. The similarities between the texts are striking.

2) Both texts explain that in the present state, the intellectual power of the soul lies asleep because of the shock of birth and the loss of Adam's pristine condition. However,

[22] Plato, *Respublica*, 533CD.

as we pursue knowledge by repeating sensorial experiences, reason awakens. Writes Eustratius:

> Hinc et a sensibili ligatus est cognitione, immediate quidem operante circa propria cognoscibilia, exsuscitante autem ipsum quemadmodum generatione obdormientem [...].
>
> Hence [the eye of the soul] is also bound to sensorial knowledge. Nevertheless, as the latter operates on the objects of knowledge coordinated to it, it awakens the eye of the soul that lulled somehow asleep due to the generation process [...].

If my hypothesis is correct, this Eustratius passage is rephrased by Grosseteste twice. First (at 214.238-241 ed. Rossi), Grosseteste explains that "and so when our senses are operative for a certain amount of time through repeated exposure of sense-perception with the sensible objects, reason (although mixed with the senses) awakens" (*Cum itaque processu temporis agant sensus per multiplicem obviationem sensus cum sensibilibus, expergiscitur ratio ipsis sensibus admixta*). Later in the text (at 215.277-279 ed. Rossi) Grosseteste repeats that "in fact, since reason is lulled asleep, it cannot operate unless it awakens through the sensorial activity with which is mixed" (*Ratio enim in nobis sopita non agit nisi postquam per sensus operationem, cui admiscetur, fuerit expergefacta*). In short, the bishop of Lincoln, appropriated Eustratius' claim that reason is at first lulled to sleep and that, through repeated exposure to sense-perception, reason awakens. I argue that Eustratius' *exsuscitante* matches Grosseteste's *expergiscitur*, and that Eustratius' *obdormientem* referred to as the eye of the soul, matches Grossetestes' *sopita* as referred to reason. These are all synonyms.

3) But there is another issue for which Grosseteste may be indebted to Eustratius. As said before, the awakened reason functions in two different operations. Grosseteste explains that first, our mind grasps the *universale incomplexum*, that is to say, a simple universal or notion obtained after separating something's accidental features from its essence. Then it becomes capable of a more complex operation (*universale complexum experimentale*) whereby our mind associates one or more simple universals in propositions concerning natural laws or phenomena. That is precisely what Eustratius says:

> ex quibus ipsa cognoscit singularibus occasionem ipsi ad universalis supponente constitutionem et ex immediata operatione sua, quam circa particularia ostendit, largitionem ipsi tribuente communes conceptiones inductive constituere, ex quibus immediatis existentibus quoniam et ex immediatis occasionibus ipsas intellectus congregavit, scientificas conducit conclusiones.
>
> from these (*scil.* the sensorial objects) sense-perception knows the individuals and accordingly allows him (*scil.* man) with the opportunity to form a universal term. Thus, even though sense-perception is an immediate operation concerned with individuals, it allows him (*scil.* man) to form common notions inductively. We may draw the scientific conclusions by taking a cue from the latter (which are immediate terms insofar as the intellect forms them through immediate operations).

From this text, it is pretty clear that, like Grosseteste, Eustratius distinguishes two different operations. First, the mind discerns a single universal term or a common notion through induction from sense-perception data.[23] In this regard, Eustratius claims that sensorial acts are immediate insofar as our senses grasp their objects in a quick and non-reflexive way. However, he also implies something similar regarding the universals abstracted from the sensorial data, for these are graspable immediately because, claims Eustratios, the intellect formed them by means of immediate and non-discursive acts. Second, the mind connects these universal terms to form a scientific conclusion in the form of a syllogism. In other words, I argue that Grosseteste found in Eustratios' text a primitive version of his more nuanced distinction between *universale incomplexum a singularibus* and *universale complexum experimentale*.[24]

To make my argument plausible and exclude other sources, I decided to look for parallels in the Latin tradition known to Grosseteste. To start with, I considered the platonic imagery of the eye of the soul used for describing the rational soul or intellect. This ancient imagery had a tremendous impact on the late ancient and medieval author, and, unsurprisingly, it is also vastly found in the writings of Augustine.[25] Yet, nowhere in his writings does Augustine say that the eye of the soul is "obscured and clouded over". After long research among the sources potentially available to Grosseteste, I found that only Eustratius describes the eye of the soul through these two qualifications. By contrast, Grosseteste's statement that the eye of the soul is obnubilated "because of the weight of the body" *(per molem corporis* or *mole corporis)* reflects a similar expression found in Augustine and in the later medieval tradition that depends on Augustine.

The importance of Augustine is evident in Matthew of Acquasparta's *Quaestiones disputatae de providentia*, where Matthew (died 1302) recalls a doxography found in Augustine's *De Trinitate* XII.15. The text concerns knowledge as reminiscence in Platonic terms, a solution that both Augustine and Matthew exclude. According to Plato, says Matthew, the soul has in itself all knowledge, "but it cannot display awareness of it insofar as it is burdened by the burden of the body" (*sed mole corporis gravata anima*

[23] On Eustratios' problematic usage of the term 'common notion', here to be understood as the universal grasped inductively from sense-perception data, see Michele Trizio, *Il Neoplatonismo di Eustrazio di Nicea* (Bari: Pagina, 2016), 182-185.

[24] On this crucial distinction, see the literature cited at note 5. It should be recalled that when incorporating Eustratius' distinction between different operations, Grosseteste added something of his own, namely the role of the mental experiment (Grosseteste appeals to the case study of scammony as the cause for the discharge of red bile) for completing the *universale complexum experimentale*.

[25] See *e.g.* Augustine, *De genesi al litteram libri duodecim*, 12.7, edited by I. Zicha, CSEL 28.1 (Wien: Tempsky, 1894), 389,15-17: "Dicitur spiritus et ipsa mens rationalis, ubi est quidam tamquam oculus animae, ad quem pertinet imago et agnitio Dei"; *Soliloquiorum libri duo*, 6.12, edited by W. Hörmann, CSEL 89 (Wien: Tempsky, 1986): "Oculus animae mens est ab omni labe corporis pura, id est, a cupiditatibus rerum mortalium iam remota atque purgata".

considerare non potest).[26] These words are actually by Matthew, not by Augustine. In *De Trinitate* XII.15 the expression *mole corporis aggravata* does not appear. More importantly, Matthew wrote after Grosseteste and must be ruled out as a potential source. More interesting is the occurrence of the expression at hand in Radulphus Ardens (died ca. 1200). In his *Speculum Universale*, Radulphus wrote that in the present condition, we have no access to the inner part of the soul, "while we are burdened by the weight of the body" (*mole corporis aggravamur*).[27] Furthermore, in his outstanding *The Light of Thy Countenance*, Steven Marrone pointed at another short passage from Radulphus' *Speculum*, where the author writes that in the present condition, the reason lies asleep and is almost buried.[28] Marrone does not venture to speculate on the relationship between Grosseteste's and Radulphus' texts, *i.e.,* whether one is the source of the other or they both depend on an earlier source. However, according to consensus, Radulphus' *Speculum* was composed between 1231 and 1236, slightly after the composition of Grosseteste's commentary on *Posterior Analytics*.[29]

In general, after the example of Augustine, Grosseteste knew this expression and used in his commentary on *Posterior Analytics*. But nothing prevents us from thinking that, because of an insufficient proficiency in Greek, Grosseteste had rendered Eustratius' Greek text using a formula he was more comfortable with. Think that in most Augustinian passages where the expression occurs, and in the later medieval witnesses, nowhere does the expression occur as referred to as the eye of the soul.[30] Again, only Eustratius describes the eye of the soul as "burdened and clouded over".

Another hint at potential Latin sources for parts of Grosseteste's text is McEvoy's book on Grosseteste, published in 2000.[31] Concerning the crucial passage at stake in this paper, McEvoy wrote: "In the normal case the higher human powers are "lulled to sleep" (in the Boethian metaphor) by the weight of the flesh". However, McEvoy did not produce any precise reference to the Boethian *corpus*. It is not clear at first whether the reference to Boethius concerns the description of the eye of the soul as "lulled to sleep" or the imagery of the weight or burden of the flesh. Scrutiny of Boethius' writings suggests that McEvoy referred to the latter. Boethius' *De consolatione philosophiae* includes several references to the condition of the soul in this life as veiled or obnubilated by passions and false opinions. For example:

[26] Matthew of Acquasparta, *Quaestiones disputatae de providentia*, q. 6, edited by G. Gál (Quaracchi: Typographia collegii S. Bonaventurae, 1956), 381,6-9.
[27] Radulphus Ardens, *Speculum universale* (libri I - V et VII - X) liber 3,41, edited by C. Heimann and S. Ernst, CCSL 241 (Turnhout: Brepols, 2011), 206, 1472.
[28] Marrone, *The Light*, 99.
[29] On the commentary dating, see the present paper's conclusions.
[30] The most interesting expression at hand in Augustine is the passage of *Soliloquia* cited at note 25.
[31] McEvoy, *Robert Grosseteste*, 84.

> Sed quoniam firmioribus remediis nondum tempus est, et eam mentium constat esse naturam ut, quotiens abiecerint veras, falsis opinionibus induantur, ex quibus orta perturbationum caligo verum ilium confundit intuitum, hanc paulisper lenibus mediocribusque fomentis attenuare temptabo, ut dimotis fallacium affectionum tenebris splendorem verae lucis possis agnoscere.[32]
>
> Still, as it is not yet time for stronger medicine, and as it is the accepted opinion that the nature of the mind is such that for every true belief it rejects, it assumes a false one from which the fog of distraction rises to blot out its true insight, I will try to lessen this particular fog little by little by applying gentle remedies of only medium strength. In this way, the darkness of the ever treacherous passions may be dispelled, and you will be able to see the resplendent light of truth.

This Boethian passage describes, in a purely Neoplatonic fashion, the state of the embodied soul, dragged by false opinions and passions. The effect of these on the soul is described as a "cloud" or "darkness" (*caligo*).[33]

Furthermore, in book III, *carmen* XI, Lady Philosophy says:

> Quisquis profunda mente vestigat verum / cupitque nullis ille deviis falli / in se revolvat intimi lucem visus / longosque in orbem cogat inflectens motus / animumque doceat quicquid extra molitur / suis retrusum possidere thesauris; / dudum quod atra texit erroris nubes / lucebit ipso perspicacius Phoebo. / Non omne namque mente depulit lumen / obliviosam corpus invehens molem; haeret profecto semen introrsum veri / quod excitatur ventilante doctrina.[34]
>
> Whoever deeply searches out the truth / And will not be decoyed down false by-ways, / Shall turn unto himself his inward gaze, / Shall bring his wandering thoughts in circle home / And teach his heart that what it seeks abroad / It holds in its own treasuries within. / What error's gloomy clouds have veiled before / Will then shine clearer than the sun himself. / Not all its light is banished from the mind / By body's matter which makes men forget. / The seed of truth lies hidden deep within, / And teaching fans the spark to take new life.

Lady Philosophy explains that the soul must teach her "inner sight" to unveil the truth in herself hidden in cloudiness: "Not all its light is banished from the mind / By body's matter which makes men forget, / The seed of truth lies hidden deep within, / And

[32] Boethius, *De consolatione philosophiae*, I,6,21, edited by C. Moreschini (München-Leipzig: Saur, 2005), 25,53-59. All English translation are taken from Victor Watts, *Boethius. The Consolation of Philosophy* (London: Penguin, 1969).

[33] See also Boethius, *De consolatione*, V,III, 145,6-10: "an nulla est discordia veris / semperque sibi certa cohaerent, / sed mens caecis obruta membris / nequit oppressi luminis igne / rerum tenues noscere nexus?" ("Or is there no discord of truths / Which ever sure in union join? / Is mind, oppressed by members blind, / In lesser brightness powerless / To see the slender links of things?").

[34] Boethius, *De consolatione*, III,XI, 91,1-12.

teaching fans the spark to take new life" (*Non omne namque mente depulit lumen / obliviosam corpus invehens molem; haeret profecto semen introrsum veri / quod excitatur ventilante doctrina*). In all probability, this is the passage McEvoy referred to. Also, this text refers to ignorance as cloudiness that veils true innate knowledge. In addition, at the very end of this passage, Lady Philosophy suggests that the soul's inner wisdom, albeit forgotten due to the burden of the body, can be revived by repeated learning (*doctrina*). This passage vaguely reflects the bulk of Grosseteste's text under scrutiny. Yet, although Boethius and Grosseteste might have a general agreement concerning the primary doctrinal standpoint (based on the authors' Neoplatonism), Eustratius' long text reflects much closer Grosseteste than Boethius' three lines in his *Consolation of Philosophy*. Grosseteste does not simply say that intellectual knowledge is sparked by "teaching" (*doctrina*). By contrast, in complete agreement with Eustratius, he claims that what re-ignites our knowledge is sensible experience. One may also concede that in the *Consolation*, Lady Philosophy begs God with the following words: "Disperse the clouds of earthly matter's cloying weight" (*Dissice terrenae nebulas et pondera molis*).[35] However, these references to our earthly condition as cloudy and heavy are vague. They do not match Grosseteste. Not to mention that in this latter passage, Lady Philosophy speaks in general terms and does not address the case of the embodied soul directly.

Searching for Latin sources for Grosseteste's passage reveals generic doctrinal similarities and vague linguistic correspondences. These are not enough to point at an earlier Latin source as the basis for Grosseteste's passage. By contrast, I advance a modest proposal: it is reasonable on a textual basis that when composing the passage from the commentary on *Posterior Analytics* under scrutiny, Grosseteste appropriated Eustratius. He rephrased and modified the text of the Byzantine commentator; he also added material of his own. However, the backbone of Grosseteste's argument is incredibly close to Eustratius's text. Should there be a better solution, I would be happy to change my mind. So far, research in the Latin tradition only accounts for bits and pieces of Grosseteste's text. A potential candidate as an alternative source must include in the same passage the following:

1. A general description of knowledge in the present condition as opposed to purely intellectual knowledge.
2. A hypothetical clause explaining what would have happened had men preserved their intellectual capacity in its pure state.
3. A description of reason as lulled to sleep because of the burden of the body and its affections.
4. A reference to the soul's love for material and sensible things as that which prevents the soul from intellectual knowledge.

[35] Boethius, *De consolatione*, III,IX, 80,25.

5. A description of the eye of the soul as "burdened and clouded over" (*nota bene*: the two qualifications are an essential requirement).
6. A description of reason as awakened by repeated sensorial experience.
7. A reference to two distinct operations belonging to our mind: first grasping single concepts and then forming complex scientific propositions.

The advantage of referring to Eustratius is that his text fulfills all these requirements. Indeed, one may ponder whether Grosseteste produced this text without looking directly at one or more sources. According to this view, the above-mentioned close similarities between the two texts would be a miraculous coincidence. However, at a certain point in his career, Grosseteste found a manuscript preserving precisely Eustratius' commentaries on *Nicomachean Ethics* 1 and 6, along with other Greek and Byzantine commentaries. As I will suggest in the conclusions, Grosseteste found this now-lost Greek manuscript earlier than expected, that is to say, years before the date of his translation of *Eustratius cum aliis*. So, why should we rule out the possibility that Grosseteste's crucial passage on concept formation in men's present state depends on the nearly identical text by Eustratius?

3. Grosseteste and Eustratius of Nicaea's Neoplatonism

To summarize the previous paragraph, Grosseteste may have learned from Eustratius that induction and sense-perception-based knowledge are a consequence of the loss of Adamic perfection. Before the fall, men were allowed purely intellectual knowledge through direct irradiation from a superior light. However, in the present state, the soul's intellectual power, the eye of the soul, is obscured and clouded over by the burden of the body, and thus we are obliged to form concepts from sense-perception data. However, through the repetition of sensorial experiences, reason awakens and starts recollecting a superior form of knowledge. This process involves two operations: firstly, the inductive grasping of the single universal term and, secondly, the connection of two or more terms within syllogistic and deductive reasoning.

It is now time to look at the philosophical background of Eustratius' theory of concept formation. As I argued elsewhere extensively, a close inspection of Eustratius' vocabulary demonstrates that the metropolitan of Nicaea is indebted to late-antique Neoplatonism and, in particular, to Proclus.[36] According to the latter, later-born concepts, *i.e.,* concepts assembled by induction from sense-perception data, are not a reliable source of knowledge, but they nonetheless play the crucial role of reactivating

[36] See Trizio, *Il neoplatonismo*, 143-187.

the innate knowledge of the soul.[37] In the passage previously discussed, Eustratios frames this theory within a Christian context and explains that, while recollecting knowledge, the mind turns its attention from the sensible world to God. When recollecting its inner knowledge, the soul turns from the sensible particulars to the Separate Intelligence, namely the Mind of God, which Eustratius also calls the First Cause or the First Light, and receives illumination from above.[38]

However, in the same commentary, Eustratius endorses Proclus' view with little concern for its compatibility with Christianity. For example, in two different passages in his commentaries of *Nicomachean Ethics* 1 and 6, Eustratius claims that, once the rational soul reverts upon the intelligible world, it dances around the Intelligence and grasps one by one the Forms in the same Intelligence which the latter grasps all at once.[39] On both these occasions, Eustratius cites a well-known passage in Proclus' commentary on Plato's *Parmenides* and does not try to explain that Proclus' Intelligence should be identified with God's mind.[40] By contrast, in a purely Neoplatonic fashion, Eustratius simply refers to the Intelligence as 'Nous'.

However, there is more. In light of what has been called Grosseteste's 'metaphysics of light', Grosseteste must have been happy seeing that Eustratius speaks of God as the First Light.[41] The impact of this new Greek source on Grosseteste is even easier to understand when one considers the following passage from Eustratius' commentary on *Nicomachean Ethics 6* where the commentator distinguishes between the intelligibles as the archetypic Forms and sense-perception data. Eustratius writes (ms. Eton College 122, f. 107rb):

> si haec quidem sensu et phantasia comprehensibilia illa autem mente et maxime intellectu a passionum remoto turbatione et in puro stante et primo illuminato lumine et immobilibus illis intrepide accedente.
>
> whereas sense-perception data are grasped by sense-perception and imagination, the Forms are grasped by the mind and in particular by the intellect when it is undisturbed

[37] On this doctrine, see Carlos Steel, "Breathing Thought: Proclus on the Innate Knowledge of the Soul", *The Perennial Tradition of Neoplatonism*, edited by J. J. Cleary (Leuven: Leuven University Press, 1997), 293-309.
[38] Eustratius, *Commentarius in Aristotelis Ethica Nicomachea*, edited by G. Heylbut (Berlin: Reimer, 1892), 294,22-25. See Trizio, *Il neoplatonismo*, 194.
[39] See Eustratius, *Commentarius*, 47,4-11; 314,8-18.
[40] See Proclus, *In Platonis Parmenidem*, edited by C. Steel *et alii* (Oxford: Clarendon Press, 2007-2009), 807,20-808,8. On Eustratius' appropriation of this passage, see Kimon Giocarinis, "Eustratius of Nicaea's Defense of the Doctrine of Ideas", *Franciscan Studies* 12 (1964): 159-204, in part. 191; Carlos Steel, "Neoplatonic Sources in the Commentaries on the *Nicomachean Ethics* by Eustratius and Michael of Ephesus", *Bullettin de Philosophie Médiévale* 44 (2002): 49-57, at 52.
[41] On Grosseteste's so-called "metaphysics of light" See A. C. Crombie, *Robert Grosseteste*, 128-134. See also Andreas Speer, "*Lux est prima forma corporalis*. Lichtphysik oder Lichtmetaphysik bei Robertus Grosseteste", *Medioevo* 20 (1994): 51-76. See also McEvoy, *Robert Grosseteste*, 91-92.

> by the passions, when it is pure, when the First Light illuminates it and when it grasps these unmoved realities firmly.[42]

As I noted above, a text that describes God as the First Light and knowledge as an illumination bestowed by this Supreme Light on human intellect must have been alluring to Grosseteste. The following passage (ms. Eton College 122, f. 112ra) is even more appropriate:

> Pura enim facta et libera a passionibus anima resplendet ea quae ad intellectum vicinitate, recipit autem illinc intellectualiter operari, et sic entium assumit comprehensionem simplicibus appositionibus contingens ipsa, non repente ut proprie intellectus neque omnia simul, sed secundum unumquodque ipsorum intellectum circumambulans et ex alteris quae ab ipso intellectu intelliguntur in alterum transiens.
>
> When the soul is pure and free from the passions, it is illuminated through the proximity with the Intelligence and becomes capable of intellectual operation. Even though the soul grasps the Beings and attains them through direct intuitions, it cannot grasp them immediately and all at once like the Supreme Intelligence, but rather one by one as the soul dances around the Intelligence and moves from one intelligible content found in the Intelligence to the other.[43]

As I said above, this passage introduces the Neoplatonic imagery of the soul dancing around the Intelligence and grasping the Forms that the Intelligence grasps all at once. More importantly, the text describes the soul as shining due to its proximity to Intelligence. As I wrote elsewhere, Eustratius quotes Proclus' *Platonic Theology* here, which makes it clear once more that the Intelligence referred to in the passage is the Neoplatonic *Nous*.[44] Grosseteste must have found this reference to illumination by the Intelligence very familiar precisely because of its Neoplatonic undertones. The reference to the soul's impassibility as the prerequisite for intellectual knowledge neatly within a Neoplatonic theory of knowledge that Grosseteste could also find in other sources available to him, such as Augustine: body and bodily impulses are not desirable for those who strive for proper knowledge. Unsurprisingly, also in the passage from his commentary on *Posterior Analytics* under scrutiny (213,231; 213,236-237; 215,273; 215,279-216,280, ed. Rossi) Grosseteste claims that we cannot attain intellectual knowledge precisely because the eye of the soul, human intellect, is burdened by body and flesh. In short, through Eustratius and his Neoplatonism, Grosseteste had access to Neoplatonic theories he knew from other sources, like the same Augustine.

To account for the importance of Eustratius in Grosseteste, I appeal to another passage from the commentary on *Posterior Analytics* (141,131-141 ed. Rossi), where Grosseteste writes that Plato's ideas exist eternally in God's mind. As I said before, Augustine is one of the most cited sources for this understanding of Plato's Forms.

[42] For the Greek text, see Eustratius, *Commentarius*, 294,22-25.
[43] Eustratius, *Commentarius,* 314,4-18.
[44] See Trizio, *Il neoplatonismo*, 152.

However, Eustratius says precisely the same thing in his commentary on *Nicomachean Ethics* 1:[45]

> Ita enim qui circa Platonem dicebant, rationes quasdam inducentes enhyopostatas (id est per se subsistentes) divinas intellectuales, ad quas dicebant omnia materialia esse et fieri, quas et species et ideas vocabant et tota et universalia, presubsistentes quidem his quae in corporibus sunt speciebus, separatas autem ab his omnibus, in conditoris Dei mente existentes [...] Ideas autem non ita aiunt, sed rationes enypostatas, superstantes omnino et supererectas et corporibus et naturis, numerum quemdam divinum per quem velut per exemplum Conditorem operari materialem factionem.
>
> That was the opinion of the platonists, who introduced certain enypostatic reasons (namely self-subsistent realities) as divine thoughts, archetypes for the existence and coming to be of all material reality. They called them species and ideas or wholes and universals. These exist before the species that exist in bodies. Still, they are removed from all of them, for they exist in God's mind [...] They (*scil.* the platonists) speak of ideas not this way, but rather as enypostatic reasons that exist above all and transcend both bodies and natures, a certain divine number through which the Creator created the material world.

In short, Grosseteste's appropriation of Eustratius was somehow facilitated by the similarity between the latter's vocabulary and that present in other Latin sources available to Grosseteste, like Augustine. However, no Augustine passage matches Grosseteste's sophisticated explanation of knowledge in the present state found in the commentary on *Posterior Analytics*. By contrast, the similarities between Eustratius and Grosseteste can hardly be regarded as coincidental.

All the evidence suggests that Grosseteste could find in Eustratius plenty of material relevant to his philosophy. At times even Eustratius' ambiguities could have eased Grosseteste's appropriation process. For instance, consider Eustratius' ambiguous description of the separate Intelligence containing all Forms in itself: as said above, sometimes Eustratius identifies this Intelligence with God, whereas on other occasions, he follows his beloved Proclus in speaking of *Nous*, the second hypostasis in Neoplatonic cosmology. Grosseteste would have paid little attention to this, for his commentary on *Posterior Analytics* allows both solutions. According to Grosseteste, the pure and undisturbed intellect could contemplate the First Light, God Himself, and his *cognitiones*, which at the same time are the principles of knowledge of created things and their exemplary causes. However, says Grosseteste, even if the intellect cannot attain the knowledge of the First Light, it can still receive irradiation from an

[45] See Eustratius, *Commentarius*, 40,22-41,29. On this passage as a possible source for Grosseteste's commentary on *Posterior Analytics*, see Alain De Libera, *La querelle des universaux. De Platon à la fin du Moyen Age* (Paris: Éditions de Sueil, 1996), 242-243.

intelligence whereby it knows the exemplary forms and the created causal reasons of things created after the intelligence.[46]

As pointed out by Alain de Libera, a close inspection of other passages from the same commentary suggests a very close philosophical affinity between Eustratius' Neoplatonism and Robert's epistemology ad cosmology.[47] In short: in light of his Neoplatonism Eustratius must have immediately attracted Grosseteste's attention. Eustratius may be the source of the passage from Grosseteste's commentary on *Posterior Analytics* where Robert describes the epistemological consequences following the loss of Adams' perfection (212.216-216.291, ed. Rossi).

Conclusions

Grosseteste found in Eustratius a simple metaphysical structure of reality focused on the relationship between the Intelligence, the separate *Nous* that Eustratius seldom identifies with God's mind, and the particular human soul. Interestingly, in Eustratius, the fall does not bear immediate eschatological and moral underpinnings; more importantly, it entails a gap in the level of knowledge. Indeed Grosseteste's cosmology and metaphysics are more developed than Eustratius', but to Robert, the Byzantine commentator's focus on the relationship between Intelligence and human intellect must have been alluring.

As I said above, the reason why, so far, no one has considered Grosseteste's source in *Posterior Analytics* (212.203-216.291 ed. Rossi) is that Eustratius' commentary on *Nicomachean Ethics* 6 is still unedited. The present paper partially fills this gap and provides students of Grosseteste with a new hypothesis on the source of Grosseteste's epistemology in this commentary.

After discussing the pros and cons of my argument, it is time to address some chronological matters concerning the dating of Grosseteste's Greek studies. The discovery presented in the present essay suggests the need for a reassessment of the current account of the beginning of Grosseteste's Greek scholarship.[48] When did he

[46] Robert Grosseteste, *Commentarius*, 139,96-141,45. This passage is discussed in Marrone, *William*, 167-169. See also De Libera, *La querelle*, 242-243.

[47] See De Libera, *La querelle*, 242 *et passim*.

[48] On Grosseteste's Greek studies, see Anna Carlotta Dionisotti, "On the Greek Studies of Robert Grosseteste", in *The Uses of Greek and Latin. Historical Essays*, edited by A. Grafton and J. Kraye (London: The Warburg Institute and the University of London, 1988), 19-39; James McEvoy, "Robert Grosseteste's Greek Scholarship. A Survey of Present Knowledge", *Franciscan Studies* 56 (1998): 255-264. See also Ezio Franceschini, "Roberto Grossatesta vescovo di Lincoln e le sue traduzioni latine", *Atti del Reale Istituto Veneto di Scienze, Lettere ed Arti XCIII, 2 (1933-1934)* (Venezia: Reale Istituto Veneto, 1933), 1-138; Philipp W. Rosemann, "Robert Grosseteste", in *The Oxford History of Literary Translation in English: Volume 1: to 1550*, edited by R. Ellis (Oxford: Oxford University Press, 2008), 126-136.

start learning Greek and collecting Greek manuscripts for his translations? According to the scholarly *consensus,* Grosseteste must have started learning Greek in the early 1230s.[49] Nevertheless, the probable presence of Eustratius in the commentary on *Posterior Analytics* suggests that he may have started a few years earlier. At this point, the question concerns the dating of his commentary on Aristotle's *Posterior Analytics*. According to Southern, Grosseteste composed this commentary around 1220. Dales thought the commentary must have been composed around 1228,[50], whereas Crombie was keen to date the text in the early 1220s.[51] By contrast, McEvoy and Panti dated the composition after 1224-1225 (and indeed before 1230).[52] Finally, Marrone has dated the text between 1228 and 1230.[53] To sum up, there is no definite agreement on this, but the different proposed dates suggest that Robert composed his commentary in varying stages between 1220 and 1230.

I am not in the condition to provide a more precise guess than those already proposed, but I am inclined to accept McEvoy's and Panti's more precise dating for the composition of the commentary on *Posterior Analytics* in its fuller form between 1225 and 1230. I would like to challenge the widespread idea that Grosseteste must have composed the commentary before 1232, before the conventional date for the beginning of Greek studies. The traditional argument for this is that Grosseteste shows no knowledge of untranslated Greek sources in this commentary on *Posterior Analytics*. Years ago, McEvoy wrote: "Grosseteste had finished writing the commentary before he began to study the Greek language."[54] As stated above, while agreeing that Grosseteste's commentary dates before 1230, the present paper's findings provide evidence that Grosseteste displays some direct knowledge of Greek sources in the original language when composing his commentary.

But what about the dating for Grosseteste's translation of Eustratius and the other Greek and Byzantine commentators on *Nicomachean Ethics*? Paul Mercken, the distinguished editor of parts of this Greek-Byzantine *corpus*, suggested 1246-47 as a reliable date.[55] That would be around twenty years after the composition of

[49] See Dionisotti, "On the Greek", 26.
[50] Richard C. Dales, "Introduction", in *Roberti Grosseteste, Episcopi Lincolniensis, Commentarius in VIII libros physicorum Aristotelis* (Boulder, Col: University of Colorado Press, 1963), xiv-xv. See also Richard C. Dales, "Robert Grosseteste's Scientific Writings", *Isis* 52/3 (1961): 381-402, at 395-396.
[51] Crombie, *Robert Grosseteste*, 46-47.
[52] I rely on Panti, *Roberto*, 3. See also James McEvoy, "The Chronology of Robert Grosseteste's Writings on Nature and Natural Philosophy", *Speculum* 58/3 (1983): 614-655, at 642.
[53] Marrone, *William*, 41.
[54] See McEvoy, "The Chronology", 637. For a more nuanced approach, see Daniel A. Callus, "Robert Grosseteste as a Scholar", in *Robert Grosseteste, Scholar and Bishop: Essays in Commemoration of the Seventh Centenary of his Death*, edited by D. A. Callus (Oxford: Clarendon Press, 1955), 1-69, at 36-37: "by 1230-1231 he (*scil*. Grosseteste) must have known more Greek that the statement of Roger Bacon would lead as to believe."
[55] See nt. 20.

Grosseteste's commentary on *Posterior Analytics*. However, as Mercken has pointed out, in the close of his commentary on Ps.-Dionysius' *Angelical Hierarchy*, Grosseteste cites from Michael of Ephesus' commentary on *Nicomachean Ethics* 10, namely one of the commentaries included in the same *corpus* preserving Eustratius' commentaries.[56] Since Grosseteste's commentary on *Angelical Hierarchy* dates between 1239 and 1242,[57] We can safely infer that in the late 1230s, Grosseteste already had on his desk a Greek manuscript preserving the Greek-Byzantine commentators on *Nicomachean Ethics*. That would be a ten-year gap between the production of the commentary on Posterior Analytics and *Angelical Hierarchy*.

Concerning the chronology of Grosseteste's Greek scholarship, after a hint found in Roger Bacon, most scholars point to 1235, when Grosseteste became bishop of Lincoln and had access to financial resources to pursue his Greek studies.[58] But others, like Weishepl and McEvoy, date the beginning of Grosseteste's interest in Greek scholarship in 1232, a little after the composition of his commentary on *Posterior Analytics*.[59] The real question would be, when did Grosseteste become acquainted with the Greek manuscript of the Greek-Byzantine commentaries on *Nicomachean Ethics*? This is hard to say. We have essential and precise information only about a few of the Greek manuscripts owned by Grosseteste, like the Greek manuscript of the Testament of Twelfth Patriarchs, a work translated by Grosseteste in 1242.[60] As it is well known to scholars, substantial evidence concerning this manuscript suggests a close relationship with John of Basingstoke (died 1252), who returned to England with Greek manuscripts relevant to Grosseteste's interests. Along with John, Grosseteste probably exploited his connections with the Franciscans to obtain Greek manuscripts from Constantinople and the South of Italy.[61] Unfortunately, his manuscript preserving the Greek-Byzantine commentaries on *Nicomachean Ethics* is now lost.[62] Concerning this manuscript, Callus speculates that John brought it from Greece in 1242, but this cannot be the case since Mercken found out that Grosseteste knew the Greek-Byzantine commentaries already between 1239 and 1240.[63]

[56] See Mercken, *The Greek*, 40*-42*.
[57] See Daniel A. Callus, "The Date of Grosseteste's Translations and Commentaries on Pseudo-Dionysius and the *Nicomachean Ethics*", *Recherches de Théologie Ancienne et Médiévale* 19 (1947): 186-210.
[58] See *e.g.* Franceschini, "Roberto Grossatesta", 9-21; Callus, "Robert Grosseteste", 34-44; Dionisotti, "On the Greek Studies", 20; Rosemann, "Robert Grosseteste", 128.
[59] See James A. Weisheipl, "Science in the Thirteenth Century", in *The History of the University of Oxford*, vol. 1, *The Early Oxford Schools*, edited by J. I. Catto (Oxford: Clarendon Press, 1984), 435-469, at 435. McEvoy ("Robert Grosseteste's Greek", 255), speaks of 1232 as the "conventional date" for the beginning of Grosseteste's Greek studies.
[60] See Marinus de Jonge, "Robert Grosseteste and the Testament of the Twelfth Patriarchs", *The Journal of Theological Studies* 42/1 (1991): 115-125.
[61] McEvoy, "Robert Grosseteste's Greek", 257-258.
[62] A list of these manuscripts is found in Dionisotti, "On the Greek Studies", 36-39.
[63] Callus, "The Date", 208.

Chronology is the most problematic issue in my argument. It is challenging to discern traces of Greek scholarship in Grosseteste's writings (like the commentary on *Posterior Analytics*) in the late 1220s. If Grosseteste – as I believe – appropriated Eustratius' commentary when composing his commentary on *Posterior Analytics*, he probably started collecting Greek manuscripts earlier than expected. Most probably at this stage, Grosseteste had not yet the skill to translate Eustratius' text into sound Latin. He may have received support from someone who was already well-trained in Greek to grasp the general meaning of the text.[64] When rendering Eustratius' text, Robert rephrased it, reproduced it in its general structure, and added elements of his own. However, the backbone of Grosseteste's argument is identical to Eustratius' text. Is this a coincidence? No matter how things are, it is hoped that the present paper revives and stimulates further discussion on Grossteste's sources in his commentary on *Posterior Analytics*.

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[64] The witnesses to Grosseteste's capacity to translate texts written in Greek on his own are well known. These include passages from Roger Bacon's work where Roger claimed that Grosseteste knew Greek and Hebrew, but needed to be better at translating texts written in these languages on his own. Bacon claims that Grosseteste relied on helpers who were native speakers. All these witnesses have been diligently collected in Mercken, *The Greek Commentaries*, 34*-35*.

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ABSOLUTE SPATIAL DIFFERENCES: GROSSETESTE'S READING OF ARISTOTLE'S *ON THE HEAVENS*

DIFERENCIAS ESPACIALES ABSOLUTAS: LA LECTURA DE GROSSETESTE DEL *SOBRE EL CIELO* DE ARISTÓTELES

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Abstract

This article deals with Robert Grosseteste's account of 'spatial differences', such as 'up', 'down', 'right', 'left', 'before', and 'behind'. More specifically, attention is focused on Grosseteste's *De differentiis localibus*, which is a concise scientific treatise arguing for the objectiveness of the differences of place pertaining to all living bodies, including heavenly ones. The article has a two-fold goal: to present the contents of such an understudied opuscule, and to check if there is some compelling reliance on any of the Latin versions of Aristotle's *On the Heavens*. Such an analysis reveals that Grosseteste's reading of Aristotle's *On the Heavens* is angled by Averroes' *Long Commentary on the Physics*, on which Grosseteste relies as well to build his conception of mathematical and natural differences.

Keywords

Robert Grosseteste; Aristotle; *On the Heavens*; Space; Universe; Mathematical Dimensions; Natural Dimensions

Resumen

Este artículo trata sobre la descripción de las 'diferencias espaciales' de Roberto Grosseteste, como 'arriba', 'abajo', 'derecha', 'izquierda', 'antes' y 'detrás'. Más específicamente, se presta especial atención al *De differentiis localibus* de Grosseteste, que es un breve tratado científico que defiende la objetividad de las diferencias de lugar y su pertenencia a todos los cuerpos vivos, incluidos los celestiales. El artículo tiene un doble objetivo: presentar el contenido de este opúsculo tan poco estudiado y comprobar si presenta alguna dependencia respecto a alguna de las versiones latinas del *Sobre el cielo* de Aristóteles. Este análisis revela que la lectura de Grosseteste de *Sobre el cielo* de Aristóteles está condicionada por el *Comentario largo sobre la Física* de Averroes, en el que Grosseteste también se basa para fundar su concepción de las diferencias matemáticas y naturales.

Palabras clave

Roberto Grosseteste; Aristóteles; *Sobre el cielo*; espacio; universo; dimensiones matemáticas; dimensiones naturales

All theories of motion deal with spatiotemporal quantities and call for determining whether these are absolute or relative.[1] Namely, they demand to decide if a motion of a given kind, say locomotion, entails something moving with respect to either an arbitrary (i.e., relative) or a privileged (i.e., objective) reference object. This issue stands for classical as well as post-Newtonian mechanics.[2] Within an Aristotelian setting, which is what this article is concerned with, such interest is fostered by questions concerning the structure of the universe as well as the movement of bodies, such as: Is there an absolute 'right' or 'left' when we talk about the structure of the universe or the movement of the four elements? Aristotle tackles this topic in his *Physics*, openly referring to spatial quantities as absolute: right, left, up, down, behind, and before are 'spatial differences' not given by human convention, but rather by nature.[3] It is in his *On the Heavens* that he extensively deals with this topic, specifying that absolute spatial quantities are such by nature and are not determined based on the place from which the observation is made.

[1] I express my gratitude to Cecilia Panti for her valuable insights into Grosseteste's cosmological theories and, more broadly, for inviting me to delve into an understudied treatise by Grosseteste such as *De differentiis localibus*.

[2] Two recently updated sister-entries in the *Stanford Encyclopedia of Philosophy* take stock of this issue in ancient and modern physical theories. See Carl Hoefer, Nick Huggett, and James Read, "Absolute and Relational Space and Motion: Classical Theories", in *The Stanford Encyclopedia of Philosophy* (Winter 2022 Edition), edited b E. N. Zalta and U. Nodelman. URL = <https://plato.stanford.edu/archives/win2022/entries/spacetime-theories-classical/>. And Nick Huggett, Carl Hoefer, and James Read, "Absolute and Relational Space and Motion: Post-Newtonian Theories", in *The Stanford Encyclopedia of Philosophy* (Spring 2022 Edition), edited by E. N. Zalta. URL = <https://plato.stanford.edu/archives/spr2022/entries/spacetime-theories/>.

[3] Aristotle, *Physics*, III, 5, 205b32, translated by J. Barnes, *The Complete Works of Aristotle: The Revised Oxford Translation* (Princeton: Princeton University Press, 1984), vol. 1, 45: "Further, every sensible body is in place, and the kinds or differences of place are up-down, before-behind, right-left; and these distinctions hold not only in relation to us and by convention, but also in the whole itself"; and *ibid*., IV, 1, 208b9: "Nor do such distinctions (up and down and right and left) hold only in relation to us. To us they are not always the same but change with the direction in which we are turned: that is why the same thing is often both right and left, up and down, before and behind. But in nature each is distinct, taken apart by itself." For an overview of the interpretations of Aristotle's account of place and local movement, see Johannes Fritsche, "Place and Locomotion in Physics Δ 4, 212a14-30", *Revue de philosophie ancienne* 34/1 (2016): 61-90.

As much as the two works are consistent on this point, they do leave Aristotle's thought open to possible misinterpretations, as we will see. In book 1 of *On the Heavens*, Aristotle expands on the up- and downwards movement of natural bodies. Rectilinear locomotion is a kind of simple movement that characterizes simple bodies (i.e., the four elements) moving either away or towards the center of the universe. Such rectilinear, up- and downwards locomotion somehow precedes the mixed movement proper to composite bodies (i.e., those composed of simples ones). In this sense, we might speak of two main, objective 'spatial differences', i.e., 'up' and 'down', to the detriment of the other four.[4] However, as specified throughout book 2, absolute 'spatial differences' include also right, left, behind, and before and they concern all ensouled beings – not only animated sublunar bodies, but also the heavens themselves.

Such inconsistency, however small it might be, did not elude Robert Grosseteste (ca 1170-1253), philosopher, theologian, translator, and polymath to whom this special issue is dedicated. Among his early scientific works, composed between 1220 and 1230, we count an opuscule titled precisely *On Spatial Differences* (*De differentiis localibus*), which is aimed at arguing for the objectiveness or absoluteness of all six spatial differences.[5] This brief text targets precisely the minor discrepancy between book 1 of *On the Heavens*, on the one hand, and the *Physics* and book 2 of *On the Heavens*, on the other. As it will be shown, the inconsistency Grosseteste observes between the two Aristotelian works depends on his reading of *On the Heavens* mediated by Averroes' misjudgment. In any case, this does not prevent him from developing a fully Aristotelian account of spatial differences, which remains mainly rooted in *On the Heavens*.

This article has two-fold goal: to present the contents of such an understudied scientific opuscule by Grosseteste, and at the same time to check if there is some compelling reliance on any of the Latin versions of Aristotle's *On the Heavens*.[6] Before delving into the contents of *On Spatial Differences* (hereafter OSD), let us briefly recall which Latin versions of Aristotle's *On the Heavens* were available at Grosseteste's time and explain why some puzzlement might arise concerning the chronology of his

[4] Aristotle, *On the Heavens*, I, 2 (268b11-27) and I, 8 (277a18-23). Another kind of simple locomotion is circular. The movements of composite bodies can be mixed (i.e, rectilinear and circular) in accordance with their predominant component.

[5] For the chronology of Grosseteste's works see Cecilia Panti, "Robert Grosseteste and Adam of Exeter's Physics of Light: Transmission, Authenticity, and Chronology of Grosseteste's Scientific Opuscula", in *Robert Grosseteste and His Intellectual Milieu*, edited by J. Flood, J. R. Ginther, and J. Goering (Toronto: Brepols, 2013), 165-190. *On Spatial Differences* has been edited in L. Baur, *Die philosophischen Werke des Robert Grosseteste, Bischofs von Lincoln* (Münster: Aschendorff, 1912), 84-87. Hereafter simply OSD, followed by the page and line number.

[6] The starting point of this study, especially with regard to Grosseteste's reliance on Simplicius, is Cecilia Panti, "Il *De caelo* nel medioevo: le citazioni e la translatio di Roberto Grossatesta", *Fogli di filosofia* 12/2 (2019): 67-107.

works.[7] One compendium and three translations of *On the Heavens* circulated in the Latin world up to the first half of the 13th century. (1) The *Liber celi et mundi* is a compendium made by Hunayn ibn Isah and based on Abu Yahya Ibn Al-Bitriq's translation of *On the Heavens* into Arabic.[8] The compendium was anonymously translated into Latin and known under the name of Aristotle and then of Avicenna, which assured this text a wide circulation even after the actual Latin translations of *On the Heavens* came into play. (2) The first integral translation of *On the Heavens* into Latin is due to Gerard of Cremona (1114-1187) and is based on Abu Yahya Ibn Al-Bitriq's Arabic version. It is the result of Gerard's work in Toledo, where he built a network of collaborators committed to translate many other scientific and philosophical texts according to a specific program based on the classification of the sciences given by Al-Farabi.[9] Gerard's translation was the most widely known in the Middle Ages, until the translation by William of Moerbeke made its appearance.[10] (3) The second translation from the Arabic is by Michael Scot (1175 – 1232). In Toledo, Michael translated Averroes' 'big commentaries', including the one on *On the Heavens*, which comprises the lemmata of Aristotle's text.[11] Grosseteste might have known all the versions mentioned so far, but the only Latin translation from the Greek of *On the Heavens* available to him was (4) the one made by Grosseteste himself, which also included Simplicius' commentary.[12] His translation is nevertheless partial, for it goes from book 2 up to the very beginning of book 3 of *On the Heavens* (i.e., up to 299a12), covering the respective passages of Simplicius' commentary.

Now, we know that Grosseteste's activity as translator marked the years of his episcopate, that is, from 1235 until his death in 1253. Theoretically, his translation of *On the Heavens* and Simplicius' commentary traces back to that circumscribed period of

[7] I don't address William of Moerbeke's translation here for obvious chronological reasons, since it was made after Grosseteste' time.

[8] Pseudo-Avicenna, *Liber celi et mundi*, edited by O. Gutman (Leiden and Boston: Brill, 2003).

[9] See Charles Burnett, "The Coherence of the Arabic-Latin Translation Program in Toledo in the Twelfth Century", *Science in Context* 14 (2001): 249-288.

[10] Gerard's Latin translation is edited in Albert the Great, *De caelo et mundo*, edited by P. Hossfeld, *Alberti Magni Opera omnia* 5.1 (München im W.: 1971). Hereafter cited as Gerard, *Translatio De caelo*, followed by Bekker numbering and page number in Hossfeld's edition.

[11] Averroes, *Commentum magnum super libro De celo et mundo Aristotelis*, edited by F.J. Carmody and R. Arnzen, *Recherches de théologie et philosophie médiévales*, Bibliotheca 4 (Leuven: Peeters, 2003), 2 vol. Hereafter cited as Michael, *Translatio De caelo*, followed by Bekker numbering and page number in Carmody's and Amzen's edition.

[12] On the Latin transmission of Simplicius' commentary, see Donald J. Allan, "Mediaeval Versions of Aristotle's *De Caelo*, and of the Commentary of Simplicius", *Mediaeval and Renaissance Studies* 2 (1950): 82-120; and Fernand Bossier, "Traductions latines et influences du commentaire *In De caelo* en Occident (XIIIe-XIVe s.)", in *Simplicius. Sa vie, son oeuvre, sa survie. Actes du colloque internationale de Paris (28 sept.- 1er oct. 1985)*, edited by I. Hadot (Berlin and New York: De Gruyter, 1987), 289-325. For recent insights concerning the dissemination and the reception of Grosseteste's translation of Aristotle's De caelo and of Simpliucius' commentary, see Pieter Beullens, "Robert Grosseteste's Translation of Simplicius' Commentary on Aristotle's *De caelo*. Tracking Down a Second Manuscript and the Greek Model", *Mediterranea*, 8 (2023): 565-594.

time, whereas scientific works such as OSD were supposedly composed before 1230. Here comes the jigsaw puzzle. While analyzing the possible references to Aristotle's *On the Heavens* in some of Grosseteste's scientific works, Cecilia Panti pointed out how problematic Grosseteste's alleged reliance on Simplicius' commentary might be in OSD.[13] Panti remarked that Grosseteste does seem to rely on Simplicius, warning that such closeness would lead to reconsidering OSD's chronology and perhaps to push back its date of composition. In the following sections, along with with an analysis of the contents of OSD, the reader will be given some references to the closest parallel passages of the Latin versions of *On the Heavens*.

1. What Are Spatial Differences?

OSD opens with a characterization of spatial differences. Like all differences stemming from a genus, they can be found within a species as well as within an individual being. Yet, two or more differences of same kind cannot be in the same species or individual being at the same time: a human being cannot be, for instance, hook-nosed and snub-nosed simultaneously. This applies as well to those differences concerning the place, which are six in number: up, down, right, left, before, and behind. From this perspective, no place is both left and right simultaneously.[14]

As Table no. 1 shows, Grosseteste's definition of spatial differences as well as their number is quite similar to that presented by Simplicius in Grosseteste's translation. Cecilia Panti pointed out this similarity and conjectured that Simplicius might even have inspired Grosseteste in titling his text *On Spatial Differences.*[15] However, the definition of the three pairs of places as 'differences' is also put forward in James of Venice's translation of Aristotle's *Physics* and Michael Scot's translation of Averroes' *Long Commentary on the Physics* (which includes the text of the *Physics*, too).[16] Without dismissing the resemblance

[13] Panti, "Il *De caelo* nel medioevo", 98-100.

[14] OSD, 84, ll. 18-24: "Differentiarum idem genus condividentium nulla cum alia simul est in eadem specie vel individuo illius generis. Sed sex sunt differentiae locum primo condividentes scilicet: sursum, deorsum, dextrum, sinistrum, ante et retro. Ergo in nullo eodem loco est aliqua illarum simul cum alia. Sed unaquaeque pars horizontis sursum est: ergo nulla earum est dextrum vel sinistrum, vel ante vel retro." From my viewpoint, differences of place refer to the spatial structure of things. In this sense, they could be also called local differences.

[15] Panti, "Il *De caelo* nel medioevo", 98. Simplicius' *Commentary* is edited in: Robertus Grosseteste translator Simplicii, *In De caelo*, consultable on the AL Database (VIII, 1). Hereafter, Simplicius, *Commentary*, followed by Heiberg numbering.

[16] Iacobus Venetus translator Aristotelis, *Physica*, edited by F. Bossier and J. Brams, *Aristoteles Latinus* VII, 1 (Leiden and New York: Brill, 1990). The Latin version of Averroes' *Long Commentary on the Physics* is printed in *Aristotelis De physico audito cum Averrois Cordubensis Commentariis*, Aristotelis opera cum Averrois commentariis IV, Venice 1562 (reprinted by Minerva, Frankfurt am Main, 1962). On the Latin translation of Averroes' *Long Commentary on the Physics* attributed to Michael Scot, see Horst Schmieja, "Der Physikkommentar von Averroes in der Editio Iuntina: Die mittelalterlichen Quellen für Buch 6, Text 87", *Bulletin de philosophie médiévale* 43 (2001): 75-93;

between OSD and Simplicius' *Commentary*, the parallels with the Latin versions of the *Physics* invite us to be more cautious in accepting Panti's hypothesis.

OSD, p. 84, ll. 19-21	**Simplicius' *Commentary*, transl. by Grosseteste (Heiberg 395)**	***Physica*, transl. by James of Venice (205b), p. 123**	***Physica* (in *Averroes' Long Comm.)*, transl. by Michael Scot (205b), col. 109M**
Sed sex sunt **differentiae locum** primo condividentes scilicet: sursum, deorsum, dextrum, sinistrum, ante et retro.	... quae autem secundum locum terminata sursum et deorsum et dextrum et sinistrum et ante et retro; ipsae enim sunt **locorum differentiae**.	Amplius, omne corpus sensibile in loco est, **loci** autem species et **differentie** sursum, deorsum, ante, retro, dextrum et sinistrum.	Et omne corpus sensibile est in **loco**, et **differentiae eius** sunt superius et inferius, et dextrum est sinistrum, et ante et retro.

Table no. 1

According to Grosseteste, the three pairs of spatial differences are grounded on the distance that is enclosed by different limits (*ex terminis distantiarum differentibus*): opposite the limits, opposite the differences of place. For instance, what we call 'up' and 'down' are such based on the distance between two opposite limits: what is 'up' cannot be drawn from itself but, rather, only from an opposite place, that is, what is 'down'. Distance is key, therefore, to speak of spatial differences and this precisely represents another reason why two spatial differences cannot be in the same place at the same time.[17] Aristotle describes such differences mainly on the basis of them being the starting point of a movement, and this is consistent with what we read in Gerard of Cremona's and Michael Scot's translations. 'Up' is a 'difference' that can be called 'principle' in so far as it is the starting point of a specific kind of motion, that is, growth.[18] Differently, Grosseteste presents the differences of place according to the space bounded by spatial limits. An echo of the terminology used in OSD can be found

and Dag Nikolaus Hasse, *Latin Averroes Translations in the First Half of the Thirteenth Century* (Hildesheim: Olms, 2010). Differently from James of Venice's and Michael Scot's translations of the *Physics*, in Gerard of Cremona's and Michael Scot's translations of *On the Heavens*, right, left, up, down, behind, and before are labelled as *partes*, *dispositiones*, or *principia*. See Gerard, *Translatio De caelo*, 285b, 109; and Michael, *Translatio De caelo*, 285b, 279-280.

[17] OSD, 84, ll. 25-30: "Item loca solum differentias habent ex terminis distantiarum differentibus: ergo ex oppositis oppositas et ex diversis diversas. Quod ergo sursum et deorsum sint diversae differentiae, hoc erit ex distantia unius ad alterum. Ergo cum idem locus a se non possit distare, in eodem loco naturaliter non erit dextrum et sinistrum."

[18] Aristotle, *On the Heavens*, II, 2, 284b27-31. Grosseteste does not reject this stance, but he expands on it specifically with regard to 'natural dimensions'; see OSD, 86.

in his translation of Simplicius' *Commentary*: when introducing book 2 of *On the Heavens*, Simplicius summarizes it by stressing its focus on 'spatial distances' (*locales distantiae*) and their 'limits' (*termini*).[19] This might suggest that Grosseteste relied on Simplicius' reading in conceiving of spatial differences as something enclosing some distance.

After specifying what the spatial differences are, Grosseteste delves into Aristotle's inconsistency that I have mentioned earlier about the prevalence of two main absolute differences over the other four. In Grosseteste's view, in *On the Heavens*, Aristotle maintains that the center and circumference (*medium* and *horizonta*) of the universe are the only two 'natural places'. As a consequence, 'up' and 'down' would be the only absolute spatial differences (*secundum naturam*), whereas the remaining four would be relative (*quoad nos*).[20] What is the reason for such a farfetched (and in any case erroneous) interpretation of Aristotle's text? As already said, this might be due to the stress Aristotle himself puts in *On the Heavens*, book 1, on the rectilinear movement of simple bodies away and towards the center of the universe.[21] Considering this, Grosseteste might have (over-)interpreted Aristotle's thought, and spotted in *On the Heavens* a predominance of the spatial differences of 'up' and 'down', contrasting with Aristotle's more balanced view in the *Physics*. Nevertheless, there is a more substantial explanation, for Grosseteste's interpretive mistake has a striking similarity to Averroes' account exposed in his *Long Commentary on the Physics*. Averroes, too, maintains that in *On the Heavens*, Aristotle spoke of two main 'natural places'. Like Grosseteste, he stresses that in *On the Heavens* 'up' and 'down' (*inferius* and *superius*) are by nature whereas the other spatial differences are identifiable according to our (changing) position, and not by nature, as it is said in the *Physics*. Such a shared mistaken reading of *On the Heavens* leads us to suppose that Grosseteste read Aristotle's *On the Heavens* through Averroes' lenses.[22]

OSD, p. 84, ll. 19-21	**Averroes' *Long Comm. on the Physics*, transl. by Michael Scot (205b), col. 110A**
Item dicit Aristoteles in libro ***de caelo et mundo*** quod **tantum duo sunt loca naturalia** scilicet medium et horizonta. Ergo ceterae differentiae loci, cum non fuerint secundum naturam erunt quoad nos, quod est contra ipsum in *Physicis*.	Sed, ut dictum est in ***Coelo et Mundo***, **loca naturalia sunt duo tantum**, scilicet superius et inferius, et ipse expressit hic quod istae differentiae sunt naturaliter, non positione.

Table no. 2

[19] Simplicius, *Commentary*, Heiberg, 366: "Secundo de localibus ipsius distantiis et his qui secundum ipsas terminis et eo quod sursum et deorsum et dextro et sinistro et ante et retro."
[20] OSD, 85, ll. 1-4: "Item dicit Aristoteles in libro *de caelo et mundo* quod tantum duo sunt loca naturalia scilicet medium et horizonta. Ergo ceterae differentiae loci, cum non fuerint secundum naturam erunt quoad nos, quod est contra ipsum in *Physicis*."
[21] See note 4.
[22] It also corroborates the idea that the Latin translation of Averroes' *Long Commentary on the Physics* was available in the West from the first third of the 13th century. See Ruth Glasner, *Averroes' Physics. A Turning Point in Medieval Natural Philosophy* (Oxford: University Press, 2009), 12.

However, it appears that Grosseteste directly draws on On the Heavens when explaining that a light body, for instance, moves naturally upwards, that is, towards a precise part of the circumference and along a specific straight trajectory.[23] In *On the Heavens* book 2, Aristotle wonders about the position of earth and whether it is at rest or in motion: it rests at the center of the spheric universe, but it does still have some natural motion towards the center determined precisely by its heaviness. Contrarily, light elements tend towards the outer surface or circumference of the universe. From this point of view, the basic structure of the universe is determined accordingly to the fundamental motions of heavy and light elements downwards and upwards with respect to the center of the universe.[24] While agreeing on that, Grosseteste's explanation goes beyond Aristotle's statement, as he puts forward a geometric example, aimed at showing that nature acts in the most economical way, that is, by taking the shortest perpendicular path towards its intended, natural place. The example is the following (see Figure no. 1). Let us take a point (A) drawn within a circle and not coinciding with the latter's center (O) as the starting point of a line. If said line is intended to reach the circumference, it will do so not by passing through the center of the circle (hence forming the line AC) but rather aiming directly at the circumference itself (i.e., forming the line AB). Nature, according to Grosseteste, operates in this way when it comes to the up- and downward movement of light and heavy things.

> If within a circle, a point is drawn outside from the center, the line that starts from that point and ends on the circumference via the center, is the longest of all; whereas that [line] which is drawn from that point towards the circumference and brings the diameter to completion, is the shortest one. Thus, it is along the latter that nature moves when it aims at the circumference. Therefore, for each region on the surface of the Earth there is no more than one part of the horizon upwards, but all [parts of the horizon] correspond to the center [of the Earth]. Therefore, there will not be other [spatial] differences according to our position, but according to the place of the single regions on the Earth.[25]

[23] OSD, 85, ll. 5-10: "Huius solutio patet ex appositione: hoc solum sursum est, in quod movetur leve non prohibitum. Sed leve extra medium existens non ad quamcumque partem horizontis movetur, sed ad unam tantum. Ergo termino distante extra medio sumpto solum, una pars horizontis sursum est respectu istius, et aliae partes aliis differentiis relinquuntur."

[24] Aristotle, *On the Heavens*, II, 13, 295b1-30.

[25] OSD, 85, ll. 12-19: "Si in circulo extra centrum signetur punctus, linea, quae ab isto puncto inchoatur et per centrum transiens ad circumferentiam terminatur, omnium longissima est, quae vero ab illo puncto ad circumferentiam trahitur et quae cum ea perficit diametrum, est omnium brevissima. Ergo per eam movebit natura, si intendat ad circumferentiam. Ergo respectu singularum habitationum in superficie terrae sunt singulae partes horizontis sursum et non plures, respectu vero medii omnes. Non ergo erunt reliquae differentiae secundum positionem nostram, sed secundum situm singularum habitationum terrae."

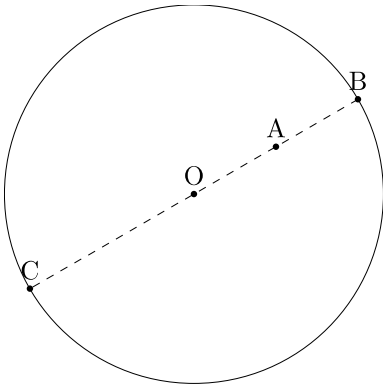

Figure no. 1

The geometric example can of course be applied to a spheric setting like the cosmos, as Figure no. 2 shows. Let us imagine two concentric spheres, one corresponding to the surface of the Earth and the other to the outer surface of the universe. A point *x* on the rounded surface of the Earth can aim straightly only towards a corresponding point *y* on the horizon, that is, a point *y* on the circumference of the universe. From the perspective of point *x*, the movement will be upwards, that is, from the center of the sphere to point *y* on the circumference and along the radius of the sphere. In this case, therefore, 'up' and 'down' appear to be the only spatial differences, no matter what point on the Earth we choose.

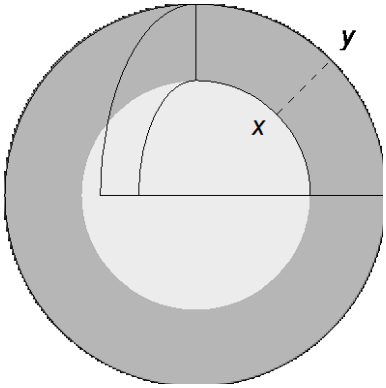

Figure no. 2

Beyond this doctrinal reconstruction, another thing worth noticing is the specific terminology that Grosseteste shares with both Gerard's and Michael's Latin versions,

that is, the words *medium* and *horizon*, which stand respectively for the center and the outer surface of the spheric universe, and which are defined as *loca naturalia* by all of them.[26] Even more clear, though, is the resemblance between Grosseteste and Simplicius when dealing with spatial differences applied to bodies, as we can see from Table no. 3.[27]

OSD, p. 85, ll. 24-27	**Simplicius' *Commentary*, transl. by Grosseteste (Heiberg 383)**	***De caelo*, transl. by Grosseteste (284b20)**
Corporis tres sunt dimensiones, scilicet longitudo, latitudo et spissitudo. Termini longitudinis sunt sursum et deorsum, latitudinis dextrum et sinistrum, **spissitudinis** ante et retro, ut dicit Aristoteles in libro *de caelo et mundo*.	Tribus enim existentibus corporis distantiis, longitudine, latitudine, profunditate, [...] tres fiunt coniugatim differentiae in animalium corporibus. Longitudinis quidem enim termini sursum et deorsum, latitudinis autem dextrum et sinistrum, **profunditatis** vero ante et retro.	Est autem superius quidem longitudinis principium, dextrum latitudinis, ante autem **profunditatis**.

Table no. 3

Spatial differences mark the dimensions of bodies: 'up' and 'down' are the limits of their length, 'right' and 'left' of their width, 'before' and 'behind' of their depth. As explained by Aristotle himself in his *On the Heavens*, spatial differences are 'principles' of such dimensions – e.g., 'up' is the principle of length, that is, bodies can develop in length starting from their upside –, whereas Simplicius and Grosseteste stress that spatial differences are 'limits' of such dimensions – e.g., 'up' and 'down' contain the longitudinal dimension. As much as close Grosseteste and Simplicius are, they show a remarkable divergence concerning depth, for in OSD it is called *spissitudo*, while Simplicius calls it *profunditas*, consistently with Grosseteste's translation of *On the*

[26] Gerard, *Translatio De caelo* (295b25), 190; and Michael, *Translatio De celo* (295b25), 446. See Panti, "Il *De caelo* nel medioevo", 99. In my opinion, in OSD Grosseteste refers to the horizon as the outermost spheric part of the universe, in this respect aligning himself to the generic meaning given by the Latin translators. However, in his *De sphera* the account of the horizon is astronomically more accurate, for it is the earth's circumference that a person is able to see all around her if she turns by 360°. See Robert Grosseteste, *De sphera*, edited by C. Panti, *Moti, virtù, motori celesti nella cosmologia di Roberto Grossatesta* (Florence: SISMEL-Edizioni Del Galluzzo, 2001), 297, ll. 150-151: "Orizon vero est circulus qui dividit medietatem celi visam a medietate non visa, et interpretatur orizon finitor visus."

[27] See Panti, "Il *De caelo* nel medioevo", 99-100.

Heavens. The term *spissitudo* is to be found only in what Oliver Gutman defines as the version β of the *Liber caeli et mundi*.[28] However, *spissitudo* is all but a rare term to refer to depth in medieval astronomical texts, an example being Sacrobosco's *De sphera*, a scientific work well known to Grosseteste himself.[29]

2. Mathematical and Natural Dimensions

We have seen that, according to Grosseteste, absolute spatial differences stand as limits for distances, and they are six in number- although it might seem that 'up' and 'down' have some sort of priority over the others, given the rectilinear movement of the light and heavy elements towards their natural places, that is, the center and the outer surface of the universe. In accordance with *On the Heavens*, in OSD, Grosseteste also explains why not all beings exhibit absolute spatial differences and why some of them exhibit only some. This leads him to articulate an interesting distinction between mathematical and natural dimensions that we can read in the passage below.

> Some things have only 'right', for they do not have 'before' and 'beyond'. This truth depends on the following division: these [spatial] differences are distinguished on the basis of the limits either of mathematical dimensions or of natural dimensions, that is, dimensions which are distinguished by natural powers. If the former [option holds], the distinction of natural differences will be only by reason and name – but [in this case] there will be a disorder on the level of things [...]. If the latter, then the distinction will be according to things, as in the case of an animated being.[30]

As far as I can see, Grosseteste means that one can identify all spatial differences in *all* bodies, included those that do not have any soul and do not show movement of any sort. In other words, one can distinguish three dimensions (i.e., length, width, and depth) in *all* bodies, whether they are able to move by themselves or not. In doing so, one would identify spatial differences only according to reason (secundum rationem) but, as a result, she would obtain something that may not correspond to the natural state of affairs. To understand this passage, it is worth reminding us that spatial differences are always linked to the concept of motion of all sorts – not just locomotion –

[28] See Olivier Gutman, introduction to Pseudo-Avicenna, *Liber celi et mundi*, edited by Gutman, xxxi-xxxiii.

[29] When it comes to talk about the diameter of the sphere, Sacrobosco uses the word 'thickness' (*spissitudo*), hence comparing the diameter itself to 'thickness' (*orbis diameter sive spissitudo*). John of Holywood, *De sphera*, I, in *The 'Sphere' of Johannes de Sacrobosco and Its Commentators*, edited by L. Thorndike (Chicago: University Press, 1949), 85.

[30] OSD, 86, ll. 5-11: "Quaedam enim habent tantum dextrum, cum non habeant ante et retro. Huius veritas dependet ex hac divisione: istae differentiae aut habent distinctionem ex terminis dimensionum mathematicarum, aut dimensionum naturalium, id est dimensionum, quae distinguuntur per potentias naturales. Si primo modo, solum erit naturam differentiarum distinctio secundum rationem et secundum nomen et confusio secundum rem [...]. Si autem secundo modo, tunc erit distinctio secundum rem, ut est in animato."

pertaining to ensouled bodies.[31] Let us think, for instance, of a rock. It is surely provided with length, width, and depth but, since it does not have any kind of movement by itself, we cannot ascribe any absolute 'up' or 'down' to it. If one regards spatial differences only according to mathematical dimensions, she bumps into such a confusion, precisely because she does not consider the *natural* dimensions of things in accordance with the diverse powers or functions of the soul within moving bodies.

To grasp Grosseteste's reasoning, Aristotle's *Physics* and Averroes' *Commentary* come to our aid. In *Physics* 4 (208b9), after remarking that differences of place are absolute, that is, by nature and do not vary according to someone's perspective, Aristotle compares them to mathematical objects, which in turn have no absolute spatial differences but only relative ones.[32] Averroes closely follows Aristotle in defining spatial differences in natural bodies as absolute (they are *distincta naturaliter*) but he also delves into the diversity that characterizes spatial differences of natural bodies and spatial differences of mathematical objects. In Averroes' view, one can speak, for instance, of an 'up' and 'down' of a mathematical object only by means of a judgment or estimation (*per existimationem*), that is, from someone's own perspective.[33] This implies that spatial differences of mathematical objects are not given to us 'naturally', that is, regardless of any cognitive process, but rather, we can detect them after having conceived of such objects.[34] It seems to me that Averroes' 'estimating' parallels Grosseteste's 'conceiving' of mathematical dimensions (respectively, *per existimationem* and *secundum rationem*), for they express the same point: mathematical dimensions of, say, a triangle are set on the basis of the one who considers the geometric item. Not only does this imply that they are relative, but also that they require a cognitive step for one to become aware of them. Both their relativeness and conceivability are what marks their differentiation from natural dimensions.

[31] As Claudia Zatta explains in his study of Aristotelian zoology, movement in this case is intended as "a key phenomenon of nature and in an array of manifestations. Indeed, movement for Aristotle encompasses a range of changes that systematizes his predecessors' reflections on animals, subsuming under the same metaphenomenon a diversity of affections, from physical growth, or conversely, decay, to the bodily alteration that accompanies the phenomenon of sensation to the specific ability to move from one place to another"; Claudia Zatta, *Aristotle and the Animals. The Logos of Life Itself* (New York: Routledge, 2022), 16.

[32] Iacobus Venetus translator Aristotelis, *Physica*, ed. Bossier and Brams (208b), 136: "Ostendunt autem et mathematica; cum non enim sint in loco, tamen secundum positionem ad nos habent dextra et sinistra, quare solum est intelligere ipsorum positionem, non habentia naturam horum unumquodque."

[33] For 'estimation' in Arabic philosophy of mathematics, see Mohammad S. Zarepour, "Avicenna on Grasping Mathematical Concepts", in *Arabic Sciences and Philosophy*, 31/1 (2021): 95-126.

[34] *Aristotelis De physico audito cum Averrois Cordubensis commentariis*, 123G-H: "Et significat hic dispositio mathematicorum, id est differentia, quae videtur inter partes, quae sunt in rebus naturalibus, et in rebus mathematicis, quoniam mathematica non habent potentiam ad partem, et naturalia habent hoc, scilicet significat quod partes rerum naturalium non sunt secundum positionem, nec loca eorum sunt per existimationem, sicut est dispositio in rebus mathematicis."

Contrarily to mathematical items, animated bodies have instead absolute, natural dimensions. In this case, though, our understanding of them must be grounded in the diverse powers or functions of the soul of bodies. Grosseteste's view stems directly from *On the Heavens*, where Aristotle maintains that not all spatial differences are to be found in all bodies, because not all of them contain a principle of motion and those that do have such principle, that is, the organic substances, have different spatial differences. In fact, the most basic principle bodies is growth, pertaining to all living beings: 'up' is the starting point of growth, and it represents a precondition for all other principles of motion (i.e., locomotion and sensation), which in turn have their starting points in the other spatial differences (i.e., right and before).[35] Grosseteste wholly accepts this Aristotelian theory, stating that 'up' is where the principle of growth of all animated beings is located, 'right' is the side where locomotion originates, and 'before' is where the power of sensation is situated. He details this setting by referring to specific parts of organic substances endowed with growth: animals (both human and non-human) have such a principle placed in their head, whereas plants have it in their roots; therefore, these parts of their bodies are to be regarded as their absolute 'up'. Growth, locomotion, and sensation are functions of the soul, and are considered as natural dimensions that allow us to locate and order objective spatial differences.

> For 'up' is the part of an animated being, where the principle of growth is placed, like the head for animals and the roots for plants. In those beings that have a principle of moving by place, the part through which the power of locomotion exits is 'right'. 'Before' is that part where the senses are located. Therefore, according to the order of these powers, the six differences will be ordered too.[36]

As already said, this stance traces back to Aristotle's *On the Heavens*. However, determining which version Grosseteste had at hand when writing OSD would prove to be quite arbitrary. For, even if we compare the passage from OSD to the respective ones from Gerard's, Michael's, and Grosseteste's own translations of *On the Heavens* (Table no. 4), there are no distinctive and definitive links among them that allow us to point to a specific version.[37]

[35] Aristotle, *On the Heavens*, II, 2, 284b32-34 and 285a15-19. This is also addressed in Aristotle's *Progression of Animals*; see James Lennox, "On the Heavens 2.2 and Its Debt to the De incessu animalium", in *New Perspectives on Aristotle's On the Heavens*, edited by A. C. Bowen and C. Wildberg (Leiden and Boston: Brill, 2009), 187-214, *esp*. 199.

[36] OSD, 86, ll. 11-18: "Quoniam pars animati, unde est principium augmentandi, est sursum, ut caput in animalibus et in arboribus radix. In habentibus autem principium movendi secundum locum pars, per quam exit virtus motiva secundum locum, dextra est. Ante autem est pars ipsa, in qua siti sunt sensus. Igitur secundum ordinationem illarum potentiarum ordinabuntur istae sex differentiae."

[37] See Panti, "Il *De caelo* nel medioevo", 99.

OSD, p. 86, ll. 11-18	***De caelo*, transl. by Gerard (284b), p. 110**	***De caelo*, transl. by Michael (284b), p. 280**	***De caelo*, transl. by Grosseteste (284b)**
Quoniam pars animati, unde est principium augmentandi, est sursum [...]. In habentibus autem principium movendi secundum locum pars, per quam exit virtus motiva secundum locum, dextra est. Ante autem est pars ipsa, in qua siti sunt sensus.	Nam principium motus augmenti est sursum et principium motus localis est dextra et principium motus sensibilis est ante, et non significamus per ante, nisi ubi sunt sensus.	Principium enim motus crementi est superius, et principium motus localis est dextrum, et principium motuum sensibilis corporalis est ante; et est dicere ante ubi sunt sensus.	Principia enim haec dico unde incipiunt motus primum habentibus. Est autem superiori quidem augmentatio, a dextris autem qui secundm locum, ab ante autem qui secundum sensum; ante enim dico in quo <sensus>.

Table no. 4

It is worth noticing that in his commentary on *On the Heavens*, Simplicius himself stresses that the natural upside of animals and plants would be their head and roots respectively, even in the event an animal ducked or buried its head in the ground. And although it might sound counterintuitive that the upside of plants be their roots it is nevertheless so by nature, because plants take in nutriment and grow from that part.

> For, even if some particular animal buried its head and raised its feet up high, its feet would not be up and its head down by nature; and plants, for whom up is by nature around the roots because they take in nutriment and grow there first, are thought to have their branches up relative to us.[38]

However, one cannot rule out that the examples chosen by Grosseteste about the objective 'up' of animals and plants might as well be derived from other works by Aristotle, such as, *On the Soul* (416a). We cannot assume, therefore, that Simplicius

[38] Simplicius, *On Aristotle's On the Heavens*, II, 2 (Herberg 391), translated by I. Mueller (London and New York: Bloomsbury, 2004), 38. See Grosseteste's Latin translation, in Simplicius, *Commentary*, Herberg, 391: "Neque enim in particularibus animalibus, utique deorsum vertens quis caput pedes suspendat, propter hoc pedes quidem sursum secundum naturam erant, caput autem deorsum; sed et arbores secundum naturam ad radices sursum habentes, quia inde nutrimentum et prima augmentatio, ut ad nos ramos habere sursum videntur."

oriented Grosseteste's reading in this case, nor can we identify the version of *On the Heavens* Grosseteste read. What such an analysis reveals is merely that OSD presents an abridged account of what Aristotle exposes in *On the Heavens* about objective spatial differences of organic substances.

3. Celestial Spatial Differences

All animated beings have their natural spatial differences according to their growth, moving, and sensation. To each of these operations there corresponds a precise spatial difference, namely, 'up', 'right', and 'before'. In line with Aristotle, Grosseteste maintains that this stands as long as ensouled bodies are concerned. And since heavens, too, are provided with a soul, such natural dimensions are to be found in the superlunary regions too. But where exactly are we to locate such spatial differences in the heavens? Answering this question requires us to briefly recall Grosseteste's cosmology, which is based on his metaphysics of light.[39] First matter and first form are metaphysical constituents structuring all physical bodies, including the heavenly ones. First form provides matter with spatial extension and stretches it into three-dimensions, generating a finite *quantum*. This happens because first form can expand in all directions along with first matter. It is light that turns out to be able to do so, and more precisely, to diffuse itself spherically. In fact, Grosseteste has light coinciding with first form. Starting from a self-multiplying point of light, the first matter of the universe was informed and thus extended into a spheric shape. The farther from the original point of light, the more rarefied the matter. Having expanded matter as far outwards as possible (i.e., up to the firmament), light started drawing itself from the outermost sphere towards the center of the universe. Thus, the nine celestial spheres were generated by this inwards movement of light, for their matter was gradually more rarefied at this new passing of light.[40] The circular motion of the heavenly spheres is determined by the impossibility of matter to be further dispersed and stretched either towards or away from the center of the universe, that is, to move upwards or downwards. Moreover, such circular motion is linked to separated substances: each sphere is assigned an intelligent celestial mover, which, as it is stated in OSD, acts on the heavenly body by means of light (*lux*) itself.[41] It is within such cosmological

[39] For an overview of Grosseteste's metaphysics of light, see the comprehensive study by James McEvoy, *The philosophy of Robert Grosseteste* (Oxford: University Press, 1982, reprint 1986).

[40] Things are more complicated than this. It is not just light that moves inwards after reaching the outermost sphere, but it is also the *lumen*, which is light plus the spirituality of matter, that rarefies more and more matter as it passes through the celestial spheres. This inwards movement of light (and *lumen*) halts at the lunar sphere, where matter is no longer able to be completely dispersed. See Roberto Grossatesta, *La luce*, edited by C. Panti (Pisa: University Press, 2016), 80-81, ll. 133-139, and 139-144 for the commentary; see also Cecilia Panti, "L'incorporazione della luce secondo Roberto Grossatesta", *Medioevo e Rinascimento* 13 (1999): 45-102, *esp*. 51-58.

[41] Reference is at note 42. Concerning the way light makes the separated substance move the heaven, OSD diverges from what Grosseteste maintains, for instance, in his *De motu supercelestium*,

structure that one has to identify the functions and hence the absolute spatial differences of the heavens, which Grosseteste introduces as follows:

> Consistently, these differences are to be found in the heaven. For the growth of the circle comes about as [this circle] occupies a greater space, which corresponds to the distance between the center and the circumference. Therefore, as length consists in this distance, its limits (i.e., the center and the circumference) will be 'up' and 'down'. On the other hand, 'right' is a different part, such as Aries, where there is a stronger impression of light, by which the separate substance moves the heaven. Indeed, the north part, where the fixed starts are in their perennial appearance, is called 'before'.[42]

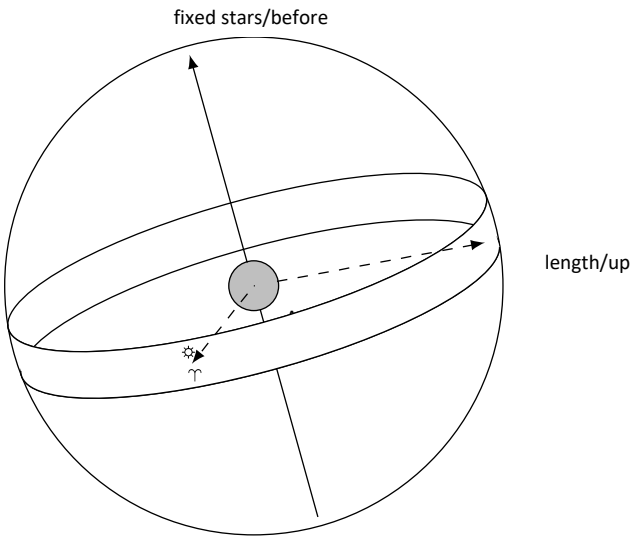

Figure no. 3

Growth of heavenly concentric spheres is evident if one considers the space each of them occupies, being greater than the space of the sphere it contains. In other words,

where the motion of the heavenly sphere is explicitly said to depend only on the intellective power of the separated substance. See Cecilia Panti, "Robert Grosseteste's Early Cosmology", in *Editing Robert Grosseteste*, edited by J. Goering and E. Mackie (Toronto: University Press, 2003), 135-166, *esp.* 153-154; and Panti, *Moti, virtù, motori celesti*, 56-59.

[42] OSD, 86, ll. 19-26: "Et proportionaliter sunt istae differentiae in caelo. Augmentatio enim circuli est ex maiori occupatione spatii, quod est distantia centri et circumferentiae. Ergo, cum longitudo penes hanc distantiam consistat, termini huius distantiae, scilicet centrum et circumferentia, sursum et deorsum erunt. Dextrum autem est pars alia, ut aries, in qua est fortior impressio lucis, per quam substantia separata caelum movet. Ante vero dicitur pars septentrionalis, in qua sunt luminaria fixa sempiternae apparitionis."

growth is measured by the distance or length between the circumference of the outermost sphere and the center of the earth. Consistently with what has been said earlier, the limits of the distance that goes from the center to the circumference of all heavenly spheres represent their absolute 'down' and 'up' respectively. The explanation of 'right' as absolute celestial difference relies on the action of light, by means of which celestial intelligences are said to move the heavens. Light impresses itself in a specific heavenly region, namely, at the intersection of the equinoctial circle and the ecliptic, that is, in the first degree of the constellation of Aries. This intersection happens at the vernal or spring equinox, when the Sun's path is along the celestial equator, so that day and night hours are equal. Aries, thus, is to be considered the objective celestial 'right' or East, that is, the absolute spatial difference where the circular movement of the heavens begins.[43] As for 'before', Grosseteste refers to its function, namely, (visual) sensation, for it is to be located north, in correspondence of the part where fixed stars are always visible (from the arctic hemisphere). This is the absolute 'before' of the universe. Figure no. 3 might help clarify this spatial setting.

A thing worth specifying is that in identifying the three celestial absolute spatial differences, Grosseteste's account differs from Aristotle's in *On the Heavens*– and thus from Gerard's, Michael's, and Grosseteste's own translations. For instance, Aristotle (and his translators) places the absolute East of the universe simply in the part where the stars rise, and dwells very briefly on the differences 'before-behind' just to remark the superiority of frontward movement over the backward one.[44] Moreover, as we can see from Table no. 5, in all Latin versions of *On the Heavens* the absolute 'up' and absolute 'down' of heavens correspond to the length between the poles (i.e., the endpoints of the diameter crossing the circumference of the cosmic sphere), whereas in OSD, Grosseteste conceives of them as the length between the center and the outer circumference of the cosmic sphere. The feature that draws together OSD and Grosseteste's translation of *On the Heavens* lies precisely in the definition of the length: while Gerard and Michael define it as 'space' and 'dimension', Grosseteste consistently calls it 'distance' in both his works.

[43] See also Robert Grosseteste, *De sphera*, edited by Panti, *Moti, virtù, motori*, ll. 183-185, 299. Reference to Aries and to the equinoctial circle as the 'belt of the first movement' is given also in Sacrobosco, *De sphera*, II, edited and translated by Thorndike, *The 'Sphere'*, 86 (and 123 for the English translation): "Et dicitur equinoctialis quia, quando sol transit per illum, quod est bis in anno, scilicet in principio Arietis et in principio Libre, est equinoctium in universa terra. Unde appellatur equator diei et noctis, quia adequate diem artificialem nocti, et dicitur cingulus primi motus."

[44] Aristotle, *On the Heavens*, II, 2, 285b16 and II, 5, 288a3.

OSD, p. 86, ll. 11-18	***De caelo*, transl. by Gerard (285b), p. 114**	***De caelo*, transl. by Michael (285b), p. 289**	***De caelo*, transl. by Grosseteste (285b)**
Ergo, cum longitudo penes hanc **distantiam** consistat, termini huius distantiae, scilicet **centrum et circumferentia**, sursum et deorsum erunt.	Et dico iterum, quod longitudo orbis est spatium, in quo sunt **orbes**, et quod ex orbibus sunt, qui sunt sursum, et ex eis sunt, qui sunt deorsum.	Et dicamus etiam quod longitudo orbis est dimensio in qua sunt **orbes**, et quod orbium quidam sunt superius et quidam inferius.	Dico autem longitudinem quidem ipsius secundum **polos distantiam**, et polorum hunc quidem sursum hunc autem deorsum.

Table no. 5

3. Conclusions

On Spatial Differences is one of Grosseteste's early scientific works, which addresses what in modern theories of mechanics would be called spatial quantities. It is argued for the objectiveness of some reference points in space, such as, 'up' and 'down', 'right' and 'left', 'before' and 'behind'. In line with what Aristotle maintains, these three pairs of spatial differences pertain to all ensouled beings in the universe, in both the sub- and superlunary regions. This means there is an absolute 'up' and 'down' of every human animal, as well as of every heavenly sphere. Roughly put, 'up' and 'down' – and the other four differences – are natural dimensions that one shall identify based on three functions of the soul, namely, growth, locomotion, and sensation.

Scant and too weak similarities with Latin translations of *On the Heavens* and Simplicius' *Commentary* do not allow us to identify which version Grosseteste read or which text oriented his reasonings. On the other hand, we were able to observe to what extent Averroes' *Long Commentary on the Physics* angled Grosseteste's understanding of *On the Heavens*, mistakenly inducing him to spot a tension between Aristotle's account of spatial differences in the *Physics* and *On the Heavens*. But Averroes' authority has not just generated some misunderstanding, for Grosseteste relies on him to posit a distinction between mathematical and natural dimensions. Contrarily to the latter, mathematical dimensions (i.e., length, width, and depth) are to be found in all bodies, regardless of whether they are provided with a soul. This leads both Grosseteste and Averroes to stress their relativeness and conceivability, looking at them like something which is not set by nature, but rather requires someone's cognitive step to be detected.

On Spatial Differences is a summary of what *On the Heavens* (essentially book 2) deals with, and yet it cannot be dismissed as a mere recap of Aristotle's work. For, despite the conciseness of the text, some original features can be appreciated in Grosseteste's

analysis of spatial differences. In this sense, two things can be particularly noticed: first, the ability to rework and expand Aristotle's theory by means of geometric models; and second, the enshrinement of some aspects of his metaphysics of light in his discourse on heavenly spatial differences.

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DIVERGENT RECONSTRUCTIONS OF ARISTOTLE'S TRAIN OF THOUGHT: ROBERT GROSSETESTE ON PROCLUS' *ELEMENTS OF PHYSICS*

RECONSTRUCCIONES DIVERGENTES DEL HILO DE IDEAS DE ARISTÓTELES: ROBERTO GROSSETESTE ACERCA DE LOS *ELEMENTOS DE FÍSICA* DE PROCLO

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Abstract

The present paper discusses Grosseteste's reception of Proclus' *Elements of Physics* (*EP*) in his *Commentary* on Aristotle's *Physics* VI. In the first section I examine the method with which Grosseteste reconstructs Aristotelian texts. The second section initiates a study of the way Grosseteste evaluates Proclus' *EP* on the basis of this method. Thus, the third section brings out Grosseteste's moderate criticism of Proclus' treatment of certain Aristotelian *conclusiones* and assumptions. The fourth section extends this study to the conceptual relation between contiguity, continuity and succession. Finally, Grosseteste's evaluation of Proclus' tendency to omit, divide and merge Aristotelian *conclusiones* is studied in the fifth section. I conclude that Grosseteste is a careful and moderately critical reader of Proclus. He aptly grasps the dependence of the *EP* on *Physics* VI and conceives of Proclus' *EP* as a forerunner of his own method of reconstructing Aristotelian texts.

Keywords

Proclus; *Elements of Physics*; Axiomatic Method; Aristotle; *Physics*

Resumen

El presente artículo analiza la recepción de los *Elementos de Física* (*EP*) de Proclo por parte de Grosseteste en su Comentario a la *Física* de Aristóteles VI. En la primera sección examino el método con el que Grosseteste reconstruye el texto aristotélico. En la segunda sección inicio el estudio sobre la manera en la cual Grosseteste evalúa los *EP* de Proclo basándome en su propio método. En consecuencia, la tercera sección destaca la crítica moderada de Grosseteste al tratamiento de Proclo sobre ciertas *conclusiones* y suposiciones aristotélicas. La cuarta sección

amplía este estudio hacia la relación conceptual entre contigüidad, continuidad y sucesión. Finalmente, la quinta sección estudia la evaluación de Grosseteste sobre la tendencia de Proclo a omitir, dividir y combinar las *conclusiones* aristotélicas. Concluyo que Grosseteste es un lector cuidadoso y moderadamente crítico de Proclo. Grosseteste hábilmente capta la dependencia de EP de la *Física* VI, y concibe *EP* de Proclo como precursor de su propio método para reconstruir textos aristotélicos.

Palabras clave

Proclo; *Elementos de Física*; método axiomático; Aristóteles; *Física*

1. A Method for Reconstructing Aristotle's Argumentative Structure

It is difficult to underestimate the role played by Robert Grosseteste in the dissemination of Aristotle's work in the Latin West and primarily of his theory of knowledge, as expounded in his *Posterior Analytics*.[1] *His Commentary on the Posterior Analytics* constitutes a milestone in the history of the reception of the *Posterior Analytics* as "the earliest medieval work on this Aristotelian treatise that has been handed down to us".[2] Besides, "the most original and intriguing feature of this commentary is the way in which it explicates Aristotelian epistemology within a framework of [Augustinian] illumination".[3] What is equally attractive in the *Commentary*, as well as in Grosseteste's *Commentary on the Physics* (1228-1232), is the method whereby Grosseteste

[1] KU Leuven – Internal Research Funds. I would like to thank the two referees for their constructive remarks and Guillermo Javier Ruz Troncoso for his help with the Spanish.

[2] Pietro B. Rossi, "Grosseteste's Influence on Thirteenth-and Fourteenth Century British Commentators on *Posterior Analytics*. A Preliminary Survey", in *Robert Grosseteste. His Though and Its Impact,* edited by J. Cunningham, Papers in Medieval Studies 21 (Toronto: Pontifical Institute of Medieval Studies, 2012), 141. See also: James McEvoy, *Robert Grosseteste* (New York: Oxford University Press, 2000), 85. For the critical edition, see: Robertus Grosseteste, *Commentarius in Posteriorum Analyticorum Libros*, edited by P. Rossi, Corpus Philosophorum Medii Aevi. Testi e Studi 2 (Firenze: Leo S. Olschki, 1981). For a summary of Grosseteste's approach, see: Pietro Rossi, "Introduzione to Robertus Grosseteste", in *Commentarius in Posteriorum Analyticorum Libros*, edited by P. Rossi, Corpus Philosophorum Medii Aevi. Testi e Studi 2 (Firenze: Leo S. Olschki, 1981), 22-25. Scholars estimate that Grosseteste's *Commentary on the Posterior Analytics* must have been written between 1220 and 1230. See, for example: Pietro B. Rossi, "'Magna magni Augustini auctoritas': Roberto Grossatesta e i Padri", in *Ipsum verum non videbis nisi in philosophiam totus intraveris. Studi in onore di Feanco De Capitani*, edited by F. Amerini and S. Caroti, Quaderni di Noctua 3 (IT: E-Theca, 2016), 458; James McEvoy, "The Chronology of Robert Grosseteste's Writings on Nature and Natural Philosophy", in James McEvoy, *Robert Grosseteste, Exegete and Philosopher* (Hampshire: Variorum, 1994), 637.

[3] Christina Van Dyke, "An Aristotelian Theory of Divine Illumination: Robert Grosseteste's *Commentary on the Posterior Analytics*", *British Journal for the History of Philosophy* 17/4 (2009): 685; Rossi, "Introduzione to Robertus Grosseteste", 12.

comments on Aristotle's text.[4] In general terms, the method deployed in both *Commentaries* lies in the use of certain structuralizing tools, namely, definitions, suppositions and conclusions/theorems. It is by their use that Grosseteste divides and reconstructs Aristotle's argumentation, exposing it in a more rigorous and ordered form. One such example may be found in his adaptation of *Posterior Analytics* 1.2. Recent scholarship has delved into it, pointing to the way Grosseteste divides Aristotle's insights into definitions and suppositions.[5] These are brought together in order to ground the conclusion that "demonstrative science is based on principles/premises that are true, primary, immediate, as well as prior to, better known than and causes of the conclusion".[6]

Bloch suggests that Grosseteste's aim is to unearth the implicit logical structure of the work. In providing this clear-cut text structure he wishes to facilitate one's appropriation of the *Posterior Analytics*. The same strategy is adopted in his *Commentary on the Physics.* Once again, Aristotle's arguments are reconstructed in terms of definitions, suppositions and conclusions. Neither of the two *Commentaries*, however, goes so far as to fully apply the Euclidian method of exposition and thereby officially visualize the distinction between the initial assumptions (definitions and suppositions) and the conclusions by collecting the totality of the former in a separate introductory section.

Even so, Grosseteste's practice justifiably draws the attention of anyone interested in the geometrical method of presentation and, more particularly, in all undertakings to 're-write' and re-present an authoritative text with the aim to bring out its inherent (but not always conspicuous) logical merits and in a way compatible with the technical conventions pertaining to the geometrical method of exposition. Proclus, after all, famously inaugurated this tradition with his *Elements of Physics*.[7] In terms of content,

[4] Cecilia Trifogli, *Oxford Physics in the Thirteenth Century (ca. 1250-1270). Motion, Infinity, Place & Time* (Leiden: Brill, 2000), 30.

[5] Grosseteste, *Commentarius in Posteriorum Analyticorum Libros*, 99,3-5: "In hoc libro docere primo ponens duas diffinitiones et unam suppositionem, ex quibus consequenter concludit primam conclusionem huius scientie". For an interesting case study related to the reception of the definitions and conclusion extracted by Grosseteste from *Posterior Analytics* I.2, see: Rossi, "Grosseteste's Influence on Thirteenth- and Fourteenth-Century British Commentators on *Posterior Analytics*", 155-166.

[6] David Bloch, "Robert Grosseteste's Conclusiones and the Commentary on the *Posterior Analytics*", *Vivarium* 47/1 (2009): 6. See also: Pietro B. Rossi, "Robert Grosseteste and the Object of Scientific Knowledge", in *Robert Grosseteste: New Perspectives on His Thought and Scholarship,* edited by J. McEvoy (Turnhout: Brepols, 1995), 63-64.

[7] Proclus, *Institutio Physica*, edited by A. Ritzenfeld, Bibliotheca Scriptorum Graecorum et Romanorum Teubneriana (Leipzig: Teubner, 1912). For its medieval translation, see: Proclus, *Elementatio Physica*, edited by H. Boese, *Die Mittelalterliche Übersetzung der Στοιχείωσις Φυσική des Proclus*, Deutsche Akademie der Wissenschaften zu Berlin. Institut für Griechisch-Römische Altertumskunde. Arbeitsgruppe für Hellenistisch-Römische Philosophie, 6 (Berlin: Akademie-Verlag, 1958). When I cite the *EP*, I translate the text myself from Ritzenfeld's edition, unless

this axiomatic text is wholly dependent on Aristotle's *Physics* VI and VIII as well as on *De Caelo* I.[8] The two books that make up the *EP* only include definitions or hypotheses and theorems (i.e., conclusions), which Proclus extracts from Aristotle, even though in the *Physics* they are not qualified as such, namely, as definitions and theorems. Proclus organizes the Aristotelian material in successive theorems, following the method of the geometers. In each of the two books, these theorems are preceded by a series of definitions, that is, first principles, which are then explicitly used and combined for the demonstration of the subsequent theorems. Some of the more advanced theorems are demonstrated both through definitions and previously established theorems. Proclus' innovation, as it were, lies in that he attributes a much more formulaic character to Aristotle's arguments, since the latter are presented as the conclusion unmistakably resulting from certain starting points, that is, the definitions, and the theorems already demonstrated. In Aristotle's text, one finds a solid, but not technically organized, argumentation, that is, no formal distinction between the first principles and the theorems in distinct sections.[9]

As already mentioned, Grosseteste does not fully adopt the geometrical method of the mathematicians neither Proclus' twofold model in the *EP*, which summons definitions and conclusions. However, his methodology in the two *Commentaries* testifies to the fact that he does subscribe to the fundamental assumption that an epistemic account should be organized into explicitly identified and recognizable first principles and conclusions or theorems that derive both from the former and from previously established conclusions. This is one of the most essential and indispensable features of the tradition shared by Euclid and Proclus (and by the Classical Model of Science, more generally).[10] Grosseteste's practice, despite its insufficient compliance with the formal requirements of Euclid and Proclus, is aligned with this, as it were, *vision* of exposition.

In fact, there are certain additional reasons why Grosseteste can be legitimately connected with the axiomatic method. The first is that this method, as described above, is not occasionally used just in the context of his commentaries or in his non-religious, say, 'secular' scientific expositions, but informs his purely theological inquiries as

otherwise mentioned. The first number after the title stands for the book and the second for the proposition of Proclus. Any additional numbers refer to the page and lines of Ritzenfeld's edition.

[8] Dmitri Nikulin, "Physica More Geometrico Demonstrata: Natural Philosophy in Proclus and Aristotle", *Proceedings of the Boston Area Colloquium in Ancient Philosophy* 17 (2003): 184; Jan Opsomer, "The Integration of Aristotelian Physics in a Neoplatonic Context: Proclus on Movers and Divisibility", in *Physics and Philosophy of Nature in Greek Neoplatonism. Proceedings of the European Science Foundation Exploratory Workshop (Il Ciocco, Castelvecchio Pascoli, June 22-24, 2006),* edited by R. Chiaradonna and F. Trabattoni, Philosophia Antiqua 115 (Leiden and Boston: Brill, 2009), 193.

[9] Dominic J. O'Meara, *Pythagoras Revived. Mathematics and Philosophy in Late Antiquity* (Oxford: Clarendon Press, 1989), 177-179.

[10] Willem R. de Jong and Arianna Betti, "The Classical Model of Science: A Millennia-Old Model of Scientific Rationality", *Synthese* 174/2 (2010): 185-203.

well.[11] More concretely, according to Grosseteste, theology takes the Bible (and not so much its subsequent interpretation) as the most authoritative source for its development. This is so because it includes the much wanted *lapides vere fundamentales*, the reliable foundations on which the discipline of theology can be built. This is why he advised all lecturers of Oxford to start their lectures with the Bible and "keep morning hours" for its reading. The priority of the Bible over the subsequent teaching material is not only temporal, but also epistemological. Everything that is taught or discussed afterwards is subordinate to the 'axioms' of faith, to the initial *lapides*. This teaching strategy echoes the priority of the first principles in a theorematic exposition, wherein the first principles ground the subsequent theorems. This teaching strategy constitutes a very telling visualization of the way an axiomatic system is supposed to function, regardless of whether philosophy or theology is at stake. *Lapides* obviously serve the role of first principles in the Euclidian tradition; they constitute the undemonstrated primary assumptions that provide the basis for all the claims that are subsequently built upon them. Flawless foundations come first; their priority is indispensable, for only this order can guarantee the epistemic soundness of the field.[12] Here, axiomaticity is not just a scholarly approach or a method of exposition, but an educational practice and a guide to the accomplishment of spiritual life.

The second reason is even more significant. In his *Commentary* on *Physics* VI Grosseteste proceeds to an almost step by step and occasionally moderately critical reconstruction of Proclus' appropriation of *Physics* VI in his *EP*, 1.[13] Grosseteste most probably had access to the medieval translation of Proclus' text, which was produced in the context of the Sicilian school of the 12th century by a translator who remains anonymous.[14] It would not be an exaggeration to say that in fact Grosseteste's *Commentary* on *Physics* VI is nothing but a commentary on *EP*, 1. This commentary is not continued in Grosseteste's section on *Physics* VIII, even though Proclus systematically uses the latter (together with *De Caelo* I) for his *EP*, 2. Grosseteste's occupation with Proclus' texts is important in many respects. First of all, it testifies to the fact that Grosseteste recognized the dependence of Proclus' *EP* on Aristotle's *Physics.* Also, it renders Proclus a highly probable source of inspiration for Grosseteste's method of commenting on Aristotle. This method has been correlated with the medieval theological tradition, represented by Alan of Lille and Nicholas of Amiens, and ultimately with Boethius and Euclid.[15] What Grosseteste's *Commentaries* seem to share

[11] McEvoy, *Robert Grosseteste*, 82.
[12] Richard W. Southern, *Robert Grosseteste: The Growth of an English Mind in Medieval Europe* (Oxford: Clarendon Press, 1998), 174.
[13] Southern, *Robert Grosseteste*, 134.
[14] Neil Lewis, "Robert Grosseteste's Notes on the *Physics*", in *Editing Robert Grosseteste. Papers given at the Thirty-sixth Annual Conference on Editorial Problems, University of Toronto, 3-4 November 2000,* edited by E. A. Mackie and J. Goering (Toronto: University of Toronto Press, 2000), 118-119.
[15] Gillian R. Evans, "The 'Conclusiones' of Robert Grosseteste's Commentary on the *Posterior Analytics*", *Studi Medievali* 24/2 (1983): 724-734; Charles H. Lohr, "The Pseudo-Aristotelian *Liber de*

exclusively with Proclus is their common dependence (however explicit or not) in terms of content on an authoritative text and the intention to expose its argumentative tenets by projecting upon it a technical idiom that is very close to the idiom of the axiomatic method. Grosseteste and Proclus 're-write' and re-articulate an already existing text. In this respect, their undertakings make up a distinct group.

Thus, although Euclid definitely stands at the outset of this axiomatic tradition and inspires Proclus' reworking of Aristotle's *Physics* and his *Elements of Theology,* still, especially with regard to Aristotle's interpretation, Proclus' *EP* furnishes a model that is not to be found in Euclid.[16] Moreover, one should not oversee that Grosseteste's insights into the *EP* do not so much touch upon doctrinal issues, but rather focus almost exclusively on the criteria that guided Proclus' restructuring of the *Physics*. This indicates that he has perfectly grasped that the innovative character of Proclus' undertaking is to be found precisely in the *structural* re-organization of an already existing material according to the formal requirements of the method of the mathematicians. This is why his objections against Proclus' practice primarily raise questions of faithfulness to the argumentative *order* and *method* of Aristotle's text. There is no sign at all that Grosseteste is surprised by Proclus' practice and method. He does not discuss it as such. He only focuses on the way Proclus applies it, without questioning its legitimacy as a method.

2. Grosseteste's Introductory Remarks

It should be mentioned from the very beginning that Grosseteste's comments on *Physics* VI pose certain textual problems. These relate to the credibility of the present edition and to the fact that Grosseteste's notes originally had the form of glosses.[17] More than that, "these glosses were assembled as a continuous text after Grosseteste's death" and he [Grosseteste] "reads Aristotle trying to trace the stages of Aristotle's arguments back to the propositions of Proclus's *Elementatio*".[18] Similar concerns are raised by Neil

causis and Latin Theories of Science in the Twelfth and Thirteenth Centuries", in *Pseudo-Aristotle in the Middle Ages. The Theology and Other Texts*, edited by J. Kraye, W.F. Ryan, and C.B. Schmitt (London: The Warburg Institute-University of London, 1986), 53-62.

[16] Contrary to the *EP* and to Euclid in general, but in anticipation of the *Liber de causis*, Proclus' *Elements of Theology* has no introductory section with unargued principles. As Lohr puts it, this method is deductive, but not axiomatic. See: Lohr, "The Pseudo-Aristotelian *Liber de causis* and Latin Theories of Science in the Twelfth and Thirteenth Centuries", 56, 59.

[17] Lewis, "Robert Grosseteste's Notes on the *Physics*", 104-105. For the critical edition, see: Roberti Grosseteste, *Commentarius in VIII Libros Physicorum Aristotelis*, edited by R. Dales, Studies and Texts in Medieval Thought (Colorado: University of Colorado Press, 1963). Grosseteste's translations are mine.

[18] I cite from the (so far unpublished) text of the lecture that Pietro Rossi recently delivered at KU Leuven in the context of the "2nd Notre Dame University-KU Leuven Collaborative Workshop in Ancient, Medieval and Renaissance Philosophy", which took place in Leuven (1-2 June, 2022). The title of his lecture was "Robert Grosseteste's Notes on the *Physics* and the Early 13th Century Reading of Proclus in England". I would like to warmly thank Professor Rossi for kindly sharing with me the

Lewis: "Unfortunately, Grosseteste does no more than give an exposition of Aristotle's arguments in book 6.1 of the *Physics* in his own notes on this book, and his exposition is largely a pastiche of passages from Proclus commentary on this material".[19] In light of the above and in anticipation of the new edition by Lewis and King, the remarks that are sketched below cannot be conclusive. To a certain extent their character remains preliminary and introductory. What, then, is one to expect from the study of this peculiar text as it stands now?

In a very brief introductory section that precedes his focused discussion of Proclus' practice, Grosseteste sets the framework of certain objections against it.[20] His focus is not so much on what Proclus does (Grosseteste starts by merely stating that Proclus "arranges" Aristotle's "conclusiones"), but on whether he does so in the proper way. Indeed, he finds Proclus' way somewhat arbitrary. Grosseteste's overarching criticism against Proclus is that he orders Aristotle's conclusions unthoroughly ("non penitus"), since he only seemingly follows Aristotle's order of argumentation ("videtur sequi ordinem Aristotelis"). His criticism gradually becomes more concrete. The exact problem with Proclus' deviation from Aristotle is that what Aristotle concludes "primo syllogizando", Proclus himself "turns it into a conclusion, as if it were the ultimately intended conclusion" ("ipse Proclus quasi ultimo intentam facit conclusionem"). The precise meaning of these phrases, and especially of the phrase "primo syllogizando", is not yet fully clear but, as we shall see, Grosseteste's remarks on specific Proclean theorems will shed some light on them.

At any rate, it is in view of these objections that Grosseteste himself undertakes to present the conclusions "per modum Aristotelis", thus denouncing Proclus' reconstruction as unfaithful to Aristotle's text. As we shall see, instead of working on the basis of what Grosseteste considers to be Aristotle's approach, namely, the threefold argumentative strategy consisting of definitions, suppositions and conclusions, Proclus only identifies definitions and conclusions. In this regard, he fails to do justice to Aristotle's syllogistic procedure. Rather, he should have incorporated Aristotle's suppositions as well, as Grosseteste himself does both while commenting on the defects of Proclus' restructuring and in his *Commentary on the Posterior Analytics*. On top of that, the Aristotelian suppositions that Proclus does not take into consideration in his

text of his lecture (as well as other contributions) and for his insights concerning Grosseteste and his reception of Proclus. See also: Pietro B. Rossi, "Natura, necessità e caso secondo Roberto Grossatesta", in *Per una storia dell'idea di natura. Dal tardo medioevo all'età moderna*, edited by C. Panti, G. Patella and P. Quintili (Roma: UniversItalia, 2018), 52.

[19] Neil Lewis, "Robert Grosseteste on the Continuum", in *Albertus Magnus and the Beginnings of the Medieval Reception of Aristotle in the Latin West. From Richardus Rufus to Franciscus de Mayronis*, edited by L. Honnefelder, R. Wood, M. Dreyer and M.-A. Aris (Münster: Aschendorff, 2005), 182.

[20] Here is the text: Roberti Grosseteste, *Commentarius in VIII Libros Physicorum Aristotelis*, 116, l. 1-5: "Proclus, qui huius sexti libri ordinat conclusiones non penitus, videtur sequi ordinem Aristotelis, sed quod Aristoteles primo syllogizando concludit, ipse Proclus quasi ultimo intentam facit conclusionem. Ideo per modum Aristotelis ordinate sunt".

reconstruction of the arguments from the *Physics* are upgraded by Proclus into individual theorems in the *EP.* For Aristotle, so Grosseteste seems to suggest, these suppositions are only supposed to ground, but not constitute themselves, conclusions.[21] This, I think, is what Grosseteste has in mind when saying that what Aristotle concludes "aiming first to make a syllogism" ("primo syllogizando"), Proclus himself "turns it into a conclusion, as if it were the ultimately intended conclusion" ("ipse Proclus quasi ultimo intentam facit conclusionem"). This aspect will be examined in more detail in the next section. As a result of this practice, Proclus unjustifiably increases the number of conclusions extracted from the Aristotelian text.

Grosseteste's openly avowed ambition to stick, unlike Proclus, to the original order of exposition reveals an attempt to elevate himself not so much to the true *interpreter* of Aristotle's work in doctrinal terms, but rather to the most diligent and respectful to authority mediator of Aristotle. In this context, the term "mediator" refers to the work of presenting a body of knowledge in ways that facilitate its understanding and unearth its structural components. This is how both Grosseteste and Proclus conceive of their respective endeavors. Proclus' reworking of Aristotle cannot but attract Grosseteste's interest as a forerunner of his very own approach towards Aristotle. In the *EP*, after all, Grosseteste was able to "verify how far Aristotle could be read and understood 'systematically'".[22] From this perspective, one may suggest that Grosseteste retrospectively engages in a 'competition' with Proclus with regard to the proper method of reconstructing and re-presenting Aristotle's argumentation.

Proclus reworked Aristotle's *Physics* in a way that emphasized its logical rigor and the structural continuity of the arguments.[23] Certain aspects of his project, though, might seem too radical for Grosseteste. Proclus does not write a commentary, that is, a work that by its very title admits its derivative character and by its nature is dependent on the text that it wishes to comment on, but rather an *Elementatio*. Proclus does not acknowledge nor declare that in his *EP* he 're-writes' certain chapters of Aristotle. He transcribes a self-standing text into another literary genre. Proclus takes the liberty of presenting Aristotle's conclusions almost as if they were mathematical syllogisms and frames them with a markedly consistent and formal template.[24] In this regard, his

[21] Celina Lertora, "Ciencia y método en Roberto Grosseteste", *Humanitas Digital* 18 (1977): 153-182, *esp.* 176.
[22] Rossi, "Robert Grosseteste's Notes on the *Physics* and the Early 13th Century Reading of Proclus in England" in England", 11.
[23] O' Meara, *Pythagoras Revived*, 191.
[24] Jan Opsomer, "Proclus' *Elements of Physics* and the Axiomatization of Kinematics", in *Relectures néoplatoniciennes de la théologie d'Aristote*, edited by F. Baghdassarian, I. Papachristou, and S. Toulouse (Sankt Augustin: Academia, 2020), 84. The full potential of these remarks is revealed in Proclus' *Elements of Theology*. For Proclus' use of *mos geometricus* there, see: Jan Opsomer, "Organiser la philosophie selon ses éléments. Structures argumentatives dans les *Éléments de Théologie*", in *Relire les Éléments de théologie de Proclus: Réceptions, interprétations antiques et modernes*, edited by G. Aubry, L. Brisson, P. Hoffmann, and L. Lavaud (Paris: Hermann, 2021), 133-176.

method goes beyond the commentary tradition and presupposes degrees of autonomy that Grosseteste seems to reject. Thus, Grosseteste's *Commentary* may be seen as promising a rather moderate and careful, undeniably less radical and innovative, reconstruction, yet one that considers its closeness to Aristotle's text as its most important virtue. If, after all, the *EP* dominates Grosseteste's reception of *Physics* VI, this is not "pour en faire une paraphrase", but rather with a view to exposing its methodological defects.[25]

3. 29 Conclusions, 2 Corollaries and 2 Suppositions

Grosseteste attributes a "progressive order" to Aristotle's text by identifying in total twenty nine "conclusiones".[26] These are numbered ("prima conclusio", "secunda conclusio" etc.) and sometimes matched with their corresponding demonstration.[27] In what follows, I will refer to these conclusions of Grosseteste with the acronym "GR", the subscript numbers referring to the number of the conclusion. In most cases, Grosseteste provides a summary or explanation of the "conclusio" and cites the exact Aristotelian phrase that corresponds either to the "conclusio" itself or to its demonstration (with phrases like "cuius demonstratio in littera aperta est ibi", "conclusio ponitur ibi"). The summary standardly starts with the number of the conclusion followed by the phrase "ostendit quod" (e.g. "17° ostendit quod"). Immediately afterwards, Grosseteste relates the Aristotelian conclusion with Proclus' theorems, almost always with the same expressions "et est 17ª Procli", "et est ista 18ª Procli". These three structural units (conclusion, summary, connection with Proclus) make up a typical paragraph in Grosseteste's *Commentary*. Grosseteste's wording makes it clear that, since it admits of demonstration and because Aristotle makes assumptions in order to prove it, a "conclusio" is posterior to and derivative from what is used for its establishment.

From the perspective of an axiomatic exposition, it is also remarkable that Grosseteste identifies the two corollaries of *EP*, 1. According to his reconstruction of the text, they appear in GR_6 and GR_{23} and he himself qualifies them as such.[28] Corollaries are a distinct feature of axiomatic expositions and are introduced with a standardized

[25] Aurélien Robert, "Atomisme et théologie au Moyen Âge (II)", *Annuaire de l'École pratique des hautes études (EPHE), Section des sciences religieuses* 125 (2018): 306. URL: http://journals.openedition.org/asr/2042; DOI: https://doi.org/ 10.4000/asr.2042.

[26] Rossi, "Robert Grosseteste's Notes on the *Physics* and the Early 13th Century Reading of Proclus in England" in England", 7.

[27] Lertora, "Ciencia y método", 161. See p. 176-179 for a full list of them. See also: Olga Weijers, "Conclusio. Nouvelles réflexions sur un mot rebelle", in *Mots médiévaux offerts à Ruedi Imbach*, edited by I. Atucha, D. Calma, C. König-Pralong and I. Zavattero, Textes et Etudes du Moyen Âge 57 (Porto: FIDEM, 2011), 175-183.

[28] Roberti Grosseteste, *Commentarius in VIII Libros Physicorum Aristotelis*, 117, 120. More in particular: "et interponit corollarium illud" (117, l.17); "ex his sequitur quoddam corollarium" (120, l. 9-10).

language, namely, with the phrase "from this it also appears that" ("Εκ δὴ τούτου φανερόν").[29] Grosseteste's phrase "ex his sequitur" confirms that he is in position to grasp the function of corollaries as findings, that is, conclusions, which were not originally planned, but ultimately result from a demonstration originally initiated for another purpose. In his *in Euclidem*, Proclus explains that a corollary should be regarded as a "lucky find" (301.24), namely, a conclusion that, albeit established by the end of a given demonstration, was not our initial goal (303.8-9). Rather, this "lucky find" was demonstrated simultaneously (301.23-24: "συγκατασκευάζεται ταῖς ἄλλων ἀποδείξεσιν") with our initially intended theorem.

According to Grosseteste, GR_6 is twofold: a) "The passage over the infinite, then, cannot occupy a finite time, and [b] the passage over the finite cannot occupy an infinite time".[30] Aristotle first demonstrates (b) and then adds that "the same demonstration will also show the falsity of the assumption that infinite length can be traversed in a finite time".[31] As Grosseteste rightly remarks, Proclus divides these two claims into two separate theorems ("et hoc dividit Proclus in duas proposiciones"), namely, his theorems *EP*, 1.12 and *EP*, 1.13 respectively. In fact, Proclus changes the order: he first deals with (a) in his *EP*, 1.12 and then with (b) in his *EP*, 1.13. At any rate, he demonstrates *both* Aristotelian claims. Since (a) and (b) are two distinct "conclusiones", Grosseteste does not raise any objections at all against Proclus' practice. He only adds, quite justifiably, that Proclus interposes ("interponit") between his *EP*, 1.12 and *EP,* 1.13 a corollary, which, one may point out, is absent from Aristotle's text.

"Suppositions" constitute an additional technical term that Grosseteste uses in the form of a verb ("sumo, assumo") in his GR_2 and GR_8. Aristotle's claim in GR_2 is that a point cannot be after a point nor a now after a now, because a line is always between points as well as time between nows. According to Grosseteste, in order to prove his conclusion ("ad hanc probandam"), Aristotle assumes ("sumit") that "indivisibilium existencium in eodem continuo et inter medium est continuum".[32] Proclus, Grosseteste says, does not recognize this Aristotelian assumption (let us call it A_1GR_2) as such. Rather, he illegitimately elevates the assumption to a separate conclusion ("et hanc *facit* Proclus unam conclusionem et est tercia Procli").[33] Grosseteste's own wording of A_1GR_2 seems to have been partially informed by the medieval translation of the *EP*.[34] Grosseteste rightly implies that Proclus' *EP*, 1.3, according to which "what is between

[29] Opsomer, "Proclus' *Elements of Physics* and the Axiomatization of Kinematics", 92-93.
[30] Aristotle, *Physics*, VI.2, 233a31-32. Translation: R. P. Hardie and R. K. Gaye from: Aristotle, *The Complete Works*, edited by J. Barnes (Princeton, N.J., Princeton University Press, 1991).
[31] Aristotle, *Physics*, VI.2, 233b14-15.
[32] Grosseteste, *Commentarius in VIII Libros Physicorum Aristotelis*, 116, l. 11-13.
[33] Grosseteste, *Commentarius in VIII Libros Physicorum Aristotelis*, 116, l. 13-14.
[34] Grosseteste, *Commentarius in VIII Libros Physicorum Aristotelis*, 116, l. 11-13: "Ad hanc probandam sumit illam indivisibilium *existencium in* eodem *continuo* et *inter medium est continuum*". See: Proclus, *Elementatio Physica*, edited by H. Boese, 30, l. 25-26: "*Existentium in continuo* individuorum *intermedium continuum*".

partless things that are in a continuum is a continuum", has no *direct* parallel in Aristotle. Rather, Proclus' *EP*, 1.3 presents in a more abstract form the following phrase from Aristotle's *Physics* VI.1 (231b9): "what is between points is always a line and what is between nows is always time".

Turning to GR_8, Aristotle concludes, according to Grosseteste, that "necessarily, too, the now – the now so-called not derivatively but in its own right and primarily – is indivisible".[35] In order to demonstrate that the now is indivisible ("ad hanc autem probandam"), Aristotle assumes ("assumit") and demonstrates according to Grosseteste "that the very same indivisible now is the end of the past and the beginning of the future" ("idem nunc indivisibile est *terminus preteriti et inicium futuri*").[36] This phrase of Grosseteste must correspond to the following lines of Aristotle, which immediately follow the conclusion to be demonstrated, namely, the indivisibility of the now: "For the now is an extremity [ἔσχατον] of the past (no part of the future being on this side of it), and again of the future (no part of the past being on that side of it): it is, we maintain, a limit [πέρας] of both. And if it is proved that it is of this character and one and the same, it will at once be evident also that it is indivisible".[37] As far as I can see, one discrepancy between Grosseteste and Aristotle is that, while the former mentions "the end of the past" (*terminus preteriti*) and the "beginning of the future" (*inicium futuri*), Aristotle only mentions "extremities" and "limits" of them.[38] At this point, it seems that Grosseteste's account of Aristotle's argument is closer to the Latin translation of the *EP*. Indeed, in his *EP*, 1.15 Proclus assumes the time span AB and considers A as the "*terminus* totius *preteriti*" and B as the "*initium* totius *futuri*".[39] In fact, then, Grosseteste reconstructs Aristotle's assumption (let us call it A_1GR_8) following the Latin translation of Proclus. How does Proclus treat this Aristotelian assumption (A_1GR_8) according to Grosseteste? Grosseteste rightly suggests that Proclus transforms the Aristotelian assumption into an independent theorem, namely, his *EP*, 1.15, where Proclus indeed proves that "the now is the same in the past and in the future time".[40] Thus, the indivisibility of the now is only proved by Proclus in his *EP*, 1.16.[41] The latter starts, unsurprisingly and justifiably, with a cross-reference to the established conclusion of the *EP*, 1.15.[42]

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[35] Aristotle, *Physics*, VI.3, 233b33-34: "Ἀνάγκη δὲ καὶ τὸ νῦν τὸ μὴ καθ' ἕτερον ἀλλὰ καθ' αὑτὸ καὶ πρῶτον λεγόμενον ἀδιαίρετον εἶναι".

[36] Roberti Grosseteste, *Commentarius in VIII Libros Physicorum Aristotelis*, 117, l. 28-29.

[37] Aristotle, *Physics*, VI.3, 233b35-234a5.

[38] See: Translatio Vetus (fasciculus secundus), *Physica*, edited by F. Bossier, J. Brams, Aristoteles Latinus VII 1.2 (Leiden and New York: Brill, 1990), 227, l. 5-10: "Est enim aliquod *ultimum* [ἔσχατόν τι] eius quod factum est, cuius in hec nichil futuri est ... quod utique diximus utrisque esse *terminum* [πέρας]...".

[39] *EP,* 1.15, 16,3-5. See: Proclus, *Elementatio Physica*, edited by H. Boese, 38, l. 22-23.

[40] *EP,* 1.15, 14,27-28.

[41] *EP,* 1.16, 16,9: "The "now" is indivisible".

[42] *EP,* 1.16, 16,10: "For if the "now" is the same in the past and the future, it is also partless".

To this analysis of Grosseteste's reception of Aristotle's "assumptions" two remarks should be added. First, Grosseteste is praiseworthy for his extremely close reading and accurate reconstruction of the Proclean practice. It is perfectly true that Proclus 'isolates' the Aristotelian assumption that the "now" should be the same in the past and future time (A_1GR_8), if it is to be indivisible, and from this ("unde") makes an individual theorem, namely, the *EP*, 1.15. On the other hand, perhaps Grosseteste could have also praised Proclus for his constructive argumentative strategy. By extracting and demonstrating separately A_1GR_8, Proclus provides his *EP*, 1.16 about the indivisibility of the "now" with a well-established grounding principle and renders much clearer and more linear the argumentative sequence. He first demonstrates the assumption and then appeals to it, as already proved, in order to demonstrate the indivisibility of the "now".

The second point is that Grosseteste's discussion of these two Aristotelian assumptions in GR_2 and GR_8 sheds some more light on his introductory remarks. As we have seen, it was not immediately clear what he meant when saying that what Aristotle "primo syllogizando concludit", Proclus himself "turns it into a conclusion, as if it were the ultimately intended conclusion" ("ipse Proclus quasi ultimo intentam facit conclusionem"). Now that we have studied his appropriation of Aristotle's assumptions, the phrase "primo syllogizando" seems to mean that Proclus transforms into independent theorems what "Aristotle concludes first with the aim to make/articulate a syllogism". This use of the verb "concludit" indicates that Grosseteste appeals to the notion of "conclusion" not only in the strong sense of "theorem", but also, in a less robust way, in order to refer to the assumptions that Aristotle establishes in order to prove a ("stricto sensu") "conclusio". Additionally, Grosseteste seems to follow a clear argumentative pattern when specifying Aristotle's assumptions. Throughout his account of *Physics* VI, he uses the verb "posits" ("ponit Proclus") for every Aristotelian conclusion that Proclus transcribes into a theorem. Instead, in these two cases of the assumptions illegitimately elevated to the status of theorems (A_1GR_2 and A_1GR_8), he uses the verb "makes" ("facit"), just as in his introductory remarks, in order to show the arbitrary and constructed character of Proclus' approach.

4. Aristotle, Proclus and Grosseteste on Contiguity, Continuity and Succession

The present section mainly focuses on $GR_{1\text{-}3}$, which appear in the first page of Grosseteste's *Commentary* (i.e., p. 116) and are very illuminating regarding his reception of Aristotle and Proclus. Aristotle's *Physics* VI starts with three crucial definitions on things that are in contiguity, in continuity and in succession. As the *Translatio Vetus* has it, "[s]i autem est continuum et quod tangitur et consequenter, sicut diffinitum est prius ...".[43] On this basis, Aristotle concludes that "nothing that is continuous can be composed of indivisibles: e.g. a line cannot be composed of points, the line being

[43] Translatio Vetus, *Physica*, 216, l. 3-4.

continuous and the point indivisible".[44] In Grosseteste's reconstruction, GR_1 states that it is impossible for partless things to make up a continuum ("ex indivisibilibus non componitur aliquod continuum").[45] In order to refer to Aristotle's demonstration of GR_1, Grosseteste reproduces the *Translatio Vetus*: "At vero neque consequenter inerit punctum puncto".[46] As we can see, there is an interesting deviation between GR_1 and its demonstration from the *Translatio Vetus*. Grosseteste frames GR_1 in abstract terms, without mentioning the Aristotelian examples (the line and the point).

Unlike Proclus, who leverages Aristotle's definitions in order to arrange them in a separate section preceding the theorems, Grosseteste mentions in passing only the definition of continuity. Still, this omission is ultimately less problematic than it seems at first sight. In *Physics* V, Aristotle explains the interconnection between these three classes of things (continuous, contiguous and in succession) setting forth, before *Physics* VI, their respective definitions.[47] Indeed, at the very beginning of *Physics* VI, Aristotle refers the reader back to the definitions established before ("πρότερον").[48] In his comments on *Physics* V, Grosseteste explicitly identifies the definitions as such, that is, as definitions posited by Aristotle ("positis diffinicionibus terminorum").[49] His omission, then, to mention them again at the beginning of *Physics* VI as definitions grounding Aristotle's conclusions does not considerably affect his reconstruction of Aristotle's arguments.

According to Grosseteste, GR_2 is that "indivisibles cannot be in succession in any continuum" and corresponds to Aristotle's phrase (231b6-7): "Nor, again, can a point be in succession to a point or a now to a now".[50] In order to establish it, so Grosseteste argues, Aristotle appeals to two assumptions. The first of them is A_1GR_2 and we have already studied it in the previous section. We have already seen that, in order to prove GR_2, Grosseteste assumes A_1GR_2, which corresponds to Proclus' *EP*, 1.3: "what is between partless things that are in a continuum is a continuum".[51] This would correspond to Aristotle's phrase that "intermediate between points there is always a line and between

[44] Aristotle, *Physics*, VI.1, 231a24-26.
[45] Grosseteste, *Commentarius in VIII Libros Physicorum Aristotelis*, 116, l. 6-8.
[46] Grosseteste, *Commentarius in VIII Libros Physicorum Aristotelis*, 116, l. 10-11. See: Translatio Vetus, *Physica*, 217, l. 4-5: "At vero neque consequenter inerit punctum puncto...".
[47] Aristotle, *Physics*, V.3, 226b19-227b2. Simplicius, *In Aristotelis Physicorum libros quattuor priores/posteriores commentaria*, 2 vols, edited by H. Diels, Commentaria in Aristotelem Graeca [CAG] 9 and 10 (Berlin: G. Reimeri, 1882-1895). According to Simplicius (10.924.16-23), the presence of these definitions in the fifth book shows that this present book (the sixth) has been properly arranged after the fifth one.
[48] Aristotle, *Physics* VI, 230b22.
[49] Grosseteste, *Commentarius in VIII Libros Physicorum Aristotelis*, 110, l. 6.
[50] "At vero neque consequenter inerit puncto punctus". In fact, Grosseteste only cites until Aristotle's phrase "to a point" and does not include the succession between nows.
[51] *EP,* 1.3, 4,7.

nows a period of time".[52] Even though Grosseteste criticizes Proclus' practice, the way he transcribes A_1GR_2 in his *Commentary* is closer to that of Proclus, in the sense that both opt for an abstract language that omits the Aristotelian examples. Indeed, Grosseteste only mentions that Aristotle assumes the existence of indivisibles in the continuum and that what is between these indivisibles is continuum, without any mention of points, lines, nows and time.[53] The same is the case in his transcription of GR_2, where he does not mention the concrete examples of Aristotle's conclusion.

It seems that there is also a second assumption (A_2GR_2) summoned by Aristotle in order to establish GR_2. This, however, can only indirectly be classified as an assumption, hence I did not include it in the previous section. While still discussing GR_2, Grosseteste notices that "what Aristotle uses in order to prove that there are not indivisibles [quod indivisibilia non sunt] Proclus makes it [*facit* Proclus] his 5th conclusion". Proclus' *EP*, 1.5 reads: "Every continuum is divisible into ever divisibles" and corresponds to Aristotle's passage 231b15-16: "it is plain that everything continuous is divisible into divisibles that are always divisible". What does Grosseteste's phrase "quod indivisibilia non sunt" refer to? Since he hasn't mentioned his GR_3 so far, it is reasonable to suggest that he is still discussing GR_2. It has been proposed already that the repetitive argumentative pattern "facit Proclus conclusionem" refers to these cases where Proclus transforms an Aristotelian assumption into an independent theorem. This was the case with A_1GR_2 and A_1GR_8. Although here he does not use the verb "sumo" or "assumo", it is evident that Aristotle merely uses Proclus' *EP*, 1.5 for the sake of GR_2, in order to show that "there are not indivisibles". The latter must refer to the impossibility of having indivisibles in succession in a continuum, as GR_2 has it. His discussion of GR_2, then, allows Grosseteste to expose Proclus as unthoroughly representing Aristotle's argumentation, since already at this early stage of his *EP* he transforms two Aristotelian assumptions, one explicit (A_1GR_2) and one implicit (A_2GR_2), into individual theorems.

At this point of his account, Grosseteste has only mentioned Proclus' *EP*, 1.3 and *EP*, 1.5, which correspond to Aristotle's two assumptions for GR_2. Immediately after saying that "what Aristotle uses in order to prove that there are not indivisibles Proclus makes it his 5th conclusion", Grosseteste adds that "as a result ["consequenter"], Proclus does not use it in this proof, for it is sufficiently proved".[54] In this passage Grosseteste seems to mean that Proclus does not use *EP*, 1.5 in order to demonstrate "this proof", which, in light of Grosseteste's wording so far, must stand for GR_2. But what is the Proclean equivalent of GR_2? The latter seems to correspond to Proclus' *EP*, 1.4: "Two indivisible things are not in succession". Grosseteste remarks that, since A_2GR_2 is turned into

[52] Aristotle, *Physics*, VI.1, 231b9-10. Simplicius qualifies it as "self-evident" ("πρόδηλον"). See: Simplicius, *In Aristotelis Physicorum libros quattuor priores/posteriores commentaria,* 10.928.16.
[53] Grosseteste, *Commentarius in VIII Libros Physicorum Aristotelis*, 116, l. 11-13: "Ad hanc probandam sumit illam indivisibilium existencium in eodem continuo and inter medium est continuum".
[54] Grosseteste, *Commentarius in VIII Libros Physicorum Aristotelis*, 116, l. 18-20: "Consequenter Proclus non utitur illa in illa probacione, quia sufficienter probatur".

Proclus' *EP*, 1.5, the latter is not and cannot be used by Proclus for the establishment of *EP*, 1.4. Still, Grosseteste rightly and generously admits that Proclus' *EP*, 1.4 is sufficiently proved, for Proclus indeed establishes it by appealing both to the previous theorem and to the definition of things in succession.[55]

Grosseteste's treatment of A_2GR_2 slightly differs from A_1GR_2. After suggesting that Proclus transforms A_2GR_2 into his *EP*, 1.5, which then cannot be used for the sake of Proclus' *EP*, 1.4, he adds that Aristotle has a separate proof for A_2GR_2 ("ponit probacionem separatam"). If A_2GR_2 corresponds to Aristotle's claim that "it is plain that everything continuous is divisible into divisibles that are always divisible", its proof must be the phrase coming immediately after it: "for if it were divisible into indivisibles, we should have an indivisible in contact with an indivisible, since the extremities of things that are continuous with one another are one and are in contact."[56] This separate proof comes immediately after A_2GR_2. Now, since A_2GR_2 has been demonstrated, this suffices for Grosseteste to consider it as an independent conclusion and, more accurately, part of his GR_3. Grosseteste argues that A_2GR_2 is sufficiently proved ("pro conclusione satis potest numerari"), hence it can be included in his GR_3: "Moreover, it is plain that everything continuous is divisible into divisibles that are always divisible; [...] The same reasoning applies equally to magnitude, to time, and to motion: either all of these are composed of indivisibles".[57] GR_3 has no counterpart in Proclus' *EP* and, as we can see, its first part includes the whole A_2GR_2 but obviously omits its demonstration. Here, then, Grosseteste presents Aristotle as demonstrating one of his assumptions (A_2GR_2) and this might explain why, in this specific context, Grosseteste's own attitude towards Proclus is less critical than in other contexts already studied. In other words, Grosseteste seems to tacitly admit that Proclus' transformation of A_2GR_2 into an individual theorem is more legitimate here.

So far, Grosseteste has explicitly correlated A_1GR_2 with *EP*, 1.3 and A_2GR_2 with *EP*, 1.5 and only implicitly GR_2 with *EP*, 1.4. A perfect match between Aristotle, Proclus and Grosseteste appears in the theorem, according to which indivisible things cannot make a continuum. This is the first Aristotelian claim, which corresponds to GR_1 and *EP*,1.2. Although Grosseteste does not explicitly mention the relation between his GR_1 and *EP*, 1.2, still he indirectly refers to *EP*, 1.2, when pointing out that Proclus uses the claim that indivisible things cannot touch each other (this is *EP*, 1.1) in order to show (in *EP*, 1.2) that, therefore, they cannot make up a continuum ("et hec dua indivisibilia se non tangunt qua utitur Aristoteles et Proclus ad probandum quod continuum non est ex indivisibilibus").

But if Aristotle's first claim and GR_2 correspond to *EP*.2, what is the content and *raison d'être* of *EP*, 1.1? The latter reads: "Two partless things will not touch each other". Although Aristotle gives us, at the beginning of *Physics* VI, a definition of the things in

[55] *EP,* 1.4, 4,13-17.
[56] Aristotle, *Physics*, VI.1, 231b16-17.
[57] Aristotle, *Physics*, VI.1, 231b15-16, 18-19.

contact, he does not design a conclusion explicitly stating that two partless things cannot touch each other. However, in *Physics* V he had explained that contiguity is logically prior to continuity. Aristotle explains that all things that are contiguous ("ἁπτόμενον") are necessarily the one after the other ("ἐφεξῆς"), and all things that are continuous are necessarily in contiguity. On the other hand, things that are in succession ("ἐφεξῆς") need not be in contiguity ("τὸ δ' ἐφεξῆς οὐ πᾶν ἅπτεσθαι") and the things that are contiguous are not necessarily continuous ("εἰ δ' ἅπτεται, οὔπω συνεχές· οὐ γὰρ ἀνάγκη ἓν εἶναι αὐτῶν τὰ ἄκρα").[58]

In his introductory section with the definitions, Proclus arranges the latter following the exact order of Aristotle. However, his *EP*, 1.1 does not follow Aristotle's order of the conclusions. In fact, his *EP*, 1.1 ("Two partless things will not touch each other") is absent from Aristotle but logically prior to Aristotle's claim about continuity. Proclus' *EP*, 1.1 is based on Aristotle's second definition, which Aristotle never turns into an individual conclusion. From that perspective, Proclus 'invents' an argument that Aristotle, as it were, omits, thus staying closer to Aristotle's logical order of definitions than Aristotle himself. As we have seen, these definitions depict certain relations between classes of things and these relations have a certain logical order. Aristotle does not fully deploy this order in his conclusions, whereas Proclus aspires to do so. This difference can be better grasped, should we distinguish the actual order of Aristotle's definitions and conclusions from the logical order implied by his definitions. As they stand, the definitions at the beginning of *Physics* VI do not reflect the logical relations explained in *Physics* V. If they were to do so, their order should be the following: (1) contiguous things, (2) continuous things, (3) things in succession.

Judging from Proclus' way of restructuring Aristotle, it seems that Proclus himself silently favored this distinction and prioritized the *logical* order of the definitions. Although, therefore, his section on definitions complies with Aristotle's order, his theorems subscribe to another, logical order. Grosseteste, on the other hand, 'rightly' criticizes Proclus for deviating from the Aristotelian order, because the order he wishes to comply with is the order of Aristotle's *exposition*. Having demonstrated in *EP*, 1.1 that two partless things cannot touch each other, Proclus can now, in his *EP*, 1.2 momentarily align himself with Aristotle, since his *EP*, 1.2 , as we saw, is the same with the first claim of Aristotle and with GR_1. Committed as he is to the logical order of the argumentation, Proclus needed one more step before reaching and articulating Aristotle's claim that indivisible things cannot make a continuum.

Aristotle's conception of the "continuum" presents certain interesting variations, whose appropriation by Proclus and Grosseteste is worth unearthing. In *Physics* V, Aristotle announces that he will define the noun "continuum" ("συνεχές"), which is in singular.[59] Aristotle introduces continuity either as a noun in singular ("συνεχές"),

[58] Aristotle, *Physics*, V.3, 227a18-25.
[59] Aristotle, *Physics*, V.3, 226b20, 227b1.

which results from the composition of two things, or as a relational term in the form of an adjective in plural ("συνεχῆ"). This is evident at the beginning of *Physics* VI, where he refers the reader back to the definition of the "continuum" before ("πρότερον"), in the fifth book, only to proceed to a definition of *continuous* things ("συνεχῆ").[60] The transition is rather smooth, for the implicit assumption is that, in order to ultimately have a continuum, at least two continuous things are needed.[61] If the boundaries of two things are not just in contact but also one, then they actually merge into one continuous thing. The continuity between two things gives rise to the one single continuum. The fact that the continuum consists of at least two continuous things is underlined in Aristotle's conclusion, according to which no continuum can be *made of* partless things, and is repeated by Proclus and Grosseteste. The former refers to the "continuum" both as a noun and as an adjective, but the latter only reproduces it as a noun. A continuum, then, is made; it is, as it were, 'artificially' or derivatively one and the status of continuity is always dependent on the temporal ("ὥς ποτε") continuation of the boundaries' identification. This dependence was already implied by Aristotle, who explains that "continuity belongs to things that naturally in virtue of their mutual contact form a unity" ("τοῖς ποίοις ὑπάρχειν, ἐν τούτοις ἐστι τὸ συνεχές, ἐξ ὧν ἕν τι πέφυκε γίγνεσθαι κατὰ τὴν σύναψιν"). As for their boundaries, they remain one not because of the things themselves, but for as long as "that which holds them together is one, so too will the whole be one" ("τὸ συνέχον ἕν").[62]

5. Division, Omission and Conflation of *conclusiones*

The previous section focused on GR_1, GR_2 and GR_3 and tried to investigate what they reveal about Grosseteste's reception of Aristotle and Proclus. It is mainly after GR_4 that Grosseteste initiates another recurrent argumentative pattern, in the context of which he discusses whether Proclus divides, omits or conflates Aristotle's arguments. GR_4 reads: "If a magnitude is composed of indivisibles, the motion and time are equally composed of indivisibles".[63] According to Grosseteste, Proclus "divides these two propositions into two, which are his 6th and 5th theorem". In fact, though, GR_4 corresponds to Proclus' *EP*, 1.6 and *EP*, 1.7. GR_4 has no direct parallel in Aristotle, for the latter first argues that "if a magnitude is composed of indivisibles, the motion over that magnitude must be composed of indivisibles" (VI.1, 231b21-22), then he demonstrates this claim at length (VI.1, 231b22-232a17) and finally draws an analogy with time, adding that "if length and motion are thus indivisible, it is similarly necessary that time also be indivisible, that is to say be composed of indivisible nows".[64] Aristotle, then, first examines the indivisibility of motion, which is accompanied by a lengthy

[60] Aristotle, *Physics*, VI.1, 231a19.
[61] Lewis, "Robert Grosseteste on the Continuum", 161.
[62] Aristotle, *Physics,* V.3, 227a14-17.
[63] Grosseteste, *Commentarius in VIII Libros Physicorum Aristotelis*, 116, l. 26-117, l.1.
[64] Aristotle, *Physics*, VI.1, 232a17-18.

demonstration, and separately that of time. GR_4, then, merges, as it were, in one single formulation these two Aristotelian arguments. As for Proclus, he does not divide them, strictly speaking, since already for Aristotle they count as two independent claims. By "division" Grosseteste must rightly refer to the fact that Proclus divides their demonstrations. Contrary to Aristotle, who treats only in passing the divisibility of time, Proclus offers us an account of it (in his *EP*, 1.7) that is equally detailed as that concerning the divisibility of motion (in *EP*, 1.6).

After that, in his discussion of GR_5, which corresponds to Aristotle's *Physics* 232a25-27 about the inequality of motion ("de inequalitate motus"), Grosseteste aptly praises Proclus for reasonably ("rationabiliter")[65] dividing it into three propositions (his *EP*, 1.8, 1.9,1.10).[66] Indeed, Proclus dismantles Aristotle's dense claim into three individual successive arguments, which have two intriguing features that Grosseteste does not bring into his account of Proclus' reconstruction. The first is that in *EP*, 1.8 Proclus makes a crucial intervention in the Aristotelian text, introducing a definition of the faster and slower that is absent from it.[67] Second, Grosseteste does not discuss at all another interesting Proclean practice, namely, the introduction of a second or even third demonstration for the same theorem. This practice is not arbitrary, for Proclus spells out these additional demonstrations on the basis of certain recurrent terms in Aristotle's text. In the case of *EP*, 1.10, the text of Proclus' second demonstration corresponds to an Aristotelian passage starting with "moreover" ("ἔτι").[68] The same is the case in the second demonstration of *EP*, 1.2 (corresponding to GR_1) about the impossibility of having a continuum composed of partless things. There too the second demonstration corresponds to an Aristotelian passage introduced with "moreover" (ἔτι).[69]

According to Grosseteste, Proclus not only divides theorems, but in some cases he also conflates them. In his discussion of GR_{15} and GR_{16} Grosseteste rightly suggests, albeit with some reservations ("ut mihi videtur"), that Proclus merges these two conclusions into one single theorem.[70] However, the correspondence between the Aristotelian claims and the Proclean theorems appears somewhat problematic at this point. GR_{14} corresponds to Aristotle's claim that "the time primarily in which that which has changed has changed must be indivisible".[71] GR_{14} corresponds to *EP*, 1.22 and

[65] Here I opt for "rationabiliter" instead of "racionaliter". I thank one of the referees for underlining that the former reading appears in MS Merton 295.
[66] Aristotle, *Physics* 232a25-27: "It necessarily follows that the quicker of two things traverses a greater magnitude in an equal time, an equal magnitude in less time, and a greater magnitude in less time, in conformity with the definition sometimes given of the quicker."
[67] *EP,* 1.8, 8,5-7.
[68] Aristotle, *Physics*, VI.2, 232b14.
[69] Aristotle, *Physics*, VI.1, 231a29.
[70] Grosseteste, *Commentarius in VIII Libros Physicorum Aristotelis*, p. 119, l. 10-11: "In loco illarum duarum proposicionum, ut mihi videtur, non ponit Proclus nisi unam ...".
[71] Aristotle, *Physics*, VI.5, 235b32-33.

not to *EP*, 1.23. The reason why Proclus merges GR_{15} and GR_{16} into his *EP*, 1.23 is that there is a recognizable overlap between these two (GR_{15} and GR_{16}). GR_{15} reads: "But that which has reference to the beginning is not existent at all; for there is no such thing as a beginning of change, nor any primary time at which it was changing".[72] Additionally, GR_{16} is as follows: "It is evident, then, that there is no primary time in which it has changed; for the divisions are infinite."[73] Since the portion of these two claims about the inexistence of any primary time of change is common, Proclus merges them in his *EP*, 1.23, where he shows that "no change has any beginning of change".

Finally, Grosseteste argues that Proclus does not posit ("non ponit") some Aristotelian arguments, namely, GR_{20}, GR_{21}, GR_{24}, GR_{25} and GR_{26}. Concerning the first two of them (GR_{20} and GR_{21}), Grosseteste accurately matches those preceding and following them with the corresponding Proclean theorems. More in particular, GR_{19} perfectly matches with Proclus' *EP*, 1.27 and GR_{22} is equally compatible with *EP*, 1.28 and not *EP*, 1.26, as we read in the edition. Grosseteste then, identifies, GR_{20} and GR_{21} as being in between *EP*, 1. 27 and *EP*, 1. 28, but does not explain why Proclus omits them. In another occasion, namely, the omission of GR_{24} and GR_{25}, Grosseteste justifies Proclus' omission. GR_{24} reads: "coming to a stand must occupy a period of time".[74] This is missing, he says, because this theorem has been demonstrated both in *Physics* V but also earlier, namely, in *EP*, 1.18 ("everything that rests rests in time"). The same justification is offered for Proclus' omission of GR_{25}, since it has already been adequately demonstrated in his *EP*, 1.25, but also for his omission of GR_{26}. In the corresponding Aristotelian passage ("And just as there is no primary time in which that which is in motion is in motion, so too there is no primary time in which that which is coming to a stand is coming to a stand"), Aristotle draws an analogy between the primary time of motion and the primary time of stand.[75] In his own rewriting of the conclusion, Grosseteste justifiably omits the first part about motion, because it has already been discussed earlier and Aristotle repeats it with "ὥσπερ" (just as), only to establish the analogy between motion and stand. Further, Grosseteste once again justifies Proclus, arguing that he similarly does not posit GR_{26} ("et hanc similiter non ponit Proclus") because it has already been adequately demonstrated in his *EP*, 1.27, according to which "everything that has moved has been moving before".[76]

[72] Aristotle, *Physics*, VI.5, 236a13-15.
[73] Aristotle, *Physics*, VI.5, 236a26-27.
[74] Aristotle, *Physics*, VI.8, 238b26-27.
[75] Aristotle, *Physics*, VI.8, 238b36-239a1.
[76] Grosseteste, *Commentarius in VIII Libros Physicorum Aristotelis*, 122, l. 7. See: *EP*, 1.27, 24,8. Translation: Nikulin.

Conclusions

At the beginning of this study I underlined the textual uncertainty surrounding Grosseteste's *Commentary on the Physics,* which was confirmed, for instance, by certain misattributions of Aristotle's conclusions to Proclus' theorems. For all that, even in its present state Grosseteste's reception of *Physics* VI is worthy of our attention. It displays that Grosseteste not only knew and closely studied Proclus' *EP*, but also that he had perfectly grasped its exact nature as an exposition of Aristotle's thought in a rigorous format informed by the geometrical tradition. Notwithstanding the differentiations between Proclus and Grosseteste in terms of style, method and literary genre, Grosseteste's *own* appropriation of the Aristotelian text by means of a technical idiom shapes a project that shares with the Proclean strategy the reading assumption that Aristotle's *Physics* does admit of such a treatment. One might even claim that the inclusion and discussion of the *EP* in Grosseteste's *Commentary* could count, as it were, as a retrospective and implicit approbation of Proclus' decision to 're-write' *Physics* VI in his *EP*, but not necessarily as an approbation of the exact *way* he did so throughout the *EP*. Grosseteste recognizes a certain similarity between his approach and that of Proclus and considers himself entitled, if not 'obliged', to discuss the *EP* in terms of method and order. He does so both on the macro-level, bringing out certain points of criticism, as for example, the proper order of exposition and the illegitimate transformation of assumptions into theorems, but also on the micro-level, examining in detail the establishment and subsequent use of individual propositions. Although he occasionally expresses objections, quite often he praises Proclus and justifies his practice. For him, Proclus somewhat anticipates his very own practice: he has already proposed and applied to Aristotle's *Physics* a somewhat different model of exposing the structure and logical tenets of an authoritative text.

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CORPOREITY, *CORPUS-SUBSTANTIA*, AND *CORPUS-QUANTUM* IN GROSSETESTE'S COMMENTARIES ON THE *PHYSICS* AND *POSTERIOR ANALYTICS*

CORPOREIDAD, *CORPUS-SUBSTANTIA* Y *CORPUS-QUANTUM* EN LOS COMENTARIOS A LA *FÍSICA* Y LA LOS *ANALÍTICOS POSTERIORES* DE GROSSETESTE

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Abstract

In medieval writers we find a distinction between body as a substance – *corpus-substantia* – and body as a quantity – *corpus-quantitas* (or *quantum*). One of the earliest uses of this distinction is in works written by Robert Grosseteste in the 1220s. In this paper I explore his use and understanding of this distinction. I argue that he understands *corpus-substantia* as such as a dimensionless composite of a first corporeal form, corporeity, and prime matter. Corporeity itself is an active power for three dimensions. Through its infinite and necessary self-multiplication corporeity extends the prime matter it informs into three dimensions, thereby resulting in *corpus-quantum*. I explore how Grosseteste's conception of corporeity, though probably based on ideas found in Avicenna, diverges from different understandings of Avicenna's conception of corporeity proposed by medieval and modern commentators.

Keywords

Corporeity; *corpus-substantia*; *corpus-quantum*; Grosseteste; Prime Matter

Resumen

Los escritores medievales distinguen el cuerpo como sustancia (*corpus-substantia*) del cuerpo como cantidad – *corpus-quantitas* (o *quantum*). Uno de los primeros usos de esta distinción lo encontramos en las obras escritas por Roberto Grosseteste en la década de los 20 del siglo XIII. En este artículo exploro el uso y la comprensión de esta distinción por parte de Grosseteste. Propongo que entiende el *corpus-substantia* como tal como un compuesto adimensional de una primera forma corpórea, corporeidad y materia prima. La corporeidad misma es una potencia

activa en tres dimensiones. A través de su infinita y necesaria automultiplicación, la corporeidad extiende la materia prima que informa hacia tres dimensiones, resultando así en *corpus-quantum*. Analizo cómo la concepción de corporeidad de Grosseteste, aunque probablemente basada en ideas de Avicena, difiere de las diferentes interpretaciones de la concepción de corporeidad de Avicena propuestas por comentaristas medievales y modernos.

Palabras clave

Corporeidad; *corpus-substantia*; *corpus-quantum*; Grosseteste; materia prima

Introduction

Asked to describe what a body is, you might say it is something having the three dimensions of length, breadth, and depth. Possibly more is involved; this account might, for example, fail to distinguish a body from a space, if spaces are items distinct from bodies.[1] But it seems that having three dimensions is at least a necessary condition for body. Yet in medieval thinkers we find a notion of body that prescinds, or that might appear to prescind, from possession of dimensions. This is the notion of substance-body (*corpus-substantia*), a notion of body thinkers in the Latin West contrast with what they call quantity-body (*corpus-quantitas* or *quantum*).

One of the earliest thinkers known to employ this distinction was Robert Grosseteste. Grosseteste was bishop of Lincoln from 1235 until his death in 1253. From about 1230 to 1235 he had taught the Oxford Franciscans. The details of his career in the preceding period are a matter of scholarly debate as they are largely

[1] Something Grosseteste did not think; he identifies the space into which one body enters after another leaves as purely imaginary; nothing but a body has threefold dimension and a space is the threefold dimension of a body: "Ex eo autem quod videmus continens manere et contentum vel divisum egredi, et semper est spatium aliquod intra ultimum continentis, nec percipitur spatii differentia cum egreditur unum corpus et postquam ingressum est aliud, videtur spatium esse aliquid superstans intra ultimum continentis, aliud a corpore locato et a magnitudine corporis locati, quod spatium idem videtur manere cum unum corpus exit et aliud ingreditur. Sed tale spatium quod sic imaginatur nihil est. Nihil enim habet trinam dimensionem nisi corpus. Locus tamen semper repletur spatio. Egrediente enim uno corpore quanto, cuius quantitas est spatium contentum, in loco subintrat aliud, sicut contingit esse proximum aliud corpus ab eodem locabile <locale Dales>, et subintrans replet eundem locum alio spatio numero simili priori. Spatium enim hoc nihil est nisi trina corporis dimensio" (*Roberti Grosseteste Episcopi Lincolniensis Commentarius in VIII libros Physicorum Aristotelis*, edited by R. Dales [Boulder, Colorado: University of Colorado Press, 1963], 78). Dales' edition unfortunately is rather unreliable. In quotations from this edition in the present paper I have indicated substantive changes to Dales' text I have made based on inspection of the three manuscripts, followed by Dales' text in angled brackets. I have also made some changes to Dales' punctuation and adopted a classicized orthography.

underdetermined by the available evidence. It is generally thought, however, that he worked at Oxford in the 1220s, although it has been plausibly argued that he was in Paris for at least some of this time.[2] During the 1220s, and perhaps a little before, he was developing what is termed his 'light metaphysics'. By the 'light metaphysics' here I mean in particular Grosseteste's account of the hylomorphic structure of body in terms of a first or prime matter and a first corporeal form, corporeity (*corporeitas*), identified with light (*lux*). The light-metaphysics is presented most fully at the start of Grosseteste's minor masterpiece *De luce*, a work probably written in the early 1220s, and forms the metaphysical basis of his account in *De luce* of the genesis of the cosmos of nested spheres from a single point of light-cum-prime matter.[3]

Grosseteste followed *De luce* with commentaries on Aristotle's *Posterior Analytics* (*In PAn*) and *Physics* (*In Phys*), commentaries now thought to have been written later in the 1220s.[4] Both commentaries have the same format: an exposition of Aristotle's text with the identification of what Grosseteste takes to be its demonstrated conclusions, accompanied by occasional digressions in which Grosseteste presents ideas of his own. *In PAn* is a completed work, whereas *In Phys* is incomplete. A number of digressions in *In Phys* present ideas of the light-metaphysics, including the identification of first form with light.[5] *In PAn* presents the ideas of first form and prime matter, but does not mention the key idea of light as first form or refer to first form as corporeity.[6] It is in

[2] See Joseph Goering, "When and Where did Grosseteste Study Theology?", in *Robert Grosseteste: New Perspectives on his Thought and Scholarship*, edited by J. McEvoy (Steenbrugge and Turnhout: Brepols Publishers, 1995), 17-51.

[3] Robert Grosseteste, *De luce*, edited by C. Panti, "Robert Grosseteste's *De luce*. A Critical Edition", in *Robert Grosseteste and his Intellectual Milieu. New Editions and Studies*, edited by J. Flood, J. Ginther, and J. Goering (Toronto: PIMS, 2013), 193-238.

[4] Robert Grosseteste, *Commentarius in Posteriorum Analyticorum Libros*, edited by P. Rossi (Florence: Leo S. Olschki, 1981); Robert Grosseteste, *Commentarius in VIII libros Physicorum Aristotelis*, ed. Dales. For a recent overview of the dating of Grosseteste's scientific works, see Cecilia Panti, "Robert Grosseteste and Adam of Exeter's Physics of Light", in *Grosseteste and his Intellectual Milieu. New Editions and Studies*, edited by J. Flood, J. Ginther, and J. Goering (Toronto: PIMS, 2013), 164-190, 180-185.

[5] *In Phys* 1 (ed. Dales, 21-22): "Duo principia prima naturalium sunt forma prima corporis et eius privatio. ... A prima enim forma, quae lux est, gignitur omnis forma naturalis, substantialis et accidentalis, et a privatione ipsius omnis privatio".

[6] In addition to the three works mentioned above, the light metaphysics comes up in the short work *De motu corporali et luce* (edited by L. Baur, *Die philosophischen Werke des Robert Grosseteste Bischofs von Lincoln* [Münster i.W.: Aschendorffsche Verlagsbuchhandlung, 1912], 90-92), which Cecilia Panti ("Grosseteste and Adam of Exeter's Physics of Light", 182) has plausibly taken to precede *De luce*; and in *De operationibus solis*, a commentary on *Ecclesiasticus* 43: 1-5 (edited by J. McEvoy, "The Sun as *res* and *signum*: Grosseteste's Commentary on 'Ecclesiasticus' ch. 43, vv. 1-5," *Recherches de théologie ancienne et médiévale* 41 [1974]: 38-91). The dating of this latter work is unclear, but it may be the last of Grosseteste's works to refer to the light metaphysics. While his *Hexaemeron*, written in the 1230s, makes frequent mention of light, it does not present the distinctive ideas of the light metaphysics mentioned above.

these two commentaries that Grosseteste employs the distinction between *corpus-substantia* and *corpus-quantitas/quantum*.

The influences on Grosseteste's light metaphysics have received little detailed scholarly attention, perhaps due to a lack of explicit references and to the relative brevity of Grosseteste's remarks. This brevity also makes it difficult to determine in detail precisely what metaphysical assumptions may underlie his remarks. Even so, the most important influence on Grosseteste's views on the fundamental metaphysical makeup of bodies was probably Avicenna. Though it is well known that Grosseteste was also one of the first authors in the early thirteenth-century Latin West to use the works of Averroes, this use seems to postdate *De luce* and the two commentaries, in all of which it is hard to spot influence from Averroes.[7]

In this paper I will be concerned to arrive at an understanding of Grosseteste's use of the distinction between *corpus-substantia* and *corpus-quantitas*. I will argue that his understanding of this distinction, and solution to a puzzle it poses, is based on his own original conception of the first corporeal form, *corporeitas*. Though this conception probably derived from reflection on Avicenna's treatment of corporeity in the *Liber de philosophia prima*, it diverges from Avicenna's view in important respects. Indeed, Grosseteste's conception of corporeity can be seen as occupying a middle ground between two differing conceptions of corporeity scholars have attributed to Avicenna. Thus, according to one interpretation of Avicenna, corporeity is a disposition or aptitude for prime matter to receive three dimensions, but it is not be equated with three-dimensions themselves. According to another interpretation, recently defended

[7] I mean here the whole of *In PAn* and the continuous commentary in *In Phys*. At the end of the incomplete commentary on book 8, *In Phys* also contains a work that circulated separately as a treatise *De finitate motus et temporis* and that cites Averroes' commentary on the *Physics*, and one of the three manuscripts also contains a note referring to Averroes' commentary on the *Physics* at the end of the brief commentary on book 7. In my opinion these are later additions included with Grosseteste's incomplete commentary. However, in the continuous commentary on book 1 of the *Physics* (ed. Dales, 16-17) I think we can perhaps discern the influence of Averroes' great commentary on *Metaphysics* lambda (*Aristotelis opera cum Averrois commentariis* VIII, Venice 1562; repr. Frankfurt a.M.: Minerva, 1962, fol. 304rb-vb) on a brief discussion of substantial generation and the idea of the *latitatio* (hiddenness) of forms. Both the term 'latitatio' used by Grosseteste and classification of opinions on the nature of substantial generation in terms of a *dator formarum*, *latitatio*, or a movement from potential to actuality, are also found in the Latin text of Averroes, to whom later writers attribute this classification (see, for example, Thomas of York, *Sapientiale* 2. 26, edited by C. Grassi in *The Doctrine of Creation in the* Sapientiale *of Thomas of York*, 3 vols. [PhD dissertation, University of Toronto, 1952], II. 356-357). According to Roland de Vaux ("La première entrée d'Averroës chez les latins", *Revue des Sciences philosophiques et théologiques* 22 [1933]: 193-224, 220) Averroes' commentary on book lambda circulated in some manuscripts on its own, which might explain why we find only this influence from Averroes' commentary on the *Metaphysics* in *In Phys*. Besides Avicenna, another possible influence on Grosseteste's conception of body is Avicebron, who speaks of a first form and first matter in the *Fons vitae*. I don't have the space here to enter into discussion of Avicebron's influence, but his universal hylomorphism and positing of a form of substantiality prior to corporeity are not found in Grosseteste.

by Andreas Lammer, corporeity just is three-dimensions, albeit indeterminate or unbounded dimensions. By contrast, Grosseteste adopts a conception of corporeity according to which it is neither an aptitude for the reception of three dimensions, nor determinate or indeterminate three dimensions. Rather, it is or is the basis of an *active* power for three dimensions. Grosseteste would seem to equate substance-body with the composite of prime matter and corporeity so conceived, and, I will suggest, would seem to treat this composite as in itself dimensionless. Quantity-body, by contrast, is a result of the infinite replication of substance-body, being either three dimensions themselves or substance-body as it is under three dimensions. This infinite replication, which is due to the first form, corporeity, plays a key role in tackling a puzzle about substance-body and quantity that Grosseteste raises in his treatment of *In Phys* 1. And in his response to this puzzle, I will suggest, Grosseteste ends up with a distinction that may parallel that between unbounded and bounded dimensions, namely the distinction between infinitely replicated substance-body and corporeal dimensions introduced by infinitely replicated substance-body.

Before I consider Grosseteste's use of the distinction between substance-body and quantity-body, I will briefly consider two differing ways to understand Avicenna's treatment of body and corporeity, the first corporeal form, and then Grosseteste's conception of corporeity.

Corporeity in Avicenna

Avicenna treats body primarily in treatise 2.2-3 of his *Liber de philosophia prima*.[8] Speaking of body in general, he holds that it is a composite of form and matter:

> A body is a substance composed of something through which it has potentiality, and of something through which it has actuality (*effectum*). That through which it has actuality is its form, while that through which it has potentiality is its matter, and this is hyle.[9]

By 'hyle' Avicenna means prime matter, matter that in itself is pure potentiality entirely devoid of form. In particular, prime matter in itself does not have dimensions or magnitude. Prime matter cannot exist on its own but must always be informed by

[8] Avicenna, *Liber de philosophia prima sive scientia divina*, edited by S. Van Riet, 3 vols. (Louvain: Peeters, Leiden: Brill, 1977). See also *Liber primus naturalium, tractatus primus de causis et principiis naturalium*, 2, edited by S. Van Riet (Louvain: Peeters, Leiden: Brill,, 1992).

[9] *Liber de philosophia prima* 2.2 (I, 77): "Corpus igitur est substantia composita ex quodam per quod habet potentiam, et ex quodam per quod habet effectum. Id autem per quod habet effectum est forma eius, per quod vero habet potentiam est materia eius, et hoc est hyle". All translations in this paper are my own unless otherwise indicated.

form, and a material form cannot exist on its own, but must always exist in prime matter.[10]

Avicenna describes a body as

> a substance in which dimension can be posited in whatever manner you wish to begin, and that from which you first begin will be length; then another dimension can be posited cutting it at right angles, and that will be breadth; and once again, a third dimension can be posited intersecting those at a right angle in the same place of cutting.[11]

The form that gives actual being to matter so as to give rise to body is corporeity (*corporeitas*). Avicenna describes corporeity as "the true form of continuity receiving what we said about the positing of three dimensions, and this intention is outside measure and outside mathematical corporeity".[12] Avicenna takes corporeity to be a substantial form, and like prime matter, too, and the composite of prime matter and corporeity, he describes it as a substance, in the sense of substance as that which does not exist in a subject, i.e, in something "already existing through itself in its own specificity (*specialitate*)".[13]

Avicenna's remarks on corporeity are far from clear and admit of differing interpretations. To start with, his description above of a body as a substance in which dimension can be posited may suggest that corporeity is a predisposition or potential to receive dimensions. But a predisposition to receive something is not the same as what is received, and so it would seem on this view that the form corporeity is to be distinguished from dimensions and would exist in prime matter (naturally) prior to dimensions. In fact, that Avicenna takes corporeity to be prior to dimensions is a point implied by Grosseteste's near contemporary, Richard Rufus of Cornwall, writing in the late 1230s. Basing himself on Averroes' criticisms in *De substantia orbis* of Avicenna's treatment of body, Rufus holds that

[10] *Liber de philosophia prima* 2.4 (I, 92): "[M]ateria corporalis non habet esse in effectu nisi per essentiam formae, et etiam... forma materialis non habet esse separata a materia. Igitur necesse est ut inter illa sit habitudo relationis, ita ut non intelligatur quidditas cuiusque earum nisi praedicata respectu alterius".

[11] *Liber de philosophia prima*, 2.2 (I, 71-72): "[C]orpus est substantia in qua potest poni dimensio quocumque modo volueris incipere, et illa a qua primum inceperis erit longitudo; deinde potest poni alia dimensio secans illam secundum rectos angulos, et illa erit latitudo; et iterum potest poni tertia dimensio intersecans illas orthogonaliter in eodem loco sectionis".

[12] *Liber de philosophia prima*, 2.2 (I, 73): "Corporeitas igitur vera est forma continuitatis recipiens id quod diximus de positione trium dimensionum, et haec intentio est extra mensuram et extra corporeitatem disciplinalem".

[13] *Liber de philosophia prima*, 2.1 (I, 67): "Subiectum enim intelligitur id quod iam est in sua specialitate existens per se". Note that substantial form's existing in prime matter is not existence in a subject in this sense of 'subject', since prime matter is not something existing through itself in its own specificity.

> Avicenna erred, saying that substantial form must first exist in matter before any dimension at all. For he did not know how to distinguish between bounded and unbounded dimension, and there is a distinction, and there is not the same judgement about them.[14]

Both Rufus and Averroes see a distinction between bounded and unbounded dimensions as key to a correct account of body. They think that unbounded dimensions are in a body prior to any substantial form, though not bounded ones. Because, they thought, Avicenna lacked this distinction he simply took substantial form to be in prime matter prior to dimensions in any sense. But their understanding of Avicenna is not obviously correct. In fact, another way to read Avicenna is as in effect treating corporeity as what Averroes calls unbounded dimensions. Understood in this way, Avicenna's remark that a body is that in which dimensions can be posited would be a way of making the point that a body is something having unbounded dimensions capable of being bounded, and corporeity just is unbounded dimensions. Bounded dimensions would be what Avicenna refers to above as measured and mathematical corporeity.

These two ways of reading Avicenna are akin to two different approaches students of the Arabic Avicenna have taken in the modern literature. Thus, some scholars have taken Avicenna's reference to the possibility of dimension being posited, as the Latin text puts it, to mean that corporeity is a predisposition to receive three dimensions, and thus not three dimensions themselves, and that body in an absolute sense just is prime matter plus this predisposition.[15]

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[14] Richard Rufus of Cornwall, *Scriptum in Aristotelis Metaphysicam Redactio brevior*, 11.6.Q4B, edited by R. Wood, N. Lewis, and J. Ottman: https://rrp.stanford.edu/SMet11rb.shtml, accessed June 12, 2023): "Avicenna erravit dicens quod necesse est primo formam substantialem exsistere in materia ante dimensionem omnino. Nescivit enim distinguere inter dimensionem terminatam et non-terminatam, et est distinctio, et non est idem iudicium de his". For the dating of Rufus' *Scriptum* to 1237-1238, see *Richard Rufus of Cornwall: Scriptum in Metaphysicam Aristotelis: Alpha to Epsilon*, edited by R. Wood, N. Lewis, and J. Ottman (Oxford: Oxford University Press, 2022), 61-62. See also Averroes, *De substantia orbis* 1 (*Aristotelis opera cum Averrois commentariis* IX, Venice 1562; repr. Frankfurt a.M.: Minerva, 1962, fol. 4vb): "Unde putavit Avicenna quod dispositio trium dimensionum exsistentium in materia simpliciter, scilicet non-terminatarum, est dispositio dimensionum terminatarum in ea, quapropter dixit: necesse est formam primam exsistere in prima materia antequam dimensiones exsistant in ea. Ex quo accidunt ei multa impossibilia".

[15] See Harry A. Wolfson, *Cresca's Critique of Aristotle* (Cambridge, Mass.: Harvard University Press, 1929), 101; Arthur Hyman, "Aristotle's First Matter and Avicenna's and Averroes' Corporeal Form", in *Essays in Medieval Jewish and Islamic Philosophy: Studies from the Publications of the American Academy for Jewish Research*, edited by A. Hyman (New York: Ktav Publishing House, 1977), 335-356, 353: "The 'corporeal form' ... is a form having a predisposition for receiving the three dimensions – but a *form* which differs from the dimensions themselves" (emphasis in original); Abraham Stone, "Simplicius and Avicenna on the Essential Corporeity of Material Substance", in *Aspects of Avicenna*, edited by R. Wisnovsky (Princeton, N.J.: Princeton University Press, 2001), 73-

Given that prime matter in itself lacks dimensions, this conception of corporeity leads to the conclusion that the composite of prime matter and corporeity *as such* is dimensionless, since prime matter's being informed by a predisposition to *receive* dimensions is not the same as its actually *having* dimensions.

By contrast, Andreas Lammer has recently argued that Avicenna takes corporeity to be indeterminate three dimensions. Or, at least, this is how he occasionally puts it. More often in his treatment of this issue, he speaks of corporeity as indeterminate extension. I raise this point because when we look to Grosseteste's comments on substance-body in *In Phys* it is plausible to think that he in fact did wish to distinguish the notions of magnitude and extension from that of dimension. Even so, bearing this caveat in mind, for the present I shall continue to speak of indeterminate or unbounded dimensions.

Indeterminate or unbounded dimensions, or extension, are to be distinguished from determinate or bounded dimensions. That is, as Lammer puts it,

> far from being unextended and from providing a mere predisposition for the assumption of three dimensions, body as such – i.e., the absolute body being the common concept of body that is shared by all particular bodies – is indeterminately extended: it is extended but (i) without having concrete measures and (ii) without even having length, breadth, and depth already identified as dimensions in it.[16]

Lammer holds that commentators such as Hyman proposing the former interpretation have incorrectly interpreted Avicenna's remark that body is that in which dimensions can be assumed ('poni' in the Latin translation). Speaking of the Arabic text, he argues that 'faraḍa' (the verb corresponding to the Latin 'ponere') is being used to mean to assume in the sense of a psychological operation. The sense is that dimensions can be assumed or considered in that which is a body, not that they can be placed in or received by that which is a body. The Latin translation 'potest poni', we may note, is ambiguous between these two senses.[17] According to Lammer, Avicenna is speaking of *determinate* or bounded dimensions when he defines body, and means that a body is that in which we can assume or consider determinate three dimensions. That in which we can consider determinate dimensions is a substance indeterminately

130, 101. Andreas Lammer clearly summarizes such interpretations of Avicenna in *The Elements of Avicenna's Physics: Greek Sources and Arabic Innovations* (Berlin: De Gruyter, 2018), 122-125.

[16] Lammer, *Avicenna's Physics*, 129.

[17] The second conception of body as what can receive three dimensions is suggested, we may note, by Algazel's account of body in the *Metaphysica*, 1.1.1 (edited by J. T. Muckle (Toronto: The Institute of Mediaeval Studies, 1933), 9), which aims to expound Avicenna's views and expressly describes a body as being such due not to actual possession of dimensions, but to its having an aptitude to receive three dimensions: "Corpus enim non est corpus propter longitudinem, et latitudinem et spissitudinem que sunt in eo in effectu, sed propter aptitudinem recipiendi tres dimensiones, scilicet, longitudinem, latitudinem, et spissitudinem".

extended in three dimensions, that is, the composite of prime matter and indeterminate three dimensions or extension, i.e., corporeity.

Lammer notes that on this interpretation Averroes, (though, we may note, without realizing it), basically agrees with Avicenna that what is first in prime matter are indeterminate dimensions. Even so, the two authors disagree over the categorial status of indeterminate dimensions. According to Averroes, they are an accident rather than a substantial form. Avicenna, by contrast, according to this interpretation takes them to be the substantial form of body, and to naturally precede accidents. Lammer notes how this conception of corporeity as indeterminate dimensions makes good sense of Avicenna's references to *corporeitas* as a form of continuity.[18]

Both interpretations of Avicenna's notion of corporeity take *determinate* or bounded dimensions to be an accident in the category of quantity. Quantity requires measure – a measure of 'how much' – and this is only the case with bounded dimensions. As Algazel remarks in his resume of Avicenna's teaching, "quantity is an accident that accrues *on account of the measuring* of substance".[19]

Now, I'm not concerned here to adjudicate between these interpretations of Avicenna. Even so, they provide a context for understanding what is distinctive about Grosseteste's conception of corporeity.

Corporeity in Grosseteste

Grosseteste takes up the hylomorphic composition of body at the start of *De luce*, though he returns to this issue briefly also in *In Phys* and in *De operationibus solis*.

Referring to unnamed authors, at the start of *De luce* Grosseteste introduces the idea of the first corporeal form, "which others call *corporeitas*". Like Avicenna, he describes both *corporeitas* and matter[20] – meaning by matter prime matter – as substances. And

[18] Lammer, *Avicenna's Physics*, 136: "[B]ody as such is nothing other than something which is essentially continuous in three dimensions. Corporeality means three-dimensional continuity, and continuity amounts to actual extension and potential divisibility, but it does not amount to concrete dimensions or any determinate extensionality".

[19] *Metaphysica* 1.1.4 (19): "[Q]uantitas est accidens quod accidit propter mensuracionem substancie".

[20] Regarding the evolution of Grosseteste's views on corporeity, see Cecilia Panti, "The Evolution of the Idea of Corporeity in Robert Grosseteste's Writings", in *Robert Grosseteste: His Thought and Its Impact*, edited by J. P. Cunningham (Toronto: PIMS, 2012), 111-139. Regarding Grosseteste's views on matter, see Nicola Polloni, "Early Robert Grosseteste on Matter", *Notes and Records: The Royal Society Journal of the History of Science*, 75 (2021): 97-114; and Cecilia Panti, "Matter and Infinity in Robert Grosseteste's *De luce* and Notes on the *Physics*", in *Materia. Nouvelles perspectives de recherche dans la pensée et la culture médiévales (XII^{e}-XVI^{e} siècles)*, edited by T. Suarez-Nani and A. Paravicini Baliani (Florence: Sismel - Edizioni del Galluzzo, 2017), 27-55.

like Avicenna too, he holds that corporeity cannot leave matter, nor the converse, since form cannot exist in separation from matter, nor can matter be devoid of form.

Grosseteste expressly holds that both corporeity and prime matter are entirely simple and without dimensions. It is interesting that he sees fit to implicitly distinguish simplicity and lack of dimensions; I don't think they are intended to be synonymous. I believe that by 'simple' here Grosseteste means lacking integral parts. Later, in text I will consider in *In Phys*, Grosseteste seems to closely relate possession of parts with magnitude. So we may hypothesize that he is making a distinction between having dimensions and having magnitude, and making the point that first form and prime matter have neither.[21]

Given that both prime matter and corporeity are simple and dimensionless, Grosseteste faced the puzzle of explaining how corporeity could give rise to actual dimensions. A similar puzzle, albeit minus reference to corporeity, had already been raised in the early years of the thirteenth-century by Alexander Nequam. He wonders how two simples, matter and form, can give rise to a non-simple:

> [A]ccording to some, since hyle is simple, and likewise the form associated with it is simple, the substance [they comprise] must itself be simple, since it consists of two simples, namely matter and substantial form. Indeed, it seems that nothing can consist of simples of this sort, as we see in the case of points. ... Is all wood then simple according to the metaphysician?[22]

For Grosseteste, the puzzle in particular is how simple and dimensionless prime matter and first form, corporeity, can give rise to an extended and dimensioned body. Grosseteste's solution appeals to his view that the infinite multiplication of a simple can give rise to a finite quantum, though the finite multiplication of a simple cannot.[23]

[21] Other thinkers do posit parts in prime matter itself, prior to form. Thus from at least the 1240s we find treatments of prime matter according to which as it is in itself it has parts, but not parts outside of parts. Form plays the function of making parts be outside one another, and thus gives rise to extension, which is to have parts outside of parts. The earliest reference to such a view of which I have knowledge is by Richard Fishacre in the 1240s (see *In secundum librum Sententiarum* Part 1, edited by R. J. Long (München: Verlag der Bayerischen Akademie der Wissenschaften, 2008), 40-42). In *Metaphysical Themes 1274-1671* (Oxford: Clarendon Press, 2011), 57-60, Robert Pasnau discusses theories of prime matter of this sort, which he describes as "extensionless parts" theories.

[22] Alexander Nequam, *Speculum speculationum*, 3. 78, edited by R. M. Thomson (Oxford: Oxford University Press, 1988), 339: "Cum autem secundum quosdam yle sit simplex, similiter et usiosis ei associata sit simplex, oportet ipsam usiam esse simplicem, cum constet ex duobus simplicibus, materia scilicet et forma substantiali. Immo, ex huiusmodi simplicibus uidetur nichil posse constare, sicut est uidere in punctis. ... Numquid ergo omne lignum secundum metaphisicum est simplex?"

[23] *De luce* (228): "[S]implex finities replicatum quantum non generat ... infinities vero multiplicatum necesse est quantum finitum generare, quia productum ex infinita multiplicatione alicuius in infinitum excedit illud ex cuius multiplicatione producitur".

Corporeity is a necessarily and infinitely self-multiplying simple form, and by its necessary infinite self-multiplication in all directions the prime matter it inseparably informs is multiplied and extended into finite dimensions:

> Corporeity is that to which the extension of matter in three dimensions is necessarily subsequent ... But a form that is in itself simple and lacking dimension could only introduce omnidirectional dimension into matter that is equally simple and without dimension by multiplying itself and instantaneously spreading itself in every direction and by extending matter in spreading itself.[24]

This extending of matter, as Grosseteste indicates, is not a temporal process. Corporeity *instantaneously* and necessarily infinitely self-multiplies. So there never does or can exist the composite of prime matter and corporeity without there being a body extended in three dimensions.[25] Even so, the composite and its component form and matter are themselves naturally prior to extension and actual dimensions, and each of these three is *in itself* without extension or dimensions. That is, if we consider the form-matter composite (naturally) prior to form's infinite self multiplication, that composite lacks extension and dimensions.

Because light (*lux*) has the property of instantaneous and necessary infinite self-multiplication in all directions, Grosseteste concludes in *De luce* that corporeity is light, expressly treating corporeity, and thus light, as a substantial form. This identification of corporeity with light is one of the most original features of *De luce*'s account of body, but it should not blind us to another original and more fundamental implication of this account: a conception of corporeity as being or having an *active* power for three dimensions. This conception of corporeity in terms of active power is suggested in *De luce* by Grosseteste's description of corporeity as that to which the extension of matter

[24] *De luce* (226): "Corporeitas vero est quam de necessitate consequitur extensio materie secundum tres dimensiones, cum tamen utraque, corporeitas scilicet et materia, sit substantia in se ipsa simplex carens omni dimensione. Formam vero, in se ipsam simplicem et dimensione carentem, in materiam similiter simpliciter et dimensionem carentem dimensionem in omnem partem inducere fuit impossibile, nisi seipsam multiplicando et in omnem partem subito se diffundendo et in sui diffusione materiam extendendo, cum non possit ipsa forma materiam relinquere quia non est separabilis, nec potest ipsa materia a forma evacuari". I employ here and below my translation, "Robert Grosseteste's *On Light*, An English Translation", in *Robert Grosseteste and his Intellectual Milieu. New Editions and Studies*, edited by J. Flood, J. Ginther, and J. Goering (Toronto: PIMS, 2013), 239-247.

[25] In fact, in *De luce* (231) Grosseteste holds that the 'initial' product of this infinite multiplication is an extended body comprised simply of prime matter and corporeity. He calls this body the first body and identifies it with the firmament. This body seems to be a kind of generic individual. Other kinds of bodies do involve more specific forms, and Grosseteste appears to endorse a version of the view that ordinary bodies are comprised in some manner of a number of substantial forms, speaking in *In Phys* 1 of the substantial form igneity being added to that of corporeity ("Et etiam hoc posito, si super corporeitatem addatur alicui alia forma substantialis – utpote igneitas" [ed. Dales, 15]).

in three dimensions is necessarily subsequent (*consequitur*). It might be thought that by this description Grosseteste means that extension in three dimensions simply is corporeity, the subsequence in question simply being conceptual in nature, as, for example, having three inner angles is necessarily subsequent to being triangular. But I do not think that Grosseteste means this. 'Subsequent' can also have the sense of being the result of something, and I believe his remarks are more plausibly read to mean that three dimensions result from corporeity but are not to be identified with it. For Grosseteste immediately proceeds to give an account of how dimensions are given to matter by the infinite multiplication of corporeity or light. No such account would be needed if corporeity just were three dimensions: to have corporeity would as such be the possession of three dimensions. But for Grosseteste such an account is needed, and it is provided by the fact that corporeity is or has an active power to multiply itself and in so doing to give dimensions to the matter it informs

Moreover, Grosseteste more explicitly proposes a conception of first form in terms of active power in *In Phys* 3 and, particularly explicitly, in *De operationibus solis*. In the former, contrasting first form with prime matter, he writes that:

> Things having sensible extension and magnitude would not come to be from simple matter except through the infinite replication of matter over itself, and this replicability of matter is a passive power. … In sensible things there is also the active infinite replicability of form, just as there is a passive replicability from the part of matter. For form, namely light, infinitely replicates and multiplies itself, so as to extend itself into dimensions and at the same time seize matter along with itself.[26]

And in *De operationibus solis* Grosseteste writes that

> the first light, which is multiplicative and extensive of itself into corporeal dimensions, is corporeity, because corporeity is the active power of threefold dimension.[27]

—that is, is actively productive of threefold dimension.

These remarks indicate that Grosseteste wished to distinguish corporeity itself from possession of three dimensions: three-dimensions are the *product* of corporeity's

[26] *In Phys* 3 (55-56): "De simplici namque <autem Dales> materia non fierent res habentes extensionem et magnitudinem sensibilem, nisi per materiae infinitam super se replicationem, et ista replicabilitas materiae potentia passiva est. … In sensibilibus etiam est replicabilitas activa formae in infinitum, sicut ex parte materiae est replicabilitas passiva. Forma enim, ut lux, replicat se et multiplicat infinities, ut se extendat in dimensiones et simul secum rapiat materiam. Et haec replicabilitas formae infinita, quia activa est, bene <unde, Dales> ponitur numerus impar infinitus; impari enim per se accidit indivisibilitas et potentia activa".

[27] *De operationibus solis* (63): "Lux enim prima secundum se sui multiplicativa et extensiva in dimensiones corporeitas est, quia corporeitas est potentia activa triplicis dimensionis". We may note a subtle shift from *De luce* in *In Phys* and *De operationibus*: in *De luce* light is said to extend matter, but not itself; in the latter two works light is also said to extend itself into dimensions.

self-multiplication, but not the form corporeity itself, which instead is or has the active power to give rise to three dimensions through its self-multiplication.

This conception of corporeity as being or having an active power for three dimensions is a novel and central feature of Grosseteste's account. The interpretations of Avicenna mentioned above do not treat corporeity in this way. The treatment of it as a predisposition for receiving three dimensions instead treats it as being a passive or receptive power, or the basis of such a power, and throws no light on how dimensions in fact are received. And the conception of corporeity as unbounded dimensions (or extension) treats it as neither an active nor a passive power.

There is no indication that Grosseteste distinguished bounded and unbounded dimensions in *De luce* or his two commentaries. Possibly, as I will suggest toward the end of this paper, he ended up employing a distinction with structural parallels to this distinction as a result of considering a puzzle about substance-body in *In Phys*. But he nonetheless shows no awareness of the distinction itself between bounded and unbounded dimensions, and there is no reason to think he would have read Avicenna as working with such a distinction.

More likely he would have understood Avicenna, as Rufus and Averroes do, as positing substantial form, that is, corporeity, in prime matter naturally prior to dimensions at all. But if he did so, he did not adopt a conception of corporeity as a predisposition or aptitude to receive dimensions, as we have seen some commentators on Avicenna do. Indeed, such an account raises philosophical problems. To start with, in the hylomorphic compound of prime matter and corporeity, corporeity is intended to provide a key part of the explanation of how there exist substances extended in three dimensions. But if corporeity is just a capacity or predisposition to receive dimensions, it plays a rather attenuated role. We would still need an account of how it is that this receptive capacity gets exercised so that three dimensions are received, presumably in terms of some external agent bestowing dimensions. Second, it is not clear why the receptive capacity to receive dimensions would be equated with a substantial form or a capacity it has, rather than with a capacity prime matter itself has, since prime matter was typically taken to have receptive potential.

These concerns are obviated by Grosseteste's account. For him corporeity is not a receptive or passive power, and corporeity, though not itself three dimensions, by its very nature of being infinitely self-multiplying necessarily and instantaneously gives rise to dimensions.

So possibly Grosseteste may have arrived at his distinctive conception of corporeity as an infinitely self-multiplying or replicating form to address problems in treating it as a potential to receive dimensions.

It is against this metaphysical background, I believe, that we should approach Grosseteste's understanding of the distinction between *corpus substantia* and *corpus quantitas/quantum*. I now turn to this distinction

Corpus substantia and *corpus quantitas*

An Early Use of the Distinction and Its Relation to Avicenna

The earliest mention of the distinction between *corpus substantia* and *corpus quantitas* I have found is in a treatment of the category of quantity in a logic text. This text, the *Dialectica Monacensis*, is thought by its editor L. M. De Rijk to have been written in England.[28] The dating of this text is controversial, ranging from 1170 to 1220,[29] but all datings that have been given would have it precede the works by Grosseteste considered above.

After noting that quantity is divided into continuous and discrete quantity, and that body is a kind of continuous quantity, the author writes:

> Body is a quantity measuring in respect of long, broad, and deep. However, substance-body differs from quantity-body, since substance-body is that which is measured in respect of length, breadth, and depth, whereas quantity-body is that which measures in respect of these three. And the three quantities just mentioned are internal to the thing that they measure.[30]

The relevance of distinguishing two notions of body in a treatment of the *Categories* is because in the *Categories* Aristotle speaks of body both as a substance and as a quantity,[31] and our author appears concerned to mark this ambiguity in what Aristotle says. The author does not expound exactly what he means in this passage, though it is notable that he speaks of quantity-body as what measures, equating the idea of quantity with that of a measure.

No doubt the distinction between *corpus substantia* and *corpus quantitas* was already in use before the *Dialectica Monacensis*. Abelard, for example, had already made a distinction between what he calls *corpus quantitativum* and *corpus substantiale* in his treatment of the *Categories*,[32] and we may suppose that the distinction found in the

[28] *Dialectica Monacensis*, edited by L. M. De Rijk, *Logica Modernorum* 2 vols. (Assen: Van Gorcum 1967), II.i, 459- 638.

[29] See Sten Ebbesen, "Early Supposition Theory II", *Vivarium* 51 (2013): 60-78, 71.

[30] *Dialectica Monacensis* (518): "Corpus vero est quantitas mensurans in longum, latum, et spissum. Differt autem corpus substantia a corpore quantitate, quoniam corpus substantia est id quod mensuratur secundum longitudinem, latitudinem, et spissitudinem. Corpus vero quantitas est id quod mensurat secundum hec tria. Et iam dicte tres quantitates intranee sunt ad rem quam mensurant".

[31] See e.g. *Categories* 5.2b1-3, 6.4b22.

[32] Peter Abelard, *Glossae super Praedicamenta Aristotelis*, in *Logica 'ingredientibus' II*, edited by B. Geyer (Münster i.W: Verlag der Aschendorffschen Verlagsbuchhandlung, 1921), 111-305, 189: "Sicut enim totum corpus suum habet locum sese terminantem et quodammodo ambientem, ita etiam superficies uel linea uel punctum et cum corpus quantitatiuum uel quaelibet pars eius substantiale corpus tantum terminent et mensurent, ipsa iterum quae mensurant substantialia corpora, locis terminantur et mensurantur et in ipsis tantum proprie et loca sunt nec nisi per ea substantiis subiectis insunt".

Dialectica Monacensis derived from reflection on the *Categories* among twelfth or early thirteenth-century writers on logic. The distinction continued to be employed in logic texts, notably on the *Categories*. In his commentary on the *Categories*, written at some point in the period 1237-1245,[33] Robert Kilwardby, for example, writes that

> Body is said equivocally in [the categories of] substance and quantity. In quantity it means threefold dimension itself, namely quantity-body; in substance, that which determines for itself threefold dimension, namely substance-body.[34]

Although the chief concern of the logic texts was not the metaphysical nature of substance-body versus quantity-body, it was inevitable that writers would relate this distinction to metaphysical treatments of body of the sort we have noted in Avicenna. And indeed, in a list of chapters to Avicenna's *Liber de philosophia prima* in a late thirteenth-century manuscript owned by Godfrey of Fontaines, treatise 2.2 is described as proposing "what substance-body is and how three dimensions have existence in it".[35] Avicenna's definition of body as that in which three dimensions can be posited is also echoed in the presentation by Walter Burley (ca. 1275-1344) of the distinction of substance-body and quantity-body, where he writes that "body in the genus of substance is a substance in which three dimensions can be posited; quantity-body is composed of dimensions".[36] Indeed, Kilwardby too also echoes Avicenna's text: "quantity-body differs from substance-body, because substance-body denominates the potential to receive threefold dimension; quantity-body is threefold dimension itself".[37]

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[33] See José Filipe Silva, "Robert Kilwardby", *The Stanford Encyclopedia of Philosophy* (Fall 2021 Edition), edited by E. Zalta: https://plato.stanford.edu/archives/fall2021/entries/robert-kilwardby/.

[34] Robert Kilwardby, *Notula super librum Praedicamentorum*, edited by A. D. Conti, https://web.archive.org/web/20150420120810/http://www-static.cc.univaq.it/diri/lettere/docenti/conti/Allegati/Kilwardby_praedicamenta.pdf; accessed June 12, 2023), 17: "Dicitur enim "corpus" aequivoce in substantia et quantitate: in quantitate enim dicitur ipsa trina dimensio, scilicet corpus quantitas; in substantia enim id quod determinat sibi trinam dimensionem, scilicet corpus substantia".

[35] See *Liber de philosophia prima*, Annexe, 93*.

[36] Walter Burley, *Super librum Praedicamentorum*: "[C]orpus est relatum ad corpus substantiam et ad corpus quantitatem. Et adhuc corpus substantia est relatum, quia uno modo est genus et alio modo est altera pars compositi distincti [...] corpus in genere substantiae est substantia in qua possunt poni tres dimensiones. Corpus quantitas est compositum ex dimensionibus. Unde corpus est in genere substantiae, est proprie subjectum corporis in genere quantitatis" (quoted in Alice Lamy, "Les propriétés quantitatives du corps dans le *Traité des formes* (*pars posterior*) de Gautier Burley", *Cahiers de recherches médiévales et humanistes* 22 [2011]: 511-535, note 46).

[37] *Notula* (57): "Differt autem corpus quantitas a corpore substantia, quia corpus substantia denominat potentiam recipiendi trinam dimensionem, corpus quantitas est ipsa trina dimensio". The identification of quantity-body with threefold dimension is also made by Richard Rufus of Cornwall, *Lectura Parisiensis in Sent.* 2, d. 30, q. 6 (ca 1253-1255): "Est autem corpus-substantia et corpus-quantitas; corpus-quantitas accidens est et est ipsa trina dimensio; corpus-substantia aggregatum ex materia et forma, et istud est subiectum corporis-quantitatis" (quoted in G. Gál,

Thus, even if the distinction between substance and quantity-body had originated in logic texts as a way to disambiguate remarks by Aristotle in the *Categories*, it is also employed in treatments of the metaphysics of body. Grosseteste's use of the distinction is a clear example of this metaphysical turn.

The Distinction in Grosseteste

The Commentary on the *Posterior Analytics*

In *In PAn* Grosseteste employs the notions of substance-body or quantity-body in two passages. In the first passage he is briefly considering how in our present fallen state we arrive at the knowledge of a non-complex universal. He holds that in a newborn human being all the powers of the rational soul are seized by the bulk of the body and as if asleep. Reason is awakened, however, through repeated sense experience. Once

> awakened, reason begins to divide and view apart what were confused in sense. Sight, for example, confuses color, magnitude, figure and body, taking these as one thing in its judgement, but once awakened, reason divides color from magnitude and figure from body, and further, figure and magnitude from the substance of body. In this way by division and abstraction it arrives at cognition of the substance of body [or of the substance-body] that bears the magnitude, figure, and color.[38]

"Opiniones Richardi Rufi Cornubiensis a Censore Reprobatae", *Franciscan Studies* 35 [1975]: 137-193, 173).

[38] *In PAn* 1.14 (214): "Ratio vero expergefacta incipit dividere et seorsum aspicere que in sensu erant confusa, utpote visus, colorem, magnitudinem, figuram, corpus confundit, et in eius iudicio sunt hec omnia accepta ut unum. Ratio vero expergefacta dividit colorem a magnitudine et figuram a corpore et iterum figuram et magnitudinem a corporis substantia, et ita per divisionem et abstractionem pervenit in cognitionem corporis substantie deferentis magnitudinem et figuram et colorem". A similar passage may be found in Grosseteste's opuscule *De subsistentia rei* (edited by O. Lewry, "Robert Grosseteste's Question on Subsistence: An Echo of the Adamites", *Mediaeval Studies* 45 [1983]: 1-21, 20: "Amplius, res in se ipsis sunt ita quod substancia sua et quantitas et qualitas secundum essenciam seiuncte sunt, existunt tamen coniuncte; in sensu uero hominis et ymaginacione sunt substancia et quantitas et qualitas per modum vnius, nec percipitur ibi que est secundum essencias seiunctio. In intellectu autem nostro quantitas a substancia et qualitate seorsum accipitur. Non potest tamen intellectus noster hec omnino seorsum intueri, sicut in se ipsis secundum essenciam omnino sunt diuisa; quedam enim semper cum quibusdam commiscent, ut pote colorem, sine dubitacione nequaquam comprehendit". In this passage, however, Grosseteste notes that the intellect cannot entirely view all these apart, since it must always comprehend color together with dimension (conjecturing 'dimensione' for the manuscript's 'dubitatione'). See also Avicebron, *Fons vitae* 2.4-5, edited by C. Baeumker (Münster: Aschendorffsche Verlagsbuchhandlung, 1895), 33, and, citing Avicebron, Thomas of York, *Sapientiale* 4.17, ed. C. Garvey, 3 vols. (PhD dissertation, University of Toronto, 1951) II, 239.

In this passage Grosseteste appears to treat the substance of body – substance-body – as the subject of the accidents of magnitude, figure, and color. This implies a distinction between the magnitude and other accidents of a body from the substance-body that underlies them as their subject.

This brief reference leaves unspecified just what this underlying substance of body is. Grosseteste hints at an answer, however, later in the commentary in a passage where he briefly discusses points, lines, surfaces, and quantity-bodies.[39] Here he explains quantity-body (*corpus quantum*) in terms of form and matter. The context of his discussion is Aristotle's reference to a unit as a substance without position (*substantia absque situ*) and a point as a substance over which an indivisible position is added (*cui superaddiditur situs*). Grosseteste notes that Aristotle gives an example about a unit and point, as if a unit is a simpler thing because it is a substance without a position, while a point is a substance over which is added a position.[40] Grosseteste then claims that a number is the same essence replicated, but made other and other by the replication, while a unit is an essence replicable in respect of itself. This self-replication,[41] Grosseteste says, is a sort of self-begetting. At this point Grosseteste turns to corporeal things. In their case prime matter and first form are in themselves simple without

[39] *In PAn* 1.18 (258): "Ponit autem exemplum de unitate et puncto, quasi unitas sit res simplicior, quia est substantia absque situ; punctum vero est substantia cui superadditur situs. Ad huius intelligentiam dico, ut loquar de unitate numeri et substantia eius, quod numerus est essentia eadem replicata, replicatione tamen facta altera aut alia, et unitas est essentia secundum se replicabilis, non replicat autem se nisi se quodammodo gignens. In rebus autem corporalibus invenimus quod materia prima et forma prima in seipsis sunt simplices sine situ et magnitudine, sed he infinities se replicantes et quodammodo gignentes extendunt se in magnitudinem et situm. Natura ergo prime materie et prime forme in se ipsa simplex et essentia secundum se replicabilis nature unitas est. Eadem essentia cum habuerit super se situm indivisibilem punctum est; cum ergo habuerit super se situm divisibilem secundum viam unam linea est, cum vero secundum vias duas superficies et cum secundum vias tres corpus quantum est".

[40] It is interesting to note how Grosseteste's description of a unit and a point seems to draw on both James of Venice's translation of the *Posterior analytics* and Gerard of Cremona's, following Gerard's use of the word 'situs' rather than James' use of 'positio', but James' use of the word 'substantia' rather than Gerard's use of 'essentia'. Thus, Gerard's translation defines a unit as "essentia cui non est situs" and a point as "essentia cui est situs" (*Analytica posteriora*, in Aristoteles Latinus IV 1-4, edited by L Minio-Paluello and B. G. Dod [Bruges and Paris: Desclée de Brouwer, 1968], 240), using the terms 'situs' and 'essentia'. James' translation defines them (p. 60) respectively as "unitas substantia est sine positione, punctum autem substantia posita", using the terms 'substantia' and 'positio'. It seems to me likely that when a little later in this passage Grosseteste starts to use the term 'essentia' it is being used interchangeably with 'substantia'.

[41] While Grosseteste speaks of multiplication in *De luce*, in the two commentaries he more often uses the notion of replication (*replicatio*). For the purposes of this paper this does not seem to be important and I will speak in both ways in what follows.

position or magnitude, but in infinitely replicating and in some manner begetting themselves they extend themselves into magnitude and position.[42]

From these remarks Grosseteste draws the conclusion: "Natura ergo prime materie et prime forme in se ipsa simplex et essentia secundum se replicabilis nature unitas est". I have left this in the original Latin, since it is not altogether clear how to translate it. Here, as is often the case in interpreting Grosseteste's brief remarks, we must conjecture as to his meaning. I suggest that what he has in mind is that first form and matter fit the description he had just given of a unit as simple and yet replicable. He seems to be using the word 'essentia' here as equivalent to 'substance' and is, I believe, making the point that the substance that is the compound of first form and matter can be treated as a unit. He then immediately goes on to note how the same essence that is a unit is a point when it has an indivisible position over it; a line, when it has over it a position divisible according to a single direction; a surface, when it has over it a position divisible according to two directions, and a quantity-body, when it has over it a position divisible according to three directions. If I am right, he means that the composite substance (or essence) comprised of first form and prime matter, as it exists under position in zero, one, two or three dimensions, is a point, line, surface, or quantity-body respectively. So on this interpretation, quantity-body appears to be the composite of prime matter and first form as it exists under position divisible in three dimensions.

Although Grosseteste does not mention the contrasting notion of substance-body here, if we understand quantity-body in the way I have suggested, it is plausible to think that he understood substance-body to be the composite of prime matter and first form as such – an interpretation given further support by consideration of his discussion in *In Phys*.

The Commentary on the *Physics*

Grosseteste's most extensive reference to the substance-body/quantity-body distinction is in his treatment of *Physics* 1.2. Here he takes off from a remark made by Aristotle that if the monists' doctrine that all things are one means that what exists is something continuous, the one will be many, since continuous things are divisible

[42] Grosseteste's description of prime matter and first form as extending themselves into magnitude and position by infinitely replicating and in some manner begetting themselves should probably not be taken to mean that prime matter itself is literally self-replicating and begetting. Rather, it is replicated and begotten by the action of first form, for Grosseteste elsewhere takes prime matter to be purely passive and it is the function of first form or corporeity to extend prime matter. On the passivity of prime matter see *De motu corporali et luce* (90): "Nec materia prima est efficiens motum, quia ipsa est passiva solum"; *De statu causarum*, edited by L. Baur, *Die philosophischen Werke des Robert Grosseteste Bischofs von Lincoln* (Münster i.W.: Aschendorffsche Verlagsbuchhandlung, 1912), 120-126, 122 "Materia enim, cum solum sit potentia, omnino habet oppositum <*recte*: oppositionem> ad actum, non solum secundum rationem, sed etiam secundum naturam rei".

without limit. This leads Grosseteste to take up "a very deep doubt". Holding that it is clear that there is a multitude of quantitative parts in a continuous thing, he asks whether in the whole and parts of the continuous thing – by which he has in mind a body – "there is a multitude in respect of substance". He frames the following discussion in terms of the notion of substance-body.

Grosseteste presents the "very deep doubt" as follows:[43]

> Since quantity is an accident with which abstracted the substance of body is simple and lacking dimensions, the very substance of body in itself is seen in the minute parts [of a continuum]. And just as the whole substance of the soul is in each minute part of the body, so the whole substance of body [is] under each minute part of the quantity, neither other or larger or smaller under one minute part of the quantity than under another, whether [that part] should be continuous with or standing apart [from the other]. So in respect of substance even parts that stand apart appear to be entirely the same. For if it is magnitude that essentially (*per se*) admits division, substance-body (*corpus-substantia*) will only admit division in the way the son of Diares [admits] vision [*De an.*, 418a20],[44] or else, besides the magnitude that is an accident of body, substance-body will have a substantial magnitude.
>
> Again, if we propose a quantum and mark out its halves, either the same substance-body that is under one half is under another, or another [substance-body]. If the same, then I have the point sought. If another, then the whole substance-body that is under the whole magnitude has in itself different parts, and so in itself it is divisible, and so a quantity enters the substance of body besides the magnitude that is accidental.

[43] *In Phys* 1 (ed. Dales, 8-9): "Quod in continuo sit multitudo partium quantitivarum, manifestum est. Verumtamen profundissima est dubitatio an in toto et in partibus sit multitudo secundum substanciam. Cum enim quantitas sit accidens quo abstracto <qua abstracta Dales> substantia corporis simplex est et dimensionibus carens, ipsa substantia corporis in seipsa in particulis videtur. Et sicut tota substantia animae est in qualibet particula corporis, sic tota substantia corporis sub qualibet particula quantitatis, nec alia aut maior aut minor sub una particula <parte Dales> quantitatis quam sub alia, sive sit continua sive distans <sit ... distans] sint contigua sive distantia Dales>. Quapropter secundum <per Dales> substantiam videntur esse penitus idem, etiam partes distantes. Si enim magnitudo per se suscipiat divisionem, non suscipiet corpus-substantia divisionem, nisi sicut Diarii filius visionem <Diarii ... visionem] divisionem accidentalem Dales>, aut <Et sic Dales> praeter magnitudinem accidentem corpori erit corpori-substantiae magnitudo substantialis. Item, proposito quanto et significatis eius medietatibus, aut idem <illud Dales> corpus-substantia quod est sub una <substancia *add*. Dales> medietate est sub alia, aut aliud. Si idem, habetur propositum. Si aliud, tunc totum corpus-substantia quod est sub tota magnitudine in seipso habet partem et partem <et partem *om*. Dales>, et ita secundum se est divisibile, et ita quantitas ingreditur corporis substanciam preter magnitudinem accidentalem".

[44] That is, the son of Diares is only incidentally an object of vision inasmuch as an accident of him, his color, is properly visible. Likewise, substantial-body is only incidentally divisible in that an accident of it, its magnitude, is properly divisible.

In these two paragraphs Grosseteste seems to be assuming that substance-body, as it is in itself apart from the accident of magnitude, is simple and dimensionless. He takes this to imply that as it is in itself it lacks magnitude and parts, by which he means quantitative or integral parts.[45] But just what deep doubt Grosseteste finds in this view is left rather obscure. Certainly, he notes that an alternative view is to hold that substance-body as it is in itself, as distinct from the magnitude that is a quantity and hence an accident, has a substantial magnitude and parts. But simply to mention this alternative conception of substance-body is not as such to indicate a problem in the former conception. Why not just take numerically the same simple substance-body to be under each of the different parts of a continuous magnitude – the view the first paragraph presents?

Presumably Grosseteste saw some pressure to adopt the view that substance-body does have a substantial magnitude and parts, a view that did not accord with his conception of substance-body in itself as lacking magnitude and parts. What was this pressure? I suspect his concern was that if numerically the same substance-body is the subject of different quantitative parts of a body, then numerically the same substance-body will be the subject of incompatible accidents of different kinds belonging to these parts, or of distinct accidents of exactly the same kind, both of which may seem to be impossible. For example, in the case of the body divided into halves A and B, numerically the same substance-body would be the subject of this accident of quantity, say, of being two cubits, belonging to A, but also of that numerically distinct accident of being two cubits belonging to B, despite the fact that these accidents are of exactly the same kind.[46] Likewise, substance-body underlying the first two thirds of a 3-cubit body would have the quantitative accident of being two cubits, while also that of being one cubit, since it would also underlie the other third – but these are incompatible determinations.

That Grosseteste has something like this in mind is suggested by his noting a little later in his text the view of those monists who in fact held (as Grosseteste seems to

[45] Substance-body, I shall argue, is the compound of first form and prime matter, and as such it has form and matter as parts, but these are what medieval thinkers call substantial parts, not quantitative or integral parts.

[46] We find this line of argument later in the mid-thirteenth century in Geoffrey of Aspall's *Questions on Aristotle's Physics* Part 1 (edited by S. Donati and C. Trifogli [Oxford: Oxford University Press, 2017], 284). Take a continuum divided into two halves: "either one quantity is other than the other quantity, or it is not. And clearly they are two quantities. But to different accidents of the same kind correspond different subjects; therefore, the quantities have different subjects. But a quantity only has substance or matter as a subject; so substance's divisibility into parts is other than quantity's divisibility into parts" ("aut una quantitas est alia ab alia quantitate aut non. Et constant quod sunt duae quantitates. Sed diversis accidentibus eiusdem speciei diversa respondent subiecta; aliud ergo est subiectum unius quantitatis et alterius. Sed quantitas non habet subiectum nisi substantiam sive materiam; alia ergo est partibilitas substantiae a partibilitate quantitatis").

understand Aristotle's discussion of the *physici*) that substance-body is numerically one and the same everywhere. On this view, Grosseteste notes, if substance-body has an additional substantial form somewhere – say, igneity – it seems it must have it everywhere, lest numerically one and the same substance-body have the contradictory feature of both having and not having the form in question.[47] To avoid this conclusion, these thinkers held that every corporeal substance exists everywhere, and in this sense denied that there is a multitude of substances divided from one another – there is not, for example, fire here but not there and a different substance from fire there and not here.

So there appears to be a general problem of accommodating the numerical oneness of simple and dimensionless substance-body, either everywhere within a continuous body, or everywhere in the physical world, with the distinct quantitative accidents of the parts of bodies it underlies,[48] or with the presence of differing substantial forms at different places.[49]

Now, we would not face this problem if substance-body in itself had distinct parts and magnitude, apart from the magnitude that is an accident, since distinct accidents

[47] *In Phys* 1 (ed. Dales, 15): "Modus quo physici dixerunt <dicunt Dales> omnia esse unum bifurcatur. Quidam enim intellexerunt quod sicut anima est unica <una Dales>, simplex et indivisa tota in qualibet corporis particula <parte corporis Dales>, sic corpus-substantia vel ignis vel aer vel terra vel aqua vel aliquid medium inter haec, cum quodlibet horum in sua substantia et essentia sit simplex, carens in se dimensione, secundum se totum est sub qualibet particula magnitudinis, et ita corpus-substantia unum et idem numero ubique. Et etiam hoc posito, si super corporeitatem addatur alicui alia forma substantialis – utpote igneitas – sequitur quod eadem igneitas sit ubique ubi est corporeitas. Aliter enim, cum corporeitas sit simplex, tota una et eadem ubique sub magnitudine, oporteret quod idem numero participaret et non participaret igneitate. Sequitur ergo quod si corporeitas alicubi habeat secum igneitatem, et habeat eam ubique, et ita, ut videtur, fit ignis. Similiter si alicubi sit aer, quod ubique; et ita de ceteris. Omnis igitur substantia corporea quae alicubi est, secundum substantiam totam [est] ubique, et ita omnia unum". We may note that this passage seems to endorse some version of the doctrine that corporeal substances are comprised of a plurality of substantial forms, with corporeity as the most fundamental form.

[48] As well as, we may note, distinct non-quantitative accidents.

[49] We see a version of this issue in Averroes' *De substantia orbis* (fol. 4rb-va): "... commune subiectum, quod nullam habet propriam formam: sed est potentia recipiens numerum secundum formas diversas in specie, et numerum secundum formas diversas in numero, et quae sit secundum maius, et minus. Et causa huius totius est, quod hoc subiectum recipit primitus dimensiones interminatas, et quia est multum in potentia. Quoniam si non haberet dimensionem, non reciperet simul formas diversas numero, neque formas diversas speci[e], sed in eodem tempore non invenietur, nisi una forma". Averroes here holds that prime matter first receives unbounded dimensions, because if it did not, it would not simultaneously receive numerically diverse forms, or forms of different kinds, but at the same time only one form would be found. In other words, according to Averroes prime matter must have indeterminate dimensions prior to substantial form, if there is to be a multiplicity of substances in the world. See Pasnau, *Metaphysical Themes*, 62-63.

or substantial forms could then have numerically distinct parts of substance-body as their subjects. But we have seen Grosseteste hold that substance-body in itself is simple, without magnitude and parts. And Grosseteste will not give up this view. Rather, he will exploit the peculiar nature of substance-body as a composite of prime matter and infinitely self-replicating corporeity to solve the problem.

Thus, Grosseteste starts his reply to the problem he raises as follows:[50]

> In my opinion substance-body in a way is the same in the diverse parts of a continuum, but not absolutely the same. For prime matter and first form by their infinite replication beget quantity-body. And in the manner in which the substance of the begetter in some way is one in all those begotten by him, so the essence of first form and matter is one everywhere in a body, yet by its infinite replication of itself it becomes infinitely other and other, just as those begotten are other than the begetter and one another.

This passage suggests that Grosseteste is treating talk of "prime matter and first form" as equivalent to that of substance-body, since he moves immediately from talk of the otherness of substance-body to that of the essence of first form and matter. He would therefore seem to be treating substance-body as their composite,[51] whereas quantity-body is the product of their infinite replication, this replication amounting to the infinite replication of their composite, substance-body.

Grosseteste then presents his response to the deep doubt:

> And just as the soul is not divided into parts in its essence when the body is divided into parts, so nor would substance-body be divided into parts in its essence with magnitude divided into parts, unless substance-body by the infinite replication of itself under the infinite parts of magnitude were other and other.

Here Grosseteste concedes that in a continuous magnitude substance-body is different under the different parts of the magnitude and does have a substantial magnitude distinct from accidental magnitude. This is due to the fact that substance-

[50] *In Phys.* 1 (ed. Dales, 9): "Opinor quod corpus-substantia secundum quid idem est in diversis partibus <et *add.* Dales> continui <continuum Dales>, simpliciter <similiter Dales> autem non idem. Materia enim prima et forma prima sui replicatione infinita corpus-quantum gignunt. Et eo modo quo substantia gignentis aliquo modo est una in omnibus genitis ab ipso, sic essentia primae formae et materiae una est ubique in corpore, sui tamen replicatione infinita fit infinities alia et alia, sicut alii sunt geniti a gignente et a se invicem. Et sicut non partitur anima in sui essentia partito corpore, sic nec partiretur corpus-substantia in sui essentia partita magnitudine, nisi corpus-substantia infinita sui replicatione sub infinitis partibus magnitudinis esset alia et alia".

[51] This, we may note, accords with the understanding of substance-body in some thinkers writing around the mid-thirteenth century. Richard Rufus (see note 37 above) describes substance-body as the aggregate of matter and form. Robert Kilwardby in *De ortu scientiarum* 29.245 (edited by A. Judy [London: The British Academy, 1976], 92) identifies substance-body as a substance composed of matter and corporeal form.

body is infinitely replicated under the accidental magnitude. This infinite replication gives rise to a substantial magnitude and parts in substance-body. But substance-body in itself, as unreplicated, lacks magnitude and parts. Grosseteste implies that if substance-body were not infinitely replicated, we would have to treat it in a manner akin to the soul, according to which the soul as a whole exists in each part of the body. But this conception of substance-body was precisely the view that raised the doubt Grosseteste is considering.[52]

Likewise, in response to the position of those *physici* who cannot admit different substances in different places, Grosseteste responds:

> Their opinion would be true unless substance-body were in some manner the same and in some manner different in the different parts of a magnitude, just as light here and there is different as begetter and begotten, and yet in some manner the same, because the substance of the begetter and begotten cannot be entirely diverse.[53]

We must therefore distinguish three things: substance-body in itself, which lacks magnitude and dimensions; the *substantial* magnitude of infinitely replicated substance-body; and the *accidental* magnitude infinitely replicated substance-body underlies. The need to make this distinction helps to throw light on a passage in *In Phys* 3 where Grosseteste considers created infinite number:

> Created infinite number is found, first, in the simple essence of matter or form able to be replicated infinitely without limit; second, in the replicated essence itself of matter or form; third, in the infinitely divisible corporeal dimension introduced by the infinite replication of matter and form; and perhaps here in this third place, number in a strict sense refers to an accident, whereas the former two numbers are instead substances.[54]

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[52] Note that the soul's being everywhere in the body does not raise the problems we have been considering of numerically the same item being the subject of accidents or substantial forms, since the soul is not in each part of a body as a subject in which corporeal forms inhere, whereas substance-body is such a subject. See *De intelligentiis* (edited by L. Baur, *Die philosophischen Werke des Robert Grosseteste Bischofs von Lincoln* [Münster i.W.: Aschendorffsche Verlagsbuchhandlung, 1912], 112-119) for Grosseteste's views on how the soul exists in the body in a manner akin to the way God exists as a whole everywhere in the world – a matter, he notes (113), whose investigation "sit supra nos".

[53] *In Phys* 1 (ed. Dales, 16): "Horum opinio vera esset nisi corpus-substantia aliquo modo esset eadem et aliquo modo alia et alia in diversis partibus magnitudinis, sicut lux hic et ibi alia et alia est sicut gignens et genitum, et tamen aliquo modo eadem, quia gignentis et geniti substantia non potest omnino esse diversa".

[54] *In Phys* 3 (ed. Dales, 56-57): "Numerus namque infinitus creatus primo reperitur in essencia simplici materiae vel forme possibili replicari infinities in infinitum; secundo in ipsa essentia materiae vel formae replicata; tertio in dimensione corporali divisibili in infinitum, quam dimensionem induxit replicatio materiae et formae infinita; et forte hic tertio numerus proprie dicitur accidens, priores vero duo numeri sunt magis substantiae".

Here Grosseteste distinguishes between the infinitely replicable simple essence of matter or form; the (infinitely) replicated essence of matter and form; and the infinitely divisible corporeal dimension introduced by this infinite replication. Notably, he speaks of infinite number in the first two cases as substances, but of infinite number in the case of the infinitely divisible bodily dimension as an accident. Grosseteste seems to be thinking here of infinitely replicated matter and form, as well as the simple essence of matter and form itself, as pertaining to the category of *substance*, but of corporeal dimensions as *accidents*. And since substance-body just is the composite of matter and form, it too, both as unreplicated as it is in itself, and as infinitely replicated, belongs to the category of substance, while corporeal dimension belongs to the category of accident. This corporeal dimension, I would suggest, is the accidental magnitude Grosseteste had spoken of when he raised the deep doubt about substance-body.

Thus, the picture Grosseteste appears to end up with is that substance-body is the composite of prime matter and first form (corporeity). Like its components, substance-body in itself, *as unreplicated*, is simple, without magnitude, integral parts, or dimensions. But in virtue of its infinitely self-replicating component form corporeity, substance-body is necessarily infinitely replicated. This replication gives rise to a substantial magnitude and parts in infinitely replicated substance-body. These parts are the subjects of diverse accidents or diverse substantial forms. In particular, it is precisely due to the infinite replication of substance-body that the accidents of infinitely divisible corporeal dimension arise. As for quantity-body, it is plausible to take it to be this corporeal dimension, or perhaps to be substance-body as under three dimensions, as I suggested he may have been thinking of it in *In PAn*.[55]

Now, it is natural to ask at this point what the distinction between infinitely replicated substance-body and corporeal dimension amounts to. As with so many issues in Grosseteste, we can do little more than conjecture, but an intriguing possibility suggests itself. This is the possibility that Grosseteste wishes to draw a distinction between magnitude and dimensions, or, we might say, between extension and dimensions. Infinitely replicated substance-body has magnitude and extension, but we must distinguish this from its having dimensions. The magnitude in question is substantial in nature, the dimensions are accidents in the category of quantity, but the possession of such accidents requires the presence of substantial magnitude and extension. If I were to press this issue further, way beyond anything Grosseteste's text says, I would conjecture that for him the notion of dimension brings with it the idea of measuring, in a way the notion of extension does not.

There is at least a structural parallel here between the view Grosseteste arrives at and the sort of view Lammer attributes to Avicenna: to Grosseteste's substantial magnitude seem to correspond indeterminate extension (or dimensions), while to

[55] As the passages from Kilwardby and Rufus quoted above in note 51 indicate, it was not uncommon to identify quantity-body simply with three dimensions.

Grosseteste's corporeal dimensions seem to correspond determinate dimensions. But there is a key difference. Because Grosseteste conceives of corporeity as an infinitely self-replicating form, he has the resources to maintain the view that corporeity itself is not three-dimensions (determinate or indeterminate), magnitude or extension. He can maintain the view that corporeity naturally precedes magnitude and dimensions, and that substance-body, the composite of prime matter and corporeity, also naturally precedes magnitude and dimensions. At the same time, because he treats corporeity, prime matter, and substance-body as infinitely replicable, he can posit an indeterminate non-accidental magnitude or extension prior to accidents and to other substantial forms besides corporeity. This non-accidental magnitude is due to the infinite replication of substance-body, which itself is due to the infinite replication of prime matter and corporeity. In this way he can both adopt the view Rufus attributes to Avicenna, that substantial form – namely corporeity – precedes dimensions in prime matter, but also posit, prior to other substantial forms and to accidents, an extended subject (infinitely replicated substance-body) that through its parts serves to underlie the multiplicity of distinct substances in the physical world and distinct accidents in the different parts of a single body. In this way, his conception of corporeity as a self-replicating form enables him to stake out a very distinctive position regarding the nature of body.

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ROBERT GROSSETESTE AND THE FLUID HISTORY OF THE LATIN *NICOMACHEAN ETHICS*

ROBERTO GROSSETESTE Y LA HISTORIA FLUIDA DE LA *ÉTICA A NICÓMACO* LATINA

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Abstract

This article presents the history of the medieval Latin translations of Aristotle's *Nicomachean Ethics*. It features the names of some key figures of the period like Burgundio of Pisa, Robert Grosseteste, and William of Moerbeke. The main focus lies on the question whether Robert Grosseteste had access to a complete copy of the earlier translation by Burgundio of Pisa, or only to the fragmentary version that has come down to us.

To reach an answer, the Latin versions and their Greek models are studied as "fluid texts", which indicates that all individual witnesses of the text and of its translations contain readings and variants that differentiate them from each other and from the translator's ultimate intentions. In their turn, the fluid elements cause changes to persist throughout the transmission process and continue to exert mutual influence.

A detailed, though necessarily largely incomplete study of some of these aspects leads to unnoticed evidence and to an uncertain but optimistic conclusion.

Keywords

Robert Grosseteste; Translation Method; Textual Fluidity; *Nicomachean Ethics*; Aristotle

Resumen

Este artículo presenta la historia de las traducciones latinas medievales de la *Ética a Nicómaco* de Aristóteles. Se destacan los nombres de algunas figuras clave del período, como Burgundio de Pisa, Roberto Grosseteste y Guillermo de Moerbeke. Se centra en la cuestión de si Roberto Grosseteste tuvo acceso a una copia completa de la traducción anterior de Burgundio de Pisa, o solo a la versión fragmentaria que nos ha llegado.

Para llegar a una respuesta, se estudian las versiones latinas y sus modelos griegos como "textos fluidos", es decir, testigos individuales del texto y de sus traducciones que contienen lecturas y variantes que los diferencian entre sí y respecto a las intenciones últimas del traductor. A su vez, los elementos fluidos causan cambios que persisten a lo largo del proceso de transmisión y continúan ejerciendo una influencia mutua.

Un estudio detallado, aunque necesariamente en gran medida incompleto, de algunos de estos aspectos conduce a pruebas inesperadas y a una conclusión incierta pero optimista.

Palabras clave

Roberto Grosseteste; método de traducción; fluidez textual; *Ética a Nicómaco*; Aristóteles

Medieval Translations as Fluid Texts

Can historians of medieval philosophy ever be absolutely sure that the text in front of them represents the author's ultimate intentions completely and faithfully?[1] Asking the question already implies its answer. In the absence of contemporary printed editions that went through the various stages of proof reading, after which the author himself could give his stamp of approval to a fixed text, there always remain doubts whether philology can establish the author's exact phrasing from the text as "deficient" manuscript copies preserve it. Even in the rare instances where an autograph copy of a particular medieval text is extant, divergent versions can turn up with legitimate claims to authority and originality.[2]

For the reconstruction of most texts, philological procedures will be sufficient to assess the value of the extant manuscripts. By applying strict rules of textual criticism, editors will attempt to establish which readings must be considered original, and accordingly decide that those words were preferred by the author in the final draft of his work. Rejected variants and their material bearers are labelled with a distinctly negative vocabulary. The readings are considered "errors" or "corruptions", and if scribes attempted to improve their models by comparing them with other copies of the same text, the resulting manuscripts are considered "contaminated" or even "impure". That religiously tinged vocabulary gives the impression that it conveys an anathema

[1] The research for this article was carried out as part of my postdoctoral fellowship project *Mind Your Words! The Role of Medieval Translations in the History of Concepts*, funded by the Research Foundation – Flanders (12W5722N). I thank Mike Kestemont (UAntwerpen) for pointing out the potential of textual fluidity to me.

[2] Franz Pelster, "Die ersten beiden Kapitel der Erklärung Alberts des Großen zu *De animalibus* in ihrer ursprünglichen Fassung. Nach Cod. Vat. lat. 718", *Scholastik* 10 (1935): 229-240.

for editors to stay far away from this type of witnesses for the constitution of their texts.

The presentation of text transmissions in that manner rests on the firm conviction that if medieval authors had had the opportunity to fix their final text forms in the same way as printed editions can, they would have seized that opportunity. Yet recent scholarship has shown that the fixed character of printed texts is nothing more than an illusion and that various editions or print runs can significantly differ from each other, thus conveying a "fluid text".[3] Obviously, in the case of works that are transmitted exclusively in manuscript form, the variation between the preserved witnesses must be considerably more extensive. Since all medieval texts started their dissemination through manuscripts, their fluid nature forms an intrinsic characteristic. The observation was pointedly captured in Bernard Cerquiglini's famous one-liner: "l'écriture médiévale ne produit pas des variantes, elle est variance".[4] Cerquiglini's book that contains the sentence is said to have sparked the "New Philology" movement, which laid down its manifesto in a number of articles published in the first issue of the 1990 *Speculum* volume.[5] The concept was not completely innovative: ten years earlier, Françoise Desbordes had already characterized the transmission of ancient texts by their "état liquide".[6]

These developments do not imply that critical editions are no longer valuable tools to study medieval texts. Yet, a more positive approach to all aspects of fluid text transmissions potentially leads to richer research options, for "a reader's interpretation exists independently from a writer's intentions".[7] Readers were not necessarily aware of the fluctuations that a particular text had undergone before they were confronted with it. They exclusively had access to that particular state in which a sequence of transcriptions had conveyed the text to them. Every copy that is made of a text creates a specific state for its reception.

Although these considerations are valid for every single medieval text and its transmission, they constitute an even more powerful context for translations, which are impacted by fluctuations of transmission in two languages. At their origin lies a manuscript in the source language that is itself the result of a history of variance, while the text produced in the target language will set off a similar process. It is therefore

[3] John Bryant, *The Fluid Text. A Theory of Revision and Editing for Book and Screen* (Ann Arbor: University of Michigan Press, 2002). I owe the reference to this book to Mike Kestemont (UAntwerpen).
[4] Bernard Cerquiglini, *Éloge de la variante. Histoire critique de la philologie* (Paris: Seuil, 1989), 111.
[5] See the introductory article: Stephen G. Nichols, "Introduction: Philology in a Manuscript Culture", *Speculum* 65/1 (1990): 1-10.
[6] Françoise Desbordes, *Argonautica. Trois études sur l'imitation dans la littérature antique* (Bruxelles: Latomus, 1979), 96, n. 34.
[7] Bryant, *The Fluid Text*, 8.

impossible to come to an encompassing overview of all evolutions that characterize the process by simply laying out the two relevant critical editions side by side on one's desk.

In this article, I present the history of the medieval Greek-Latin translations of Aristotle's *Nicomachean Ethics* from the perspective of textual fluidity. Hardly any text would be a more appropriate subject to illustrate that approach. The first Latin version, produced in the 12th century, was transmitted in at least two separate and incomplete forms. The second resulted from a revision of the previous translation to which supplementary material was added. The third and final medieval Latin version took shape as yet another revision. In addition, each editorial phase was based on particular textual forms of the Latin and Greek texts, which in turn provided elements that influenced the further transmission history. As announced in its title, the article intends to shed light on the role played by Robert Grosseteste as "translator, transmitter, and annotator".[8] It will in particular provide supplementary evidence to assess the question whether Grosseteste had access to a complete text of the oldest translation.

The Fluid History of the Latin *Nicomachean Ethics*

The medieval Latin history of Aristotle's *Nicomachean Ethics* started around the middle of the 12th century. References in Italian medical and legal texts from that period demonstrate its availability, but the exact form in which it circulated is shrouded in uncertainty.[9] The oldest manuscripts of the text itself are dated to the end of the same century. They transmit the text in two different, fragmentary forms, a Latin translation of books two and a part of book three ("Ethica vetus"), and a version of the first book on its own ("Ethica nova"). The paths of transmission taken by the two versions were so distant that even if they are found in the same volume, they constitute separate codicological entities. To make their unconnected origin more visible, Father Gauthier, the editor of the medieval Latin *Nicomachean Ethics* translations, gave different sigla to separate parts of the same, important codex.[10] In the course of the 13th century, some scribes tried to remedy the deficiencies of the transmission by

[8] Jean Dunbabin, "Robert Grosseteste as Translator, Transmitter, and Commentator: The 'Nicomachean Ethics'" *Traditio* 28 (1972): 460-472.

[9] Charles de Miramon, "Réception et oubli de l'*Ethica vetus*. Salerne et Bologne (1150-1180), in *Mélanges en l'honneur d'Anne Lefebvre-Teillard*, edited by B. D'Alteroche, F. Demoulin-Auzary, O. Descamps and F. Roumy (Paris: Panthéon-Assas, 2009), 727-746.

[10] Avranches, Bibliothèque municipale, 232: "Ethica vetus" = *Ay*; "Ethica nova" = *Aw*. Gauthier was well aware of the fluid character of the transmission of the Latin *Nicomachean Ethics* and accordingly pioneered the use of typographic means to differentiate the different layers of transmission in his five-volume critical edition: Aristoteles, *Ethica Nicomachea*, edited by R. A. Gauthier, 5 vol., Aristoteles Latinus XXVI, 1-3 (Leiden and Bruxelles: Brill-Desclée De Brouwer, 1972-1974).

bringing the two sections together into one compilation, which still remained very fragmentary.

According to Gauthier, the two partial versions were produced by different translators. To make matters more intricate, the editor hypothesized that the "Ethica nova" originally was a complete Latin text in ten books, which he labelled as the "Translatio antiquior". Passages from books seven and eight of that lost translation are found in one manuscript (Città del Vaticano, Biblioteca apostolica Vaticana, Borgh. 108, fol. 283r-289r), which were accordingly called "Ethica Borghesiana" by Gauthier. Further remnants were tracked down in variants and corrections throughout all books in another, "contaminated" manuscript of a later version of the translation (Cambridge, MA, Harvard University Library, MS Typ 233, fol. 17r-58r). Since the manuscript formerly belonged to the collection of Philip Hofer, Gauthier named that particular version the "Ethica Hoferiana".

Numerous fluid elements determined the first reception of the Latin *Nicomachean Ethics*: the two partial translations that circulated independently, the few pages from books seven and eight that were preserved in one copy, and the traces of other books incorporated in the text of a later translation. Most of these features probably originated accidentally and can be explained conveniently by hypothesizing the loss of quires from an early model or from the archetype. Only in the case of the "Ethica Hoferiana", some form of intentional editorial intervention was necessarily involved.

In view of these intricate circumstances, the task at hand for the editor of the Latin translations was formidable. Yet Gauthier would have been greatly helped if he had realized that all older forms of the Latin *Ethics* were translated by one and the same man, Burgundio of Pisa.

That conclusion gradually materialized at the end of last century, mainly through stylistic comparisons with other translations that transmit Burgundio's name as their translator in the manuscripts. The discovery of the Greek manuscript that Burgundio used as his model (Firenze, Biblioteca Medicea Laurenziana, Plut. 81.18) added important evidence to support the identification.[11] In particular, the comparison between the readings of the Greek manuscript and of the Latin translation emphatically confirms that the one was the model for the other. Additionally, the Greek book belongs to a collection of manuscripts that once passed through Burgundio's hands. The translator used them as models for several translations of Galenic treatises and for his only other Aristotelian text, *On Coming-to-be and Passing-away*. In a preparatory phase of his work, he left numerous traces in Greek and Latin in those manuscripts, which were

[11] Gudrun Vuillemin-Diem, Marwan Rashed, "Burgundio de Pise et ses manuscrits grecs d'Aristote: Laur. 87.7 et Laur. 81.18", *Recherches de théologie et philosophie médiévales* 64/1 (1997): 136-198.

evidently aimed at a better understanding of the original texts in view of their clear rendering into the target language.[12]

The identification of Burgundio as the translator of the earliest Latin version of the *Nicomachean Ethics* opened possibilities for a deeper understanding of the work's features. Gauthier had noticed that the translator in some instances offers more than one Latin equivalent for what he read in Greek. In Gauthier's edition, the alternative renderings are mostly presented as interlinear variants, similar to the layout that he found in many manuscripts. The appearance adequately reflects the method that is known from Burgundio's translations in other genres. Burgundio expressed his approach in one of the most explicit theoretical reflections on translation practice preserved from the medieval period. In his preface to the Latin version of John Chrysostom's commentary on the Gospel of John, he advocates the word-for-word translation method, but also admits to have made up "for the occasional deficiency of (Latin) words by adding two or three words".[13]

Yet not all manuscripts of Burgundio's *Ethics* look the same since scribes did not necessarily endorse the translator's preference for a presentation with multiple equivalents. As a result, they copied variants according to their own implicit selection criteria. In that way, Burgundio's autograph already provided the material that lay at the origin of a substantial amount of fluidity in the earliest textual transmission. Moreover, the image provided by the manuscripts of the "Ethica nova" is markedly different from that of the "Ethica vetus". The latter preserves a more detailed picture of the variance in Burgundio's translation style, while the former offers less diversity in its witnesses of the transmitted text.

The divergent quality of transmission also raises questions about the terminology used to indicate the available parts of the oldest *Ethics*. The names of "Ethica vetus" and "Ethica nova" were already used from the earliest phase of their preservation in the

[12] Vuillemin-Diem, Rashed, "Burgundio de Pise", 171, n. 46, state that the Latin notes in 81.18 are from a later period and clearly not Burgundio's. Yet it seems to me that some of the Latin entries in the manuscript are medieval. They certainly demonstrate a good understanding of the Greek text, e.g. f. 43v: *premium ad gloriam spectans* (1134b7: γέρας); f. 44v: *aliqua ex parte* (1134b28: ὥς); f. 72r: *incusationes* (1162b24: ἐγκλήματα). In addition, the structure of a Greek sentence on f. 34r, ll. 7-8 (1129a15-16) is made explicit through the use of the Latin letters a, b, c, d above the words by hand E, which Vuillemin-Diem and Rashed identify as the hand of Burgundio or of a close anonymous collaborator (a similar, though less clearly distinguishable example at the bottom of the same folio, ll. 24-25). These letters probably prove that Burgundio did leave traces of his activity in this manuscript as well.

[13] "...deficienciam quidem dictionum intervenientem duabus vel etiam tribus dictionibus adiectis replens...", Peter Classen, *Burgundio von Pisa. Richter – Gesandter – Übersetzer* (Heidelberg: Winter, 1974), 95, ll. 181-183. Translation Charles Burnett in Michael Angold, Charles Burnett, "Latin Translators from Greek in the Twelfth Century on Why and How They Translate", in *Why Translate Science? Documents from Antiquity to the 16th Century in the Historical West (Bactria to the Atlantic)*, edited by D. Gutas (Leiden: Brill, 2022), 488-524, quote 497.

beginning of the 13th century. Although it is unclear how users would have known about the details of the partial transmission, stylistic research confirms that Burgundio produced the "Ethica vetus" at an earlier stage of his translation career than the "Ethica nova".[14] Why he chose not to translate all books of the *Nicomachean Ethics* in their linear order, remains completely unclear.

Robert Grosseteste was responsible for the following stage in the dissemination of the *Nicomachean Ethics* in the Latin world. His contribution offered significant progress for the availability and the understanding of the treatise. Grosseteste produced a complex body of translations and interpretations that contained a translation of Aristotle's work, another of various late-antique and Byzantine commentaries that accompany and elucidate the ancient philosopher's text, and his own notes to clarify the content of text and commentaries and to explain his choices during the translation process. Robert likely worked on this project in the 40's of the 13th century, for around 1250 Herman the German showed that he knew of Robert's undertaking by describing it in detail in the preface to his Arabic-Latin translation of the *Nicomachean Ethics*:

> And recently the reverend father master Robert with the Big Head but the exquisite intellect, the bishop of Lincoln, translated it more complete from the first sources from which it had flown, namely the Greek, and commented upon it by combining his own notes with the commentaries of the Greeks.[15]

The translated commentaries are preserved in 22 manuscripts, most of which combine them with the lemmas of Robert's version of the Aristotelian text.[16] Many hundreds only contain the ten books of Robert's Latin *Nicomachean Ethics*, and his notes on the translated texts are preserved scattered among those witnesses. From that description, it is clear that "so far, not a single page of Grosseteste's major annotated translations has been printed in the form he intended."[17]

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[14] Fernand Bossier, "L'élaboration du vocabulaire philosophique chez Burgundio de Pise", in *Aux origines du lexique philosophique européen. L'influence de la* Latinitas, edited by J. Hamesse (Louvain-la-Neuve: Fédération Internationale des Instituts d'Études Médiévales, 1997), 81-116.

[15] "Et postmodum reverendus pater magister Robertus Grossi Capitis sed subtilis intellectus, Lincolniensis episcopus, ex primo fonte unde emanaverat, graeco videlicet, ipsum est completius interpretatus et graecorum commentis proprias annectens notulas commentatus." H. Paul F. Mercken, *The Greek Commentaries on the Nicomachean Ethics of Aristotle in the Latin Translation of Robert Grosseteste, Bishop of Lincoln (†1253)*, vol. I, Corpus Latinum Commentariorum in Aristotelem Graecorum VI,1 (Leiden: Brill, 1973), 39*. My translation.

[16] H. Paul F. Mercken, *The Greek Commentaries on the Nicomachean Ethics of Aristotle in the Latin Translation of Robert Grosseteste, Bishop of Lincoln (†1253)*, vol. III, Corpus Latinum Commentariorum in Aristotelem Graecorum VI,3 (Leuven: University Press, 1991), 53*-54*. To these manuscripts has to be added the single leaf that contains the commentary text from the end of book VIII and the beginning of book IX from the private collection of professor Rodney Thomson, see https://eprints.utas.edu.au/8500 (accessed January 2023).

[17] Anna Carlotta Dionisotti, "On the Greek Studies of Robert Grosseteste", in *The Uses of Greek and Latin. Historical Essays*, edited by A.C. Dionisotti, A. Grafton and J. Kraye (London: Warburg

While it is clear that Grosseteste had to start his translation work on the Greek commentaries from scratch, it is also evident that the "Translatio Lincolniensis" of the *Nicomachean Ethics* itself is a reworking of Burgundio's Latin in those passages where the "Ethica nova", the "Ethica vetus", and the "Ethica Hoferiana" are extant. Gauthier typographically represented this feature in his edition by having the changes to the previous version printed in a larger font. Whether Grosseteste had a complete copy of the "Translatio antiquior" at his disposal, or had to produce a new translation of the other sections, is more difficult to establish.

In the preface to his Aristoteles Latinus edition of the medieval Greek-Latin translations, Gauthier convincingly demonstrated how Grosseteste had used the older translation for books I-III where it is still extant, but for the other parts he concluded that it was impossible to reach a certain verdict: "controversiam dirimere non ausim: tutius est candide fateri nos nescire utrum partes translationis Antiquioris librorum IV-X perditas Robertus cognovit necne."[18] In the revised second edition of his French translation and commentary, Gauthier stated more boldly, but without providing further evidence, that Grosseteste's Latin is "une révision de l'ancienne traduction complète que Robert Grosseteste semble avoir possédée en son entier".[19] Fernand Bossier confirmed the earlier conclusion and resigned himself to the impossibility of reaching complete certainty: "Cette traduction contient quantité d'éléments de la traduction ancienne, qui, de toute évidence, ne se laissent repérer avec certitude que dans les seuls passages où le texte ou des fragments de la traduction originale ont été conservés."[20] Yet, a recent article implies, without giving further argumentation, that the question has been decided: "Strictly speaking, the *Translatio lincolniensis* was not an altogether new translation, i.e., a translation *ex nihilo*, but a revision of a prior version published by Burgundio of Pisa before 1150, which comprised all the books of the *Ethics*."[21] In the last part of this article, I will come back to the question with additional arguments.

The last medieval stage in the transmission consists of another revision, this time of Grosseteste's version. While there was no controversy in recognizing the features of the text as resulting from revision rather than from a new translation, more

Institute, 1988), 19-39, quote 29 and another leaf of book X auctioned in Bruges (Van de Wiele, 30/9/2023).

[18] Aristoteles, *Ethica Nicomachea*, vol. I, edited by Gauthier, CXCV.

[19] René Antoine Gauthier and Jean Yves Jolif, *L'Ethique à Nicomaque. Introduction, Traduction et Commentaire*, Second edition, vol. I, part 1 (Louvain-la-Neuve, Paris, and Sterling, VA: Peeters, 2002), 121.

[20] Fernand Bossier, "Les ennuis d'un traducteur. Quatre annotations sur la première traduction latine de L'*Éthique à Nicomaque* par Burgundio de Pise", *Bijdragen* 59/4 (1998): 406-427, quote 409.

[21] José A. Poblete, "The Medieval Reception of Aristotle's Passage on Natural Justice: The Role of Grosseteste's Latin Translation of *Ethica Nicomachea*", *American Catholic Philosophical Quarterly* 94/2 (2020): 211-238, quote 212. Oddly, the works given as references for this sentence do not contain evidence in support of its claim.

uncertainty shrouded the identity of its maker. Franceschini, who first brought the revision to the attention of the scholarly world, concluded on the basis of the recent revision's close connection with the works of Thomas Aquinas that William of Moerbeke had to be responsible for it.[22]

Father Gauthier, who notoriously rejected every suggestion of a "privileged relation" between Aquinas and Moerbeke, investigated the "Recensio recognita" (as he called it) in greater detail in search for the changes to Grosseteste's version that could be attributed with certainty to the revisor. First, he established that the revision was performed using a copy of the "Translatio Lincolniensis" in an adapted form (as opposed to the original state of the text or "Recensio pura"). That adaptation was executed without reference to the Greek original. As a result, the "vir doctus" who revised the translation likely intervened to correct some of these new variants and to align the original "Translatio Lincolniensis" with his own translation practice.[23] In spite of Gauthier's negative judgement, the "Recensio recognita" is now generally accepted as the work of William of Moerbeke.[24]

The fluid state of the manuscripts that contain Williams' resulting reworking is described in the characteristic terminology of regression and decay.

> [T]he extant manuscripts of the revised translation are all more or less corrupt, but they testify to an *exemplar* that contained marginal and/or interlinear *notulae* which formed a sort of critical apparatus, giving variant readings, some of which went back to variants in the Greek manuscripts. This *exemplar*, unfortunately, is lost, but many of the variants are incorporated in the text of the extant manuscripts, often in the wrong place, or simply juxtaposed to the basic reading without connecting particle. (...) Moreover, some manuscripts contain this already mutilated version in a contaminated form, resulting from collations with manuscripts representing previous stages of this translation.[25]

Typology of Revised Translations

William of Moerbeke is known to have revised numerous Latin translations that had been produced by his predecessors. The abundance of information makes it possible to establish the characteristics of the manuscripts that transmit this particular type of translated texts. A typology of revised translations will be a useful asset to decide whether the sections of Grosseteste's *Nicomachean Ethics* outside of the preserved

[22] Ezio Franceschini, "La revisione Moerbekana della 'Translatio Lincolniensis' dell'*Etica Nicomachea*", *Rivista di Filosofie Neo-Scolastica* 30/2 (1938): 150-162. Reprinted in Ezio Franceschini, *Scritti di filologia latina medievale* (Padova: Antenore, 1976), 637-653.
[23] Aristoteles, *Ethica Nicomachea*, vol. I, edited by Gauthier, CCXXXIII-CCXLV.
[24] Jozef Brams, "The Revised Version of Grosseteste's Translation of the Nicomachean Ethics", *Bulletin de philosophie médiévale* 36 (1994): 45-55.
[25] Mercken, *The Greek Commentaries*, vol. I, 45*.

parts of Burgundio's translation were based on the "Translatio antiquior" or were the outcome of Robert's own original work.

For this purpose, I will summarize the results of Gudrun Vuillemin-Diem's analysis of the manuscript tradition of William of Moerbeke's *Metaphysics*. Moerbeke started the work on the basis of an incomplete anonymous translation, which he revised but also supplemented with missing sections. As a result, the complex composition of the Latin version makes information discernible to distinguish elements typical for the two procedures in the transmission.

Theoretically, two practices to produce a revised translation are conceivable: either the revisor used a manuscript of the Greek text and a copy of the work by a Latin predecessor and he wrote down his own reworking of that information on new leaves, or he acquired an existing copy of an earlier Latin version, compared it with the Greek text, and entered his changes and corrections in the available space between the lines and in the margins of the manuscript of the older translation. All the known revisions by William of Moerbeke were realized following the latter method.[26]

As a consequence, the manuscripts through which those revisions were transmitted preserve various layers of fluidity that originate from different sources – and Moerbeke's revision of Aristotle's *Metaphysics* does so, since it is transmitted through various branches that all go back to the original state of the text. The ultimate touchstone to distinguish between genuine readings and errors, which is essential for the establishment of a critical edition, lies in the comparison with the Greek text. However, the underlying older translation and the revision were probably prepared on the basis of two or more different Greek manuscripts. Consequently, it is impossible to attribute readings based on Greek variants to the older text or to its revision unless there is a clear idea about the nature of the Greek manuscripts that the two translators had on their desks. By a lucky coincidence, the Greek manuscript on which Moerbeke chiefly based his revisions of the *Metaphysics* (and of numerous other Aristotelian treatises on natural philosophy) was preserved. Its survival allows for a more detailed and comprehensive study of Moerbeke's methods of revision.[27]

As for the further characteristics of variants, the revisor may have changed the underlying translation in equivalents that correctly render the Greek original if they were not in line with his own Latin preferences. Yet he may just as well have turned a blind eye on them so that they remained unchanged. Moreover, the older translator could have produced a correct Latin text that was subsequently miscopied in the

[26] Aristoteles, *Metaphysica. Lib. I-XIV. Recensio et Translatio Guillelmi de Moerbeka*, edited by G. Vuillemin-Diem, Praefatio, Aristoteles Latinus XXV, 1 (Leiden, New York, and Köln: Brill, 1995), 24-25.

[27] Wien, Österreichische Nationalbibliothek, phil. gr. 100; for a comprehensive treatment of the manuscript's importance for Moerbeke's revision of the *Metaphysics*, see Aristoteles, *Metaphysica*, edited by Vuillemin-Diem, 167-183.

specific manuscript used for the revision.[28] In that case, the revisor's correction may have consisted in a return to the original reading of his predecessor.

If a revised translation was transmitted through various independent branches that all go back to the original state of the revision's manuscript, the variants of the tradition will provide sufficient evidence for the editor to establish the nature of the corrections entered in the margins and between the lines (even if, as in the case of the *Metaphysics*, the original manuscript changed over time as the result of an ongoing process of revision by the translator). Vuillemin-Diem calls them "primary contaminations", a term that was previously introduced by Gauthier. It is obvious that their value to understand a text's transmission is decidedly different from later changes to the text or "secondary contaminations".[29]

Vuillemin-Diem's exemplary description of the typology of Moerbeke's method of revision and the fluid aspects of the manuscript tradition that result from the process are reflected to perfection in the "Recensio recognita" of the *Nicomachean Ethics*. First, it is clear that the revisor, to whom Gauthier persistently refers as a "vir doctus", but who undoubtedly was William of Moerbeke, used a different Greek manuscript from Grosseteste's. A note from the revisor's hand preserved in copies of the "Recensio recognita" confirms that he even checked a particular reading in two Greek manuscripts. The philological analysis of the changes in the "Recensio recognita" of Grosseteste's text confirms the revisor's statement. Unfortunately, in this case neither of Moerbeke's Greek models has so far been identified as an extant manuscript.

As for the Latin text underlying the revision work, Moerbeke did not start from the translation in the same state as Grosseteste had finalized it, since he had access to a form that was reworked by some anonymous scholar who did not use the Greek text (the version was labelled **L²** by Gauthier). Accordingly, Moerbeke's revision contains corrections of mistaken readings and supplements for passages that are missing in **L²** although they would not have needed changing if he had had Grosseteste's intended version at his disposal.

Gauthier was able to confirm the precise nature of the revision, i.e. that changes were entered in the margins and between the lines of an existing copy of Grosseteste's text in the **L²** state, through a number of copying incidents linked with the way in which the corrections were found in the model. The misinterpretations resulted in conflated readings that combine parts of the original Grosseteste reading with the Moerbeke correction, in corrections inserted in the wrong places, or in missing words for passages where the scribe left out the original text and forgot to replace it with the new

[28] The manuscript of the older translation used by Moerbeke for his revision of the *Metaphysics* was very similar to manuscript Pisa, Biblioteca Cateriniana, 11, see Aristoteles, *Metaphysica*, edited by Vuillemin-Diem, 22-24.
[29] Aristoteles, *Metaphysica*, edited by Vuillemin-Diem, 52-54.

version.[30] Although Gauthier insists that there are some common mistakes between the two extant branches of the tradition of the "Recensio recognita" that warrant the hypothetical existence of an archetype, it seems a more economical explanation to suggest that these types of variants ultimately result from a shared access to Moerbeke's original, a manuscript that provided so many options for potential "primary contaminations", that it accounts for a large share of textual fluidity in the translation's subsequent transmission.

Did Grosseteste Translate or Revise?

Even a superficial glance at the transmission of Grosseteste's own "Translatio Lincolniensis", and in particular at the critical apparatus of books I-III, demonstrates that, in spite of being a revision of the translation by Burgundio of Pisa, it does not display features similar to Moerbeke's "Recensio Recognita".[31] The tradition is almost totally free of "primary contaminations", and where double readings and variant translations are preserved, they seem to result from Grosseteste's own selection, not from accidents in the transmission process. That becomes especially clear in those passages where the "Translatio Lincolniensis" contains a reading that is identical with an erroneous variant in one or more manuscripts of the older translation. Grosseteste must have entered them in the master copy of his translation, since in those cases the transmission of the "Translatio Lincolniensis" does not preserve corrections in the form of variants.[32]

That Grosseteste had at least one copy of the "Translatio vetus" in front of him (the use of the plural in the passage below may be reliable but a rhetorical exaggeration cannot be excluded), finds confirmation in his own statement regarding the reading at 1107a30:

> Where we put "universales sermones communiores sunt", we find in some Latin books as follows: "universales quidem sermones inaniores seu vaniores sunt". You have to know that the Greek text of the old exemplars that we examined has "koinoteri" with the diphthong oi, which means "more common", and not "kenoteri" with a simple e, which means "more idle or empty". The two readings can quite easily be changed into the same meaning.[33]

[30] Aristoteles, *Ethica Nicomachea*, vol. I, edited by Gauthier, CCXXXI-CCXXXV.
[31] Aristoteles, *Ethica Nicomachea*, vol. I, edited by Gauthier, CLXXXVII-CXCIV.
[32] Aristoteles, *Ethica Nicomachea*, vol. I, edited by Gauthier, CXCII-CXCIV.
[33] "Ubi autem nos posuimus universales sermones communiores sunt, in aliquibus libris latinis invenimus sic: universales quidem sermones inaniores seu vaniores sunt. Set sciendum quod littera greca in exemplaribus antiquis que inspeximus habet koinoteri per oi diptongon, quod significat communiores, et non kenoteri per e nudum, quod significat inaniores seu vaniores. Potest autem utraque littera ad eundem sensum satis faciliter converti." Aristoteles, *Ethica Nicomachea*, vol. III, edited by Gauthier, 172.

It means that Grosseteste reconstructed the Greek variant κενώτεροι on the basis of Burgundio's not perfectly matching equivalent *inanes*, although his Greek manuscripts transmitted the reading κοινότεροι, which in Grosseteste's version became *communiores*. The variant from the "Translatio vetus" is preserved in Robert's note to the passage, not as a "primary contamination" in the manuscripts. These observations and the general view of the preserved manuscripts suggest that Grosseteste made his Latin version while various information sources were simultaneously or in consecutive stages on his desk: one or more manuscripts of the older Latin text, two codices of Aristotle's Greek original, and possibly a copy of the Greek commentaries that he planned to accompany his Latin *Nicomachean Ethics*. One can only imagine that he brought this intricate process to a successful end by working according to the first potential method that Vuillemin-Diem described, i.e. by writing his own version out anew on fresh leaves rather than following Moerbeke's system of entering changes and corrections into an existing copy.

Now that we have established Robert Grosseteste's revision method by comparing the first three books of his "Translatio Lincolniensis" with the extant passages of the "Translatio antiquior", it has become clear that building a watertight case for the remaining books on the basis of the available evidence is extremely difficult.[34] While William of Moerbeke's revised manuscript of the older translation provided sufficient fluid elements for scribes to transmit "primary contaminations" in their copies, Grosseteste's revision had already undergone the selection process before his neat copy preserved exclusively the preferences that were on the translator's mind. In order to assess whether Grosseteste had access to a complete manuscript of the "Translatio antiquior", we have to evaluate which elements from the lost translation potentially survived that selection process. This requires that we isolate from the "Translatio Lincolniensis" of books IV through X (with the exception of the passages from the "Translatio Borghesiana") elements that were hypothetically recovered from Burgundio's lost Latin version, i.e. elements that were not likely to have come from Grosseteste's own pen independently from the inspiration provided by his predecessor.

In order to carry out this hazardous assessment, two potential sources of information are available: (1) readings from Burgundio's Greek manuscript that were not present in Grosseteste's Greek sources (copies of Aristotle's text and of the Greek commentaries that he translated), and to which he could not likely arrive by mere conjecture; (2) typical features of Burgundio's translation style and vocabulary that differ markedly from Grosseteste's own preferences.

(1) While the Greek manuscript(s) of the *Nicomachean Ethics* that were in Grosseteste's hands are probably no longer extant, we still have access to Burgundio's Greek model (Firenze, Biblioteca Medicea Laurenziana, Plut. 81.18). Moreover,

[34] "Difficilius postremo dictu est, utrum Robertus in manibus habuerit translationem Antiquiorem librorum IV-X." Aristoteles, *Ethica Nicomachea*, vol. I, edited by Gauthier, CXCIV.

Burgundio does not display a tendency to often deviate from the readings offered by his Greek manuscripts. As a result, whenever a Latin reading in Grosseteste's translation can be understood from a Greek text exclusively transmitted by Burgundio's manuscript, it is a probable relic from the "Translatio antiquior". Obviously, such cases are extremely rare since they require that a particular reading of the Laurentianus is unique in the Greek tradition, ánd that Grosseteste inadvertently or intentionally did not change it in line with what he read in his own Greek witnesses. The task is not impossible, however, since according to Panegyres, the Laurentianus "has many variants not (*as far as is currently known*) found in other medieval manuscripts".[35]

In books IV through X, two passages convey potentially significant evidence.

The first is the double translation *sufficit seu placet* (1164a27). The presentation of the alternatives is similar to other cases that Gauthier retrieved from books I-III, where the first variant is the reading that Grosseteste found in the older translation, while the rendering after *seu* (or *sive*, *vel*, *id est*) represents Grosseteste's own preferred equivalent.[36] In this example, *placet* renders ἀρκέσει, which is found in virtually all Greek manuscripts. The first term *sufficit*, however, is the translation for ἀρκεῖ, a reading almost exclusively preserved in the Laurentianus.[37] The only other manuscript that is reported in Gauthier's apparatus to transmit the variant is manuscript Venezia, Biblioteca nazionale Marciana, Z. 213 (751) (M^b), produced around 1466-1468, from the collection of Bessarion. Interestingly, we are probably facing an example of textual fluidity in the reverse direction. The model of this Marcianus is manuscript Venezia, Biblioteca nazionale Marciana Z. 212 (606).[38] In the latter manuscript, the text of the *History of Animals* was thoroughly revised with the help of the medieval Latin translation by William of Moerbeke.[39] If the same scenario was followed for the other texts in that manuscript, the variant ἀρκεῖ in M^b probably results from a comparison with the Latin version. As a retrotranslation, it may therefore indirectly reproduce the reading of Burgundio's Laurentianus. Unfortunately, there are no full collations available for the *Nicomachean Ethics* in the two Marciani manuscripts.

The second relevant passage is a peculiar addition of *congruit* (1180b15), which renders the Greek ἁρμόττει as transmitted in Burgundio's Laurentianus.[40] "As far as is currently known", the reading is unique for the Laurentianus in the whole Greek

[35] Konstantine Panegyres, "The Text of Aristotle's *Ethica Nicomachea* in Laurentianus 81.18", *Prometheus* 46 (2020): 3-22, quote 5. My emphasis.
[36] Aristoteles, *Ethica Nicomachea*, vol. I, edited by Gauthier, CXCI and CXCIV-CXCV.
[37] Panegyres, "The Text of Aristotle's *Ethica Nicomachea*", 20.
[38] Georgios Pachymeres, *Commentary on Aristotle, Nicomachean Ethics*, edited by S. Xenophontos, Commentaria in Aristotelem Graeca et Byzantina 7 (Berlin and Boston: De Gruyter, 2022), LXXIV.
[39] Friederike Berger, *Die Textgeschichte der* Historia Animalium *des Aristoteles*, Serta Graeca 21 (Wiesbaden: Reichert, 2005), 87.
[40] Panegyres, "The Text of Aristotle's *Ethica Nicomachea*", 21.

tradition. Accordingly, it is very likely that Grosseteste simply accepted it in his own version from the older translation that he had in front of him.

(2) Burgundio's translation method and "signature vocabulary" has been well studied.[41] A peculiar feature highlighted by Bossier throughout his translations is the use of adjectives ending in *-bilis* (and adverbs in *-biliter*). From Bossier's list, the adjectives *actibilis* (πρακτός), *consiliabilis* (βουλευτός, θελητός), *indetractabilis* (ἀδιάβλητος), and *inpenitibilis* (ἀμεταμέλητος) are found in the *Nicomachean Ethics*.[42] Grosseteste's version shows regular occurrences of *consiliabilis*, both in books where Burgundio's Latin is still extant and in others; while we find *indetractabilis* in the "Ethica Borghesiana" (1157a21), Grosseteste changes it to *intransmutabilis* and prefers *inpermutabilis* in a later passage (1158b9); *actibilis* and *inpenitibilis* are missing from the remains of Burgundio's text, but they are found in the "Translatio Lincolniensis" (1140a2; b3 / 1166a29). The interpretation must therefore be that Robert meticulously evaluated the terminology used by his predecessor and either stuck by it or changed it according to his own understanding. Unless he had acquired knowledge about Burgundio's vocabulary from the latter's other translations, which can certainly not be excluded, it follows that he had the words and the particular passages in Burgundio's version in front of him.

That argument becomes even stronger in cases where thorough philosophical deliberation about the correct equivalence between Greek and Latin becomes less pressing. Although the adverb *quiescibiliter* (with the meaning of "gently") is absent from Bossier's list, it is an absolute signature of Burgundio's translations. The word seems virtually unknown before Burgundio introduced it in his Latin versions. Bonaventure gives us an indication of the unusual character of the word in his commentary on the Gospel of John: when he quoted *quiescibiliter* from Chrysostom's sermons on the Gospel, he felt the need to add the explaining gloss *id est paulatim*.[43]

An incomplete survey of the occurrences of the word as an equivalent for ἠρέμα in Burgundio's works gives an estimation of his preference.[44]

[41] See, in particular, Bossier, "L'élaboration", Stefania Fortuna and Anna Maria Urso, "Burgundio da Pisa traduttore di Galeno: nuovi contribute e prospettive", e prospettive", in *Sulla tradizione indiretta dei testi medici greci*, edited by I. Garofalo, A. Lami and A. Roselli (Pisa and Roma: Serra, 2009), 139-175, and Riccardo Saccenti, *Un nuovo lessico morale medievale. Il contributo di Burgundio da Pisa* (Roma: Aracne, 2016).

[42] Bossier, "L'élaboration", 116.

[43] *S. Bonaventurae Opera Omnia*, vol. 11, edited by A.C. Peltier (Paris: Vives, 1867), 512b.

[44] I do not discuss the presence of the word in the Latin translation of the *Geoponica* on wine making, for which Burgundio's role is still unclear, see Francesco Buonamici, "Liber de vindemiis a Domino Burgundione Pisano de Graeco in Latinum fideliter translatus", *Annali delle Università Toscane* 28 (1908): memoria 3, 1-29 + tav. I-VI.

* Sermons on the Gospel of Matthew (4 occurrences)[45]

* Sermons on the Gospel of John (13 occurrences)[46]

* Nemesius, *De natura hominis* (2 occurrences)[47]

* Galen, *De interioribus* (3 occurrences)[48]

In one passage of Galen's *De sanitate tuenda*, Burgundio also uses *quiescibiliter* as the equivalent for ἀτρέμα.[49]

Finally, Burgundio uses antonyms in two other contexts: οὐκ ἀνεκτῶς is rendered by three synonyms *incontinenter*, *non quiescibiliter*, *non tolerabiliter*,[50] while the rare ἀκαταπαύστως becomes *inquiescibiliter*.[51]

The Greek word ἠρέμα occurs several times in the *Nicomachean Ethics*, but it seems that initially Burgundio had not come to his eventual standard translation. In the "Ethica vetus", it is rendered as *quiete* (1111a6), which remains unchanged in the "Translatio Lincolniensis". The equivalent *parum* from the "Translatio Borghesiana" (1150a28) is changed to *quiete* in the "Translatio Lincolniensis", and the presence of *quiete* (1146b27; 1148a18; 1169a23; 1175b11) in four other instances in Grosseteste's Latin strongly suggests that he simply accepted the vocabulary of his predecessor. The only exception to this seemingly consistent preference is the presence of *quiescibiliter* in one passage of the "Translatio Lincolniensis" (1126b8). Little imagination is needed to suspect that this was the first instance where Burgundio had tried the alternative equivalent that would later become his standard term, and that Grosseteste had left it unchanged when he revised the older Latin version.

[45] *PG* 57, 25, l. 18; 69, l. 34; 69, l. 48; 74, l. 12. I have used the Latin text as published online on the *Chrysostomus Latinus in Matthaeum Online* (CLIMO) by Chris L. Nighman with his permission (climo-project.wlu.ca, accessed January 2023).

[46] *PG* 59; references are to the sermons, chapters, and paragraphs in the edition *Chrysostomus Latinus in Iohannem Online* (CLIO) by Chris L. Nighman: 14.3.2; 22.2.17; 26.3.15; 29.2.11; 29.3.7; 31.1.4; 32.1.6; 42.1.17; 44.1.8; 47.3.7; 54.2.13; 62.4.21; 86.1.20 (clioproject.net, accessed January 2023).

[47] *Némésius d'Émèse. De natura hominis. Traduction de Burgundio de Pise*, edited by G. Verbeke and J.R. Moncho, Corpus Latinum Commentariorum in Aristotelem Graecorum, Suppl. 1 (Leiden: Brill, 1975), 113, l. 59; 124, l. 78.

[48] *Burgundio of Pisa's Translation of Galen's ΠΕΡΙ ΤΩΝ ΠΕΠΟΝΘΟΤΩΝ ΤΟΠΩΝ "De interioribus"*, edited by R. J. Durling, Galenus Latinus II, vol. A (Stuttgart: Steiner, 1992), 52, l. 35; 112, l. 14; 146, l. 8.

[49] *Galeni De sanitate tuenda libri VI*, edited by K. Koch, Corpus Medicorum Graecorum V 4,2 (Lipsiae and Berolini: Teubner, 1923), 139, l. 31, app. ad loc. Interestingly, the word remained unchanged in the revision that Nicholas of Reggio made of Burgundio's translation in the early-14th century.

[50] *Burgundio of Pisa's Translation of Galen's ΠΕΡΙ ΚΡΑΣΕΩΝ "De complexionibus"*, edited by R. J. Durling, Galenus Latinus I (Berlin and New York: De Gruyter, 1976), 6, l. 2.

[51] *Saint John Damascene. De Fide Orthodoxa. Versions of Burgundio and Cerbanus*, edited by E. M. Buytaert (Saint Bonaventure, NY: Franciscan Institute, 1955), 33, l. 99.

On the basis of this combined evidence, it appears almost irrefutably decided that Grosseteste had access to Burgundio's entire text of the "Translatio antiquior" of the *Nicomachean Ethics*. Yet one has to remain cautious about the statistical value of these individual instances, particularly in view of the quantity of missing information from unedited texts.[52] Further probes led me to two tantalising occurrences of the same adverb *quiescibiliter* that seriously challenge the significance of my earlier observations.

a) The adverb *quiescibiliter* surprisingly also appears in the Latin medieval version of Galen's *De theriaca ad Pamphilianum* as the equivalent of ἠρέμα.[53] The translation, which is preserved in only two manuscripts, is preceded by a preface that ascribes the work to the translator Nicholas of Reggio from the early-14th century.[54] Nicholas knew Burgundio's translations in the field of medicine well, as is demonstrated by the fact that he supplemented some of the latter's that had remained incomplete by translating the missing parts himself. As a consequence, it is quite conceivable that Nicholas's Latin text of *De theriaca ad Pamphilianum* could be a revision of an earlier, lost translation by Burgundio. The hypothesis becomes even more attractive after the analysis of the Greek model, which is similar to manuscript Firenze, Biblioteca Medicea Laurenziana, Plut. 74.5, which is known to have been in Burgundio's hands.[55]

On the other hand, the supposition goes directly against Nicholas's explicit statement in the preface, where he claims that he was the first to render the work into Latin.[56] And although the text of the Latin translation often agrees with the readings of the Laurentianus, it also has important divergences from it. Maintaining the hypothesis of a revised translation would clearly result in circular reasoning, since every passage that agrees with the Laurentianus would confirm the existence of an underlying text, while every reading that differs from it would have to be attributed to Nicholas's activity. We must therefore take Nicholas's word that his translation was the first in the Latin world. As for the use of *quiescibiliter*, Nicholas's acquaintance with Burgundio's translations of Galen's works will undoubtedly have influenced his own lexical register.

[52] I am grateful to Ben Nagy (Polish Academy of Sciences, Kraków) for this critical observation.
[53] *Galien. Thérique à Pamphilianos*, edited by V. Boudon-Millot, Collection des Universités de France (Paris: Les Belles Lettres, 2021), 5 l. 4
[54] A survey of Nicholas of Reggio's translations of Galen is provided by Stefania Fortuna, "Il *Corpus* delle traduzioni di Niccolò da Reggio (fl. 1308-1345)", in *La medicina nel basso medioevo: tradizioni e conflitti* (Spoleto: Centro Italiano di studi sull' alto medioevo, 2019), 285-312.
[55] Burgundio annotated four Galenic treatises in this manuscript, but there are no traces of his activity in *De theriaca ad Pamphilianum*, see Fortuna, Urso, "Burgundio da Pisa traduttore di Galeno", 144-145.
[56] "... libellum Galieni de tiriaca quo hucusque caret lingua Latina..." Paola Radici Colace, "*De theriaca ad Pamphilianum* tradotto da Niccolò da Reggio: *De tiriaca ad Pamphilum*", in *Estudios sobre Galeno Latino y sus fuentes*, edited by M. T. Santamaría Hernández (Cuenca: Ediciones de la Universidad de Castilla-La Mancha, 2021), 125-161, quote 128. Stefania Fortuna kindly drew my attention to this article.

(b) A second difficulty arises from Grosseteste's translation of the *Testamentum XII Patriarcharum*. In this work, we find the same word *quiescibiliter* as the translation for ἡσύχως.[57] In this case, there is absolutely no reason to suspect that an older translation, by Burgundio or by another scholar, preceded Grosseteste's version.[58] Obviously, there is the possibility that Grosseteste had assimilated the word from his involvement with Burgundio's versions of the *Nicomachean Ethics* and of John Damascene's *De fide orthodoxa*, for which he had also revised the earlier translation by Burgundio. However, that would mean that the word had entered Grosseteste's own vocabulary and that it loses its value as "signature" for Burgundio's translations.

Yet it must be stressed that scholars usually distinguish the *Testamentum XII Patriarcharum* from Grosseteste's other works for its less strict adherence to the verbatim translation method, allegedly because it was aimed at a different, less formally educated readership. Moreover, the *Testamentum* is emphatically mentioned among the translations that Grosseteste prepared in close collaboration with the somewhat mysterious Nicholas the Greek, whose exact influence is difficult to assess.[59]

Moreover, in this particular instance, the textual fluidity of the medieval translation stretches into its early-modern printing history. After the translation was printed numerous times in the 16th century, it received its first scholarly edition in Oxford through the care of Joannes Ernestus Grabius in the first edition of his *Spicilegium SS. Patrum* from 1698, where the Greek and the Latin texts are printed in facing columns.

The collection was reprinted without any changes in an "Editio secunda" of 1700, but by the time it had come to a third revised edition (oddly labelled as the "Editio altera, priori auctior & emendatior") in 1714, the text of the *Testamentum* had undergone an important modification. Precisely in the passage that interests our research, the word *quiescibiliter* had been replaced by *quiete*, without a footnote to explain the reasons for the change.[60] Thus, the two words wonderfully mirror the variance of translation choices that we found in the *Ethics*. Grabius's third edition was

[57] *Spicilegium SS. Patrum ut et Hæreticorum Seculi post Christum natum I. II. & III.*, edited by J. E. Grabius (Oxoniæ: E Theatro Sheldoniano, 1698), 228.

[58] Much depends, however, on the interpretation of the following testimony about Grosseteste's translation work: "Hic secundo post Burgundionem iudicem Pisanum transtulit Damascenum, et Testamenta patriarcharum XII et multos alios libros." *Salimbene de Adam. Cronica I a. 1168-1249*, Corpus Christianorum, Continuatio Mediaevalis CXXV (Turnholti: Brepols, 1998), 352-353, ll. 28-30. The stop after "Damascenum" is significant, since it limits the preceding "secundo post Burgundionem" to *De fide orthodoxa*. Another reading (and punctuation) of the passage may imply that the *Testamenta patriacharum XII* and other works were also revisions. Classen, *Burgundio von Pisa*, 38-39, firmly favours the former interpretation.

[59] Marinus de Jonge, "Robert Grosseteste and the Testaments of the Twelve Patriarchs", *The Journal of Theological Studies* 42/1 (1991): 115-125.

[60] *Spicilegium SS. Patrum ut et Hæreticorum Seculi post Christum natum I. II. & III.*, Editio altera, edited by J. E. Grabius (Oxoniæ: E Theatro Sheldoniano, 1714), 228.

published posthumously after his death in 1711, so it is unclear whether he had already prepared the expanded edition himself or others had taken over that responsibility. Whoever the editor was, he did not explain the motives behind the adaptation: did he find more and convincing manuscript evidence, or was he struck by the unusual word *quiescibiliter* that might be understood with difficulty by the readers? As a critical edition of Grosseteste's translation is lacking, the question cannot be answered with any degree of certainty.

Conclusion

In this article, we have followed the medieval trail of the *Nicomachean Ethics* in its aspects of a fluid text. The material for its meandering transmission was provided by three different Latin translations, each with its own intricate history. The oldest translation by Burgundio of Pisa was probably made in chronologically different stages and the production process may not have proceeded along the logical order of the text. Robert Grosseteste had access to that earlier translation in a particular state that was certainly not identical to Burgundio's final intentions. In addition, Robert could profit from the hermeneutical efforts of the Greek commentators whose works he also rendered into Latin. As for William of Moerbeke's Latin text, it was based on a physical copy of Grosseteste's work representing a branch of the text history that was marked by significant changes.

As can be expected where translations are concerned, each of the successive stages of the Latin transmission also involved the use of one or more Greek manuscripts, most of which can only be hypothetically reconstructed. In most cases, changes trickled down from these Greek text versions and influenced the Latin phrasing, but there are indications that occasionally the roles might have been reversed and that a Latin book served as model to correct a Greek manuscript. Our investigation was in one instance even complicated by fluid aspects of the printed transmission of another translation by Grosseteste!

For the initial question of this article, whether Robert Grosseteste had a complete copy of the older Latin translation of the *Nicomachean Ethics* by Burgundio of Pisa at his disposal, it turned out to be impossible to reach a final answer. Some peculiar indications preserved in the "Translatio Lincolniensis" are to a remarkable degree consistent with Burgundio's translation preferences and with variants in his Greek model. Yet, in spite of the striking nature of these correspondences, their value remains anecdotical. To reach a more accurate assessment of their weight, the monumental edition of the Latin *Nicomachean Ethics* by Gauthier should be supplemented with a modern edition of the Greek text based on an exhaustive collation of the extant manuscript witnesses. On the Latin side, more research is needed into translation practices in general, and those of Robert Grosseteste in particular. We are not well enough informed about his specific approach to texts that had previously been

translated into Latin, like the *Nicomachean Ethics*, as compared to those for which he had to start his translation afresh, like the Greek commentaries on the same text – I choose these examples carefully since they are among the few texts that have already been studied and critically edited. And the role of his assistants, in particular the somewhat mysterious Nicholas the Greek, may have had an important impact on some of the Latin versions that we used to consider Grosseteste's style.

Stronger indications to distinguish between the various elements of influence that led to the Latin translations as they have come down to us may lie hidden in the fluid aspects of the transmitted texts. Without believing in instant miracles, we might hope that developing computational analyses will shed new light on these fascinating processes of cultural transmission.

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THE HISTORY OF ROBERT GROSSETESTE'S TRANSLATIONS WITHIN THE CONTEXT OF *ARISTOTELES LATINUS*

LA HISTORIA DE LAS TRADUCCIONES DE ROBERTO GROSSETESTE EN EL CONTEXTO DE *ARISTOTELES LATINUS*

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Abstract

Among his many accomplishments, Grosseteste is known for translating Greek philosophical, theological, and glossarial treatises into Latin, making them available for Latin readers. Three of these translations are nowadays studied for the *Aristoteles Latinus* project, which aims at making critical editions of all Greek-Latin medieval translations of Aristotle's oeuvre. The goal of this contribution is to give an overview of the history of Robert Grosseteste's translations of Aristotelian texts within the context of *Aristoteles Latinus*. The first part is devoted to previous research on these translations and to a *status quaestionis* of current scholarship. The second part turns its focus to Grosseteste's characteristic translation method. It offers new insights into the usual translation of certain smaller Greek words (such as particles and conjunctions) into Latin by Grosseteste, and what can set this translator apart from other medieval translators.

Keywords

Aristoteles Latinus; Robert Grosseteste; Translation; Translation Method; Aristotle

Resumen

Entre sus muchos logros, Grosseteste es conocido por traducir tratados filosóficos, teológicos y glosarios griegos al latín, poniéndolos así a disposición de los lectores latinos. Algunas de estas traducciones se estudian actualmente para el proyecto *Aristoteles Latinus*, que realiza ediciones críticas de todas las traducciones medievales greco-latinas de la obra de Aristóteles. Esta contribución tiene como objetivo dar una visión general de la historia de las traducciones de textos aristotélicos de Roberto Grosseteste en el contexto de *Aristoteles Latinus*. La primera parte

está dedicada a investigaciones previas sobre estas traducciones y a dar un *status quaestionis* de la erudición actual. La segunda parte se centra en el método de traducción característico de Grosseteste. Ofrece nuevos conocimientos sobre la traducción habitual de ciertas palabras griegas más pequeñas (como partículas y conjunciones) al latín por Grosseteste, y lo que puede diferenciar a este traductor de otros traductores medievales.

Palabras clave

Aristoteles Latinus; Roberto Grosseteste; traducción; método de traducción; Aristóteles

Introduction

The richness of Robert Grosseteste's oeuvre is immense: like some of the great thinkers before him, his field of vision was not limited to one area of study, but covered disciplines such as theology, natural philosophy, mathematics, physics, medicine, and many more.[1] Besides writing original treatises and commentaries, Grosseteste is also known for his translating activities. During his episcopacy, he translated Greek treatises into Latin and made them available to Western scholarship. This contribution will focus on Grosseteste's Greek-Latin translations, and more specifically, the Greek-Latin translations of philosophical treatises – and not taking into account his translations from theological and glossarial works – and his place within the *Aristoteles Latinus* project.[2]

[1] Or, to use Franceschini's praise: "Fu scrittore assai fecondo in quasi tutti i campi dello scibile umano; esegeta biblico fra i piú copiosi del Medio Evo, oratore valente in latino ed in inglese; cultore appassionato di studi filosofici, di matematica, di medicina, di scienze naturali; esperto di agricoltura ed economia domestica, abile giurista, consigliere ed educatore; traduttore dall'ebraico e specialmente dal greco e acuto postillatore e commentatore delle sue e delle altrui traduzioni: tale la complessa opera del vescovo di Lincoln." Ezio Franceschini, *Roberto Grossatesta, vescovo di Lincoln, e le sue traduzioni latine* (Venezia: Ferrari, 1933), reprinted as a book chapter in Ezio Franceschini, *Scritti di filologia latina medievale* (Padova: Antenore, 1976), II, 415-416. For an overview of Grosseteste's works, see Samuel Harrison Thomson, *The Writings of Robert Grosseteste, Bishop of Lincoln, 1235-1253* (Cambridge: Cambridge University Press, 1940).

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[2] Mercken divided Grosseteste's Greek-Latin translations into three categories according to their subject matter: theological works, philosophical works, and glossarial works. The theological Greek-Latin translations consist of the writings of John Damascus, St. Ignatius of Antioch, pseudo-Dionysius, St. Maximus Confessor, the *Testamenta XII patriarcharum* and *De vita monachorum*, the philosophical works consist of (pseudo-)Aristotelian texts, and the glossarial translations are extracts from the *Suda*. See Henry Paul F. Mercken, introduction to *The Greek Commentaries on the Nicomachean Ethics of Aristotle in the Latin Translation of Robert Grosseteste, Bishop of Lincoln*, edited by

The *Aristoteles Latinus* project was founded in 1930 under the auspices of the International Union of Academies and currently has its seat at the Institute of Philosophy, KU Leuven.[3] This international project aims to produce critical editions of the medieval Greek-Latin translations of the *Corpus Aristotelicum*, and to study the various ways in which these works came to be known in the West. The works cover a period of almost 800 years, starting with the translations by Boethius around 500, up to the end of the thirteenth century; however, the majority of the Greek-Latin translations belong to the twelfth and thirteenth centuries. Among the translators responsible for this output, we count the twelfth-century translators James of Venice, Burgundio of Pisa, Henricus Aristippus, and David of Dinant, and the thirteenth-century translators Robert Grosseteste, Bartholomew of Messina, and William of Moerbeke.

Grosseteste was nor the only, nor the most important translator within these translating activities, but he played a significant role in the rediscovery of Aristotelian texts and in the assimilation of these newly acquired texts in the Latin West. As a translator of Aristotelian treatises, his name can be linked to the *Ethica Nicomachea*, *De caelo*, *De lineis insecabilibus*, and *De passionibus*. In this contribution, I will only focus on his translating activities, which is the core business of *Aristoteles Latinus*, and not dwell upon Grosseteste's commentaries on Aristotelian texts. The contribution is divided in two parts: in the first part, I will give an overview of past research on Robert Grosseteste within *Aristoteles Latinus* and related projects. In the second part, I will focus on his translation method, which follows the standard but rigorous word-for-word translation method used in the Middle Ages, but which is unique in the sense that Grosseteste sometimes gives explanatory notes to defend certain choices in translation.

1. History of Research on Grosseteste Within *Aristoteles Latinus*

In this section, it is not my aim to mention all publications that have appeared on Grosseteste's translations of Aristotelian works, but rather to give an overview of the major steps in the history of this research.

The interest in the medieval Latin translations of Aristotle did not start with the *Aristoteles Latinus* project in 1930, but was perceptible long before this. Especially

H.P.F. Mercken, Corpus Latinum Commentariorum in Aristotelem Graecorum VI,1 (Leiden: Brill, 1973), 36*-38*.

[3] Before the project moved to Leuven in 1973, it had its seat at the University of Oxford under the direction of Lorenzo Minio-Paluello. Lorenzo Minio-Paluello's impact on the project is very tangible: he is the editor of, or connected to, many of the (mainly logical) editions made in the first decades of the project, and has set the tone for all the following editions in terms of methodology. For a recent history of the *Aristoteles Latinus* project, see Pieter De Leemans, "Aristoteles Latinus: *Philologia ancilla philosophiae*?", *Tijdschrift voor Filosofie* 77 (2015): 533-556. For more information on the *Aristoteles Latinus* project, see its website https://hiw.kuleuven.be/dwmc/research/al.

Aimable Jourdain and his son Charles Jourdain, and Martin Grabmann can be called pioneers in this study area. In the monograph *Recherches critiques sur l'âge et l'origine des traductions latines d'Aristote et sur des commentaires grecs ou arabes employés par les docteurs scolastiques* (1819, revised in 1843), Aimable and Charles Jourdain list Robert Grosseteste as one of the medieval translators of Aristotelian treatises, and ascribe him the translation of the *Ethica Nicomachea*, as well as the commentaries written on this text.[4] At that time, Grosseteste was not yet known to be the translator of other Aristotelian treatises. Martin Grabmann, in turn, devotes more attention to Grosseteste in his study *Forschungen über die lateinischen Aristoteles-Übersetzungen des XIII. Jahrhunderts* (1916).[5] He discusses the translation of the *Ethica* and the arguments *pro* to attribute this translation to Grosseteste. However, no headway was made regarding the other translations: the translations of *De caelo* and *De lineis* were at that time still unknown and anonymous, respectively.[6]

Substantial progress in this field of research is made with Ezio Franceschini (1933).[7] His voluminous contribution "Roberto Grossatesta, vescovo di Lincoln, e le sue traduzioni latine" is devoted to the Latin translations of Grosseteste. After an introduction to Grosseteste's life, the focus shifts to his translating activities, output, and method of translating. This research has been very influential and still has its value today.

One of the ambitious undertakings at the start of the *Aristoteles Latinus* project was mapping all preserved manuscripts that contain medieval Aristotle translations. The first catalogue (*pars prior*) includes a short description of each manuscript held in different libraries across the world and was published in 1939, the second one (*pars posterior*) in 1955, and the third (*supplementa altera*) in 1961. The text witnesses discovered after this date are collected in an online catalogue (*supplementa tertia*).[8] In the first volume, George Lacombe remarks the existence of marginal notes in a manuscript held in the Vatican library, Vat. lat. 2088. This manuscript contains William

[4] Aimable Jourdain, *Recherches critiques sur l'âge et l'origine des traductions latines d'Aristote et sur des commentaires grecs ou arabes employés par les docteurs scolastiques* (Paris: Fantin, 1819); this work has been revised by his son Charles Jourdain and published under the same title in 1843. This revision has been consulted for the present contribution, p. 59-64.

[5] Martin Grabmann, *Forschungen über die lateinischen Aristoteles-Übersetzungen des XIII. Jahrhunderts* (Münster: Aschendorff, 1916).

[6] Grabmann, *Forschungen*, 174-177, 204, 220-237.

[7] Franceschini, "Roberto Grossatesta", 409-544.

[8] Georges Lacombe e.a., *Aristoteles Latinus: Codices, pars prior* (Roma: Libreria dello Stato, 1939). This volume contains the *codices americani, austriaci, batavi, belgici, bohemi, britannici, dani, gallici, gedanenses* and *germanici*. Lorenzo Minio-Paluello, *Aristoteles Latinus: Codices, pars posterior* (Cambridge: Cambridge University Press, 1955). This volume contains the *codices helvetici, hispanici, hungarici, italici, iugoslavici, lusitani, poloni, russici, suevici* and *vaticani*. Lorenzo Minio-Paluello, *Aristoteles Latinus: Codices, supplementa altera* (Bruges: Desclée De Brouwer, 1961). Pieter Beullens, *Aristoteles Latinus: Codices, supplementa tertia*, online https://doi.org/10.5281/zenodo.5866423.

of Moerbeke's Latin translation of *De caelo*, but seemed to contain alternative translations for a part of that text.[9] The notes start in the middle of Book I, run until the beginning of Book III, and are introduced by the words "*L*" or "*Lincoln*". Until that moment, the *De caelo* was only known in the Arabo-Latin translation by Gerard of Cremona, the Arabo-Latin translation by Michael Scotus, who combined it with a translation of Averroes' long commentary, and a Greek-Latin translation by the hand of William of Moerbeke.[10] Lacombe's discovery suggested that Robert Grosseteste, bishop of Lincoln, could have made a translation of Aristotle's *De caelo* as well. This was further supported by the alternative translations offered in the Vatican manuscript, which are consistent with Grosseteste's usual translation method.[11]

This finding was corroborated in 1950 by an article by Donald James Allan, who had discovered that manuscript Oxford, Balliol College, 99 contains Robert Grosseteste's partial translation of *De caelo*: in Book II and the beginning of III, the text corresponds with the marginal translations of the Vatican manuscript, and based on stylistic reasons, this translation could be attributed to Grosseteste. The other parts of the *De caelo* in this manuscript are Moerbeke's translation. To this date, only Book II and the beginning of Book III of Grosseteste's translation are preserved. He probably translated Book I as well: an indirect witness of the translation of a part of Book I are the marginal notes in the Vatican manuscript.[12]

Grosseteste's partial translation of *De caelo* is accompanied by the partial translation of Simplicius' commentary *In De caelo*, also translated by Grosseteste. Grosseteste's translation of the text and the commentary on *De caelo* do not seem to have had any impact on medieval scholarship: not only is it preserved in only one manuscript, but it also does not seem to have been used by medieval commentators. Very recently, however, Pieter Beullens has discovered the remains of a second manuscript containing this translation. This second manuscript is not extant in its original form anymore, but parts of this codex have been recycled and reused in other manuscripts. Beullens discovered that the end leaf and the pastedown of manuscripts Troyes, Bibliothèque municipale, 1869 and Troyes, Bibliothèque municipale, 2000 are originating from the same manuscript and that they contain a fragment of book II of Simplicius' *In de caelo* in Grosseteste's translation. Although the fragments are relatively short and the quality of the text not exceptionally high, it nevertheless forces us to rethink the commonly accepted view that Grosseteste's translations of *De caelo* knew a (limited) circulation only in the academic (Franciscan) circles in Britain. We now have proof that at least another manuscript existed – although it was recycled very soon

[9] Lacombe, *Codices, pars prior*, 53, 129.
[10] For a clear overview of the different translations of *De caelo*, see Cecilia Panti, "Il *De caelo* nel medioevo: le citazioni e la *translatio* di Roberto Grossatesta", *Fogli di Filosofia* 12/2 (2019): 69-82.
[11] Donald J. Allan, "Mediaeval Versions of Aristotle's *De caelo*, and of the Commentary of Simplicius", *Mediaeval and Renaissance Studies* 2 (1950): 85; Panti, "Il *De caelo* nel medioevo", 86-90.
[12] Allan, "Mediaeval Versions", 82-120.

afterwards –, which shows that there was interest in this treatise beyond the British Franciscan circles and that it was available in continental Europe.[13]

William of Moerbeke's translation of *De caelo*, and his translation of Simplicius' commentary, in contrast, have been transmitted in their entirety and survived in many manuscripts. It is improbable that Moerbeke used Grosseteste's translation as a basis for a revision, and both translators seem to have had a different Greek source text as well.[14] Moerbeke's translation of the commentary has been published by Fernand Bossier; an edition of his translation of *De caelo* has recently been taken up by Elisa Rubino for the *Aristoteles Latinus* series. Provisional editions of Grosseteste's translations of *De caelo* and *In De caelo* are available in the *Aristoteles Latinus* Database, but the publication of these editions has become uncertain due to Bossier's passing away in 2006.[15]

Concerning actually published editions in the *Aristoteles Latinus* series of Grosseteste's Greek-Latin translations of Aristotelian texts, most headway has been made with the ethical corpus. Robert Grosseteste made the first complete translation of the *Ethica Nicomachea* and a translation of a compilation of Greek commentaries on this treatise. To this body of texts, he added his own explanatory notes or *notulae*, incorporated in the translation of the commentaries or in the margins of the text. This *corpus ethicum* would turn out to play a major role in medieval moral philosophy, making it Grosseteste's most important translation in the field of medieval Aristotelianism.

Between 1972 and 1974, Father René-Antoine Gauthier critically edited the different versions of the *Ethica Nicomachea* for the *Aristoteles Latinus* series, and the result of this complex tradition and transmission has been published in no less than five volumes.[16] The different versions in which the *Ethica* circulated are first the so-called

[13] Pieter Beullens, "Robert Grossetestes's Translation of Simplicius's Commentary on Aristotle's *De caelo*: Tracking Down a Second Manuscript and the Greek Model", *Mediterranea* 8 (2023): 565-594.

[14] Allan, "Mediaeval Versions", 88 and 105; Panti, "Il *De caelo* nel medioevo", 86. See as well Fernand Bossier, "Traductions latines et influences du commentaire *In De caelo* en Occident (XIIIe-XIVe s.)", in *Simplicius. Sa vie, son oeuvre, sa survie. Actes du colloque internationale de Paris (28 sept.-1er oct. 1985)*, edited by I. Hadot (Berlin and Boston: De Gruyter, 1987), 289-293.

[15] Simplicius, *Commentaire sur le traité du ciel d'Aristote, traduction de Guillaume de Moerbeke*, edited by Fernand Bossier, Christine Vande Veire and Guy Guldentops, Corpus Latinum Commentariorum in Aristotelem Graecorum VIII,1 (Leuven: University Press, 2004). The *Aristoteles Latinus* database contains the unpublished editions of *De caelo II* translated by Grosseteste and as translated by William of Moerbeke (http://clt.brepolis.net/ALD).

[16] Aristoteles, *Ethica Nicomachea. Translatio Antiquissima libr. II-III sive 'Ethica Vetus', Translationis Antiquioris quae supersunt sive 'Ethica Nova', 'Hoferiana', 'Borghesiana', Translatio Roberti Grosseteste Lincolniensis sive 'Liber Ethicorum' (Recensio Pura et Recensio Recognita)*, edited by R.-A. Gauthier, 5 vols., Aristoteles Latinus XXVI 1-3 (Leiden: Brill and Bruxelles: Desclée De Brouwer, 1972-1974). The edition is published in five volumes: the first contains the introduction; the second deals with

Ethica vetus, a translation of book II and III, transmitted in some 12th-century manuscripts; then the *Ethica nova*, a translation of only book I of which the manuscripts can be dated to the 13th century. The *Ethica Borghesiana* denotes fragments of book VII and VIII, extant in only one manuscript, and the *Ethica Hoferiana* denotes the translation of Grosseteste, contaminated with the *nova*, *vetus* and *Borghesiana*, also extant in only one manuscript. Gauthier discusses in detail the extant manuscripts, the relation between the manuscripts, and the transmission of these different versions, as well as the question of the translators' identities. All these versions are, according to Gauthier, anonymous; Fernand Bossier solved the anonymous authorship and convincingly demonstrated that the *vetus* and *nova* can be ascribed to Burgundio of Pisa.[17]

The fourth and most important version of the *Ethica* is the *translatio Lincolniensis*, i.e. the translation made by Robert Grosseteste, who probably finished it around 1246-7. It is the first complete translation of the entire text and became immensely popular in the Middle Ages – Gauthier lists 280 preserved manuscripts of this text. When making his translation, Grosseteste did not start afresh but used and revised the previous translations by Burgundio. Whether he made a complete revision of an earlier but lost *translatio antiquior*, or whether he made a partly new translation, is nevertheless difficult to determine with certainty. In any case, he did not only make use of the older translations but also consulted more than one Greek manuscript.[18] Interestingly, Gauthier is the first editor within the *Aristoteles Latinus* project to recognize the importance of the *exemplar* and *pecia* tradition at the medieval University of Paris, and to include a study on the *peciae* in his edition.[19] The last version of the *Ethica* was made by William of Moerbeke, who revised Robert Grosseteste's translation, and which also received wide circulation.[20]

Around the same time as Gauthier's edition of the Latin translations of the *Ethica Nicomachea*, Paul Mercken edited Grosseteste's Latin translations of the Greek commentaries on this treatise in the series *Corpus Latinum Commentariorum in Aristotelem Graecorum*. This work, *The Greek Commentaries on the Nicomachean Ethics of Aristotle in the*

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the *Ethica vetus*, *Ethica nova*, *Ethica Borghesiana* and *Hoferiana*; the third with Robert Grosseteste's translation; the fourth with the revision of Grosseteste's translation; and finally the fifth contains the Greek-Latin and Latin-Greek indices.

[17] Aristoteles, *Ethica Nicomachea*, I, CXXXVIII-CXLII; Gudrun Vuillemin-Diem and Marwan Rashed, "Burgundio de Pise et ses manuscripts grecs d'Aristote: Laur. 87.7 et Laur. 81.18", *Recherches de Théologie et Philosophie Médiévales* 64 (1997): 136-198; Fernand Bossier, "Les ennuis d'un traducteur. Quatre annotations sur la première traduction latine de l'*Ethique à Nicomaque* par Burgundio de Pise", *Bijdragen. Tijdschrift voor filosofie en theologie* 59 (1998): 406-427.

[18] Aristoteles, *Ethica Nicomachea*, I, CXCV.

[19] Pieter Beullens and Pieter De Leemans, "Aristote à Paris: Le système de la *pecia* et les traductions de Guillaume de Moerbeke", *Recherches de Théologie et Philosophie Médiévales* 75 (2008): 87-135, 98.

[20] This version was still considered to be anonymous by Gauthier; Jozef Brams, "The Revised Version of Grosseteste's Translation of the *Nicomachean Ethics*", *Bulletin de Philosophie Médiévale* 36 (1994): 45-55.

Latin Translation of Robert Grosseteste, Bishop of Lincoln (†1253), has been published in two volumes. The first volume, published in 1973, gives the edition and introductory study of Eustratius' commentary on Book I and the anonymous scholia on Books II, III, and IV; the second volume, published in 1991, consists of the anonymous commentary on Book VII, Aspasius' commentary on Book VIII, and Michael of Ephesus' comments on Books IX and X.[21] This list of commentators shows the variety of the compilation of Greek commentaries translated by Grosseteste. It comprises five authors and eleven centuries: Aspasius from the second century, an anonymous commentator from the third century, Michael of Ephesus of the eleventh century, Eustratius from the end of the eleventh and beginning of the twelfth century, and finally another anonymous commentator who wrote after Eustratius.[22] Contrary to the translation of the Aristotelian text, Grosseteste did not revise an older translation, but made it on the basis of one manuscript in which the different commentaries were already compiled.[23] By translating the commentaries and delivering an expanded version of the ethical corpus, Grosseteste elevated its impact and relevance in moral philosophy.

In 1977, Anne Glibert-Thirry published in the same series *Corpus Latinum Commentariorum in Aristotelem Graecorum* her volume entitled *Pseudo-Andronicus de Rhodes «Περὶ παθῶν»: édition critique du texte grec et de la traduction latine médiévale.*[24] This volume offers a study and a critical edition of the Greek text and the Latin translation, made by Robert Grosseteste, of *De passionibus*. The Greek treatise is written by pseudo-Andronicus of Rhodos and consists of two parts: *De affectibus* and *De virtutibus et vitiis*. The second part, also called *De laudabilibus bonis* or *De virtute Aristotelis*, often circulated separately under the name of Aristotle.[25] Since the translation of *De passionibus*, which has survived in 15 manuscripts, was mainly attributed to Andronicus of Rhodos, it is not a part of the *Aristoteles Latinus* project. However, because of the nature of the text –

[21] Eustratius and Anonymus, *The Greek Commentaries on the Nicomachean Ethics of Aristotle in the Latin Translation of Robert Grosseteste, Bishop of Lincoln, volume 1: Eustratius on Book I and the Anonymous Scholia on Books II, III, and IV*, edited by H. Paul F. Mercken, Corpus Latinum Commentariorum in Aristotelem Graecorum VI,1 (Leiden: Brill, 1973); Aspasius, Michael of Ephesus, and Anonymus, *The Greek Commentaries on the Nicomachean Ethics of Aristotle in the Latin Translation of Robert Grosseteste, Bishop of Lincoln, volume 3: the Anonymous Commentator on Book VII, Aspasius on Book VIII and Michael of Ephesus on Books IX and X*, edited by H. Paul F. Mercken, Corpus Latinum Commentariorum in Aristotelem Graecorum VI,3 (Leuven: University Press, 1991).

[22] Eustratius, *The Greek Commentaries*, I, 3*.

[23] Eustratius, *The Greek Commentaries*, I, 4*, 45*.

[24] Pseudo-Andronicus de Rhodes, *Περὶ παθῶν: édition critique du texte grec et de la traduction latine médiévale*, edited by Anne Glibert-Thirry, Corpus Latinum Commentariorum in Aristotelem Graecorum Suppl. 2 (Leiden: Brill, 1977).

[25] The second part has the same title as a pseudo-Aristotelian treatise from the same period. Pseudo-Andronicus has used this pseudo-Aristotelian treatise but reworks it considerably, and supplements the text with other sources. See Glibert-Thirry's lengthy introduction to the edition for a discussion on the sources and parallel tradition, Pseudo-Andronicus de Rhodes, *Περὶ παθῶν*, 5-29.

being a Latin translation, made by Grosseteste, of a text that was sometimes falsely attributed to Aristotle – it is nevertheless included in this overview. Moreover, there is reason to believe that Grosseteste was under the impression that he translated an Aristotelian text.[26]

De passionibus consists of two catalogues with definitions of the passions, the vices, and virtues, and is a mix of stoic, peripatetic, and platonic influences.[27] In her volume, Glibert-Thirry discusses the history and the sources of the text, the possible author, the Greek text and its manuscript transmission, and, finally, the Latin translation. By the time of her research, it was generally accepted that Grosseteste was the translator of *De affectibus* based on internal and external criteria.[28] Glibert-Thirry uses Grosseteste's translation method in order to demonstrate that he is also the translator of the second part of the treatise, *De virtute*, and as such can be called the translator of the entire *De passionibus* of pseudo-Andronicus. I will return to this translation method in the second part of the article.

Finally, the treatise that has received the least attention in scholarship on Grosseteste is *De lineis insecabilibus* (or *indivisibilibus*). This short pseudo-Aristotelian treatise is nowadays preserved in more than 70 manuscripts and had a relatively wide dissemination in the Middle Ages. Moreover, it has been commented upon by Albert the Great, who added his commentary (or rather paraphrase) between the sixth and seventh book of his *Physics*. The attribution of the Latin translation of *De lineis* to Robert Grosseteste has been put forward by Ussani based on an ascription in a manuscript, but there is still a need for in-depth studies on the Latin *De lineis*. This project has been recently taken up by Clelia Crialesi, who will make a critical edition of this treatise for the *Aristoteles Latinus* project.[29]

[26] Pseudo-Andronicus de Rhodes, *Περὶ παθῶν*, 143. About the medieval pseudo-Aristotelian treatises, see Pieter De Leemans and Lisa Devriese, "Translating and Reading Pseudo-Aristotle in the Latin West", in *Pseudo-Aristotelian Texts in Medieval Thought*, *Acts of the XXII Annual Colloquium of the Société Internationale pour l'étude de la Philosophie Médiévale*, edited by M. Brinzei, A. Marinca and D. Coman (forthcoming).

[27] Pseudo-Andronicus de Rhodes, *Περὶ παθῶν*, 2 and 34.

[28] Pseudo-Andronicus de Rhodes, *Περὶ παθῶν*, 133. See as well Luigi Tropia, "La versione latina medievale del '*Περὶ παθῶν*' dello Pseudoandronico", *Aevum* 26/2 (1952): 97-112.

[29] An edition of the text, based on a few manuscripts only, can be found in Albertus Magnus, *Physica, pars II, lib. 5-8*, edited by Paul Hossfeld (Münster: Aschendorff, 1993), 498-514. About the Greek model, also see Dieter Harlfinger, *Die Textgeschichte der pseudo-aristotelischen Schrift 'Peri atomôn grammôn': ein kodikologisch-kulturgeschichtlicher Beitrag zur Klärung der Überlieferungsverhältnisse im* Corpus Aristotelicum (Amsterdam: Hakkert, 1971). For the ascription by Ussani, and for a *status quaestionis* on the research on *De lineis*, see Clelia Crialesi, "The Medieval Latin Reception of the Pseudo-Aristotelian *On Indivisible Lines*: Reassessing the State of the Art", *Revista Española de Filosofía Medieval* 29 (2022): 11-24.

2. Grosseteste's Translation Method

Much ink has been spilled over Robert Grosseteste's translation method, not in the least because he is mentioned by name in Roger Bacon's harsh criticism of the Greek-Latin and Arabo-Latin medieval translations: in Bacon's view, the translators failed to transmit a good translation because they did not have enough knowledge of the sciences and the languages involved; Boethius being an exception because of his linguistic fluency and Grosseteste being an exception because of his disciplinary mastery.[30] In addition, Grosseteste's translation style makes him unique and distinguishable among medieval translators, since the presence of many explanatory notes characterizes it. In this section, I will summarize Grosseteste's translation method, for the straightforward reason that studying idiosyncrasies has been a crucial component in studying Aristotelian translations.

2.1. "Sine multa absurditate potest hoc fieri in latino"

It is a known fact that the Latin medieval translations were made in the word-for-word translation method, allowing the translator to convey a translation as close as possible to the source text, and to change as little as possible to the content or way in which it was transmitted. However, it is possible to discern degrees in this literal translation technique: every modern scholar discussing Robert Grosseteste's translation method speaks of an extremely literal translation technique, much stricter than other translators applying the same *verbum de verbo* method.[31] The Greek source text almost appears through his Latin translations to the extent Glibert-Thirry even speaks of "photography".[32] James McEvoy, a prominent scholar in the field of Grosseteste studies, claims that Grosseteste "was persuaded that each and every element of language possesses a semantic value; that there is no particle of a word, nor any detail of syntax, however small, that lacks a meaning and fails to register a demand

[30] For a discussion of these criticisms, see Franceschini, "Roberto Grossatesta", 416-420; Eustratius, *The Greek Commentaries*, I, 33*-35*; Anna Carlotta Dionisotti, "On the Greek Studies of Robert Grosseteste", in *The Uses of Greek and Latin: Historical Essays*, edited by A.C. Dionisotti, A. Grafton, and J. Kraye (London: The Warburg Institute, 1988), 28; Nicola Polloni, "Disentangling Roger Bacon's Criticism of Medieval Translations", in *Early Thirteenth-Century English Franciscan Thought*, edited by L. Schumacher (Berlin and Boston: De Gruyter, 2021), 261-282.

[31] Franceschini, "Roberto Grossatesta", 424; Pseudo-Andronicus de Rhodes, *Περὶ παθῶν*, 74; Bernard G. Dod, "Aristoteles Latinus", in *The Cambridge History of Later Medieval Philosophy from the Rediscovery of Aristotle to the Disintegration of Scholasticism 1100-1600*, edited by N. Kretzmann, A. Kenny, and J. Pinborg (Cambridge: Cambridge University Press, 1982), 67; Jozef Brams, *La riscoperta di Aristotele in Occidente* (Milano: Jaca Books, 2003), 85. Allan devotes a short paragraph to the comparison with Moerbeke when writing: "Both translators leave the Greek order undisturbed, and translate as far as possible word for word. But the invention of novel compound forms, the provision of alternative versions and of notes on derivation, and the literal representation of Greek syntax, are peculiar to Grosseteste." Allan, "Mediaeval Versions", 92.

[32] Pseudo-Andronicus de Rhodes, *Περὶ παθῶν*, 74.

for a corresponding element in the translation."[33] This conviction led Grosseteste to many difficult situations and bizarre renderings, but no translation was random or left to chance: every Latin word has been well thought-out and, where necessary, supplemented with a justification of his procedure. His strict translation method is therefore not an expression of a lack of knowledge of the languages or an inability to write a fluent piece of text in Latin, but is a result of his conviction that the Greek text must be followed in the strictest sense, and that the Greek text must be accessible via the Latin translation. The peculiarities of the Latin language are even inferior to those of the Greek language, and he is willing to sacrifice the rules of the Latin syntax if necessary.[34] Or, to quote Grosseteste, "this can be done in Latin without much absurdity".[35] His usual translation method, in which he remains very faithful to the Greek source text, is also discernible in his translations of non-Aristotelian works, including the translation of passages from the Suda, and his translations of the *Corpus Dionysiacum*, although his translation of the *Testaments of the Twelve Patriarchs* exhibits a less literal translation method with no accompanying glosses or notes, since this text was meant to be read by a wider audience and not only by scholars.[36]

Franceschini, who was one of the first to devote extensive attention to the Latin translations of Grosseteste, devotes some fifty pages to Grosseteste's translation method and substantiates his statements by quoting extensive passages from Grosseteste's commentaries on pseudo-Dionysius' treatises, and from his notes on the text of and on the commentaries on the *Ethica*.[37] In these works, Grosseteste shows his

[33] James McEvoy, "Language, Tongue and Thought in the Writings of Robert Grosseteste", *Miscellanea Mediaevalia* 13/2 (1981): 588.

[34] Franceschini, "Roberto Grossatesta", 485; Allan, "Mediaeval Versions", 91-92; Eustratius, *The Greek Commentaries*, I, 65*; McEvoy, "Language, Tongue and Thought", 585-592. Some of his characteristic translations are translating Greek articles with *qui*, following *decet* and *sequitur* with a dative to mimic the Greek, and translating Greek compounds with Latin compounds or devising a similar structure.

[35] "sine multa absurditate potest hoc fieri in latino", quote taken from Franceschini, "Roberto Grossatesta", 486.

[36] Anna Carlotta Dionisotti, "Robert Grosseteste and the Greek Encyclopaedia", in *Rencontres de cultures dans la philosophie médiévale: Traductions et traducteurs de l'antiquité tardive au XIVe siècle*, edited by J. Hamesse and M. Fattori (Louvain-la-Neuve and Cassino: Institut d'études médiévales, 1990), 337-353; M. de Jonge, "Robert Grosseteste and the Testaments of the Twelve Patriarchs", *The Journal of Theological Studies* 42 (1991): 119; James McEvoy, *Robert Grosseteste* (Oxford: Oxford University Press, 2000), 117; Catherine Kavanagh, "The Translation Methods of Robert Grosseteste and Johannes Scottus Eriugena: Some Points of Comparison", in *Robert Grosseteste: His Thought and Its Impact*, edited by J.P. Cunningham (Toronto: Pontifical Institute of Mediaeval Studies, 2012), 44-62; Tiziano Dorandi and Michele Trizio, "Editio Princeps del 'Liber Qui Uocatur Suda' di Roberto Grossatesta", *Studia graeco-arabica* 4 (2014): 155.

[37] Grosseteste explains his translation method in the prolegomena of his retranslation and commentary on pseudo-Dionysius' *De celesti hierarchia*, see James McEvoy, "Robert Grosseteste's Own Mission Statement as a Translator from the Greek", in *Yearbook of the Irish Philosophical society*, edited by C. Kavanagh (Maynooth: The Irish Philosophical Society, 2006), 173-181.

cards and gives us a unique insight into his personalized translating procedure by making certain choices explicit. It is essential to realize that Grosseteste's translations and his commentaries on some of those texts cannot be seen separately. The commentaries were the ideal place not only to fill what he felt was lacking in content in the main text, and to give the reader all possible information he felt was necessary, but the notes and commentaries were also used to reflect on some of the translating problems where the strict word-for-word format did not allow for additional explanations.[38]

In those explanatory notes, or *notulae*, Grosseteste gives all kinds of information that according to him was lacking in the text or commentaries, and explains his rationale for the translation. Mercken extensively studied the *notulae* of the *Ethica Nicomachea*, which accompany the translation of the text and of the commentaries. Overall, he distinguishes four types of *notulae*: (1) lexical and grammatical notes concerning Greek terms and their translation into Latin, which takes up most of the notes. These notes are meant to explain and justify a translation, to explain a transliteration or give an alternative rendering, to give information on phonetics or pronunciation and how to write Greek characters in the Latin script, to dwell on the etymology of a word, to note if a Greek term has different meanings, or to give a grammatical explanation; (2) discussions of Greek variants, if there are variant readings in different Greek manuscripts; (3) lexicographical information from Greek sources; and (4) comments on the substance of the translated text.[39]

2.2. Particles, Adverbs, Pronouns, and Conjunctions

Within Latin Aristotle studies, the analysis of translation methods has already yielded many interesting results. Analyzing the entire translation indicates how a translator usually translates a particular Greek word, adjective or pronoun, and, if available, compares this with other translations by the same person. Based on a detailed study of the translation method, an editor can justify a specific choice in the edition and change a corrupt reading from the manuscripts, can put chronology into the translations and demonstrate a certain evolution in the translation method, or can use it as an argument to ascribe an anonymous translation to a particular translator.

Some of the Aristotelian translators have been the subject of a thorough analysis, and progress has also been made regarding Grosseteste. In his pioneering work on Grosseteste's Latin translations, Franceschini gives a list of 79 Greek nouns, verbs, adjectives, adverbs, conjunctions, and particles, together with their Grossetestian counterpart, which he calls "formulario grossatestano", and with this gives the impetus

[38] Franceschini, "Roberto Grossatesta", 479-538; see as well Allan, "Mediaeval Versions", 91-92.
[39] Eustratius, *The Greek Commentaries*, I, 45*-46*; see also Franceschini, "Roberto Grossatesta", 490-530 and Jean Dunbabin, "Robert Grosseteste as Translator, Transmitter, and Commentator: The 'Nicomachean Ethics'", *Traditio* 28 (1972): 466-472.

for further research.[40] Allan, subsequently, adds to his article on *De caelo* an appendix with 19 Greek words (nouns, verbs, adjectives, adverbs, and particles), with both their Latin common translation and the Latin translation by Grosseteste, allowing an easy comparison; these words are according to him the most characteristic and recurrent differences.[41] Glibert-Thirry, furthermore, has used the preliminary results on Grosseteste's translation method as an argument to ascribe *De virtutibus* to Grosseteste. *De affectibus* could safely be attributed to Grosseteste, and *De virtutibus* had the mark of the same translator. She gives a list of correspondences in translation between *De affectibus* and *De virtutibus*, which consists of 20 "mots invariables", 5 "constructions caractéristiques", 31 "termes usuels" and 10 "mots de même famille" – where possible compared with Franceschini's results – in order to reach the conclusion that both parts were indeed made by the same translator.[42] The first list of correspondences, dealing with "mots invariables", lists Greek prepositions, adverbs, and particles with their corresponding Latin translation.

Such lists of correspondences, without any indication of the frequency and possible alternatives for a certain translation, or other translators' practices, do not say much and can be misleading. For instance, Glibert-Thirry lists the translation of prepositions such as διά + gen. (= *per* + acc.), διά + acc. (= *propter* + acc.), ἐπί + dat. (= *in* + abl.), ἐπί + acc. (= *ad* + acc.), and notes that the Latin translation of these Greek words is the same in *De virtutibus* and *De affectibus*, using it as one of her arguments to claim that both parts are translated by the same author.[43] However, when looking at the translation method of other translators, such as William of Moerbeke and Bartholomew of Messina, we observe that the translation of these prepositions on her list corresponds to their translation method as well and is not characteristic of Grosseteste alone.[44] Therefore, this argument alone in the translation's ascription should be used with caution.

The analysis of translation methods should not so much focus on the translation of frequently used nouns, verbs, or prepositions – although they might certainly have their value, depending on the content of the text – since the strict word-for-word method leaves not much room for variation, but could make use of the smaller words, such as particles, adverbs, pronouns, and conjunctions. Each translator has its own preferred translation of these small words: because these words do not have a crucial impact on the content of the text, translators tend to follow their own preference or intuition for these seemingly unimportant words, which is precisely why and where differences between the translators can be seen and where personality among the

[40] Franceschini, "Roberto Grossatesta", 539-540.
[41] Allan, "Mediaeval Versions", 116-117.
[42] Pseudo-Andronicus de Rhodes, *Περὶ παθῶν*, 134-137.
[43] More examples can be found in Pseudo-Andronicus de Rhodes, *Περὶ παθῶν*, 134-135.
[44] The same holds true for terminology under "termes usuels" and "mots de même famille". For a quick comparison between the translation methods, one can consult the indices in the printed *Aristoteles Latinus* editions.

medieval translators can be detected. Dod calls these words the "unconscious signature by the author".[45]

There is a need to develop a more detailed and complete "formulario grossatestano", but an essential prerequisite is the availability of critical editions of Grosseteste's translations, in order to pass an informed judgment. In what follows, I give an impetus and focus on some particles, adverbs, pronouns, and conjunctions. I do not only give the most common Latin translation of Grosseteste, but I also indicate possible synonyms. These are accompanied by numbers that indicate how many times a specific translation is used in a given text. As indicated above, the frequency of a certain translation is significant: the translator may translate a Greek word in two or three different ways, but it is precisely the predominance that is noteworthy and that gives us more insight into the translation style.[46] The list is not exhaustive, but will hopefully serve as a starting point for future studies, taking into account Grosseteste's other translations as well.

The numbers for the *Ethica Nicomachea* are based on the indices of Gauthier's edition.[47] It should be noted that Grosseteste revised the previous partial translations of Burgundio of Pisa when making his *Ethica* translation. This aspect might influence some of the numbers or translations below, since it is possible that he did not revise all the small words and that they are therefore remains from Burgundio's style. The majority of the *Ethica*, however, is probably translated anew by Grosseteste, which is why the numbers are still very useful. The numbers for *De caelo* book II have been made by comparing the unpublished Latin edition by Fernand Bossier, available on the *Aristoteles Latinus* Database, and the Greek edition by Moraux, and more specifically manuscript J (Vienna, Österreichische Nationalbibliothek, phil. gr. 100) from the critical apparatus.[48] The numbers for *De passionibus* are based on Glibert-Thirry's edition, which offers both the Greek and the Latin text. Since this is a relatively short text on a very specific subject, only some of the words below are mentioned in this treatise. Finally, the numbers for *De lineis insecabilibus* are the result of comparing one Latin manuscript, Chantilly, Musée Condé, 280, ff. 244r-247r, with the Greek edition by Bekker.[49] An empty box means that a specific translation does not occur in this treatise.

[45] Dod, "Aristoteles Latinus", 67.

[46] For example, Bartholomew of Messina translates οὖν with *igitur*, *ergo* and an omission, but we notice a predominance of *igitur* over *ergo*; σφόδρα can be translated with *vehementer* and *valde*, but in his translations we notice a preference for *vehementer* over *valde*, although both are correct renderings. See Aristoteles, *Physiognomonica. Translatio Bartholomaei de Messana*, edited by L. Devriese, Aristoteles Latinus XIX (Turnhout: Brepols, 2019), LXXXIV.

[47] Aristoteles, *Ethica Nicomachea*, fasciculus quintus.

[48] Aristote, *Du ciel*, edited by P. Moraux (Paris: Les Belles Lettres, 1965). The *Aristoteles Latinus* Datatabase can be consulted via the website of Brepolis (http://clt.brepolis.net/ALD).

[49] This manuscript is probably an independent manuscript outside the *pecia* tradition, and is available online: https://portail.biblissima.fr/ark:/43093/mdatab6908d13322f80c1da059df38066

When possible, the translation is compared with Franceschini's, Glibert-Thirry's, and Allan's results, and the method of the other thirteenth-century translators Bartholomew of Messina and William of Moerbeke.[50]

Greek	**Latin**	***Eth. Nic.***	***De cael. II***	***De pass.***	***De lin.***
ἄν	utique	390	85	1	20
	om.			1	2

According to Franceschini, *utique* is the only translation for ἄν, although we notice three cases where this word is not translated. Bartholomew shares the translation of *utique*, but much more regularly than Grosseste omits this word, around one-fifth of the cases.

Greek	**Latin**	***Eth. Nic.***	***De cael. II***	***De pass.***	***De lin.***[51]
γάρ	enim	1392	206		53
	autem	3	1		2
	om.		2		3

940cd963dc24; Aristoteles, *Aristotelis Opera: Περὶ ἀτόμων γραμμῶν*, edited by I. Bekker (Berolini: apud Georgium Reimerum, 1831), 968-972.

[50] For Grosseteste, I have compared the results with Franceschini, "Roberto Grossatesta", 539-540; Allan, "Mediaeval Versions", 116-117; and Pseudo-Andronicus de Rhodes, *Περὶ παθῶν*, 134-137. To compare with Bartholomew of Messina, I have used Aristoteles, *Physiognomonica*, LXXXIII-LXXXV and Pieter Beullens, *A Methodological Approach to Anonymously Transmitted Medieval Translations of Philosophical and Scientific Texts: the Case of Bartholomew of Messina* (KU Leuven: Unpublished Ph.D. Dissertation, 2020), 31-39. To compare with Moerbeke, I have made use of Lorenzo Minio-Paluello, "Guglielmo di Moerbeke traduttore della *Poetica* di Aristotele (1278)", *Rivista di filosofia neo-scolastica* 39 (1947): 1-17, repr. in id., *Opuscula. The Latin Aristotle* (Amsterdam: Hakkert, 1972), 40-56 and Fernand Bossier, "Méthode de traduction et problèmes de chronologie", in *Guillaume de Moerbeke. Recueil d'études à l'occasion du 700e anniversaire de sa mort (1286)*, edited by J. Brams and W. Vanhamel (Leuven: University Press, 1989), 257-294. For a study of the translation method of the 12th-century translator Burgundio of Pisa, see Fernand Bossier, "L'élaboration du vocabulaire philosophique chez Burgundio de Pise", in *Aux origines du lexique philosophique européen. L'influence de la* latinitas, edited by J. Hamesse, Textes et études du Moyen Âge 8 (Louvain-la-Neuve: FIDEM, 1997), 81-116.

[51] The Chantilly manuscript transmits one *quoniam* and one *igitur* as well, but these might be copyist's errors in the manuscripts. Future research on *De lineis* should include all manuscripts of this text in order to judge these cases.

Franceschini mentions *enim* as the only translation for γάρ; we see that *autem* and an omission are also possible, albeit in very low numbers. Bartholomew varies much more: *enim* is the usual rendering, but it can also be translated by *namque*, *autem*, *vero*, *ergo*, *igitur* or omitted. Moerbeke also prefers *enim*, but *nam* and an omission might occur.

Greek	**Latin**	***Eth. Nic.***	***De cael. II***	***De pass.***	***De lin.***
δέ	autem	1750	318	182	93
	vero	36		4	
	om.		6	7	11
	enim	4			1
	sed	4			
	quidem		1	1	1
	tamen		1		
	et			1	

Franceschini gives *autem* as translation for δέ, Glibert-Thirry specifies by giving *autem* and *vero*. This table shows a predominance of *autem* over *vero*, but the translation can also be omitted, as well as be translated by occasional variants. Bartholomew prefers *autem* over *vero*, and has some other occasional variants, but the translation of *vero* still occurs between 2 and 36% of the cases, which is much more than Grosseteste. Moerbeke usually translates it with *autem*, but there is an occasional omission or *vero* (though less than Bartholomew).

Greek	**Latin**	***Eth. Nic.***	***De cael. II***	***De pass.***	***De lin.***
δή	utique	225	12	1	5
	autem	4			
	om.		3		
	igitur	1			

Franceschini gives *utique* as only translation, even though the comparison shows us that *autem*, *igitur* and an omission could be possible as well. Bartholomew prefers *utique* as well, and very occasionally renders it with *autem*, *iam*, *vero* or an omission. Moerbeke translates δή with both *itaque* and *utique* (and rarely *autem* and *etiam*); *itaque* is characteristic for Moerbeke's translation method.

Greek	**Latin**	***Eth. Nic.***	***De cael. II***	***De pass.***	***De lin.***[52]
ἐπεί(δή)	quia	67	22		2
	quoniam	4			

Franceschini only gives *quia* as translation, although *quoniam* occurs in the *Ethica Nicomachea* as well. Bartholomew and Moerbeke stick to the translation of *quoniam*.

Greek	**Latin**	***Eth. Nic.***	***De cael. II***	***De pass.***	***De lin.***
οἷον[53]	puta	162			1
	velut	6	16	2	
	utputa	10			
	ut	1		2	
	quemadmodum	1			
	quasi	1			

Franceschini mentions *velut* as "formulario grossatestano"; the same goes for Allan, who mentions that *puta* is the common version, in contrast with *velut* for Grosseteste. These statements do not hold true: we see a variety of translations, with a preference for *puta* in the *Ethica Nicomachea*. Bartholomew renders this word with *ut* and to a lesser extent with *sicut*, which distinguishes the two translators from each other. Moerbeke choses for *puta*, *velut*, and *utputa*, and sometimes *sicut* and *ut*.

[52] The Chantilly manuscript transmits two times *quare* as well, but they might be palaeographical mistakes.
[53] When οἷον is followed by τε, the translation changes into *possibile.*

Greek	Latin	*Eth. Nic.*	*De cael. II*	*De pass.*	*De lin.*[54]
ὅτι	quoniam	284	66		10
	quia	3			
	quod				1

Franceschini only gives *quoniam* as translation, although – albeit very rarely – we come across *quia* and *quod* as well. Bartholomew translates ὅτι with *quia*, *quod* and *quoniam*. Moerbeke uses *quod* and *quia*, but rarely *quoniam*.

Greek	Latin	*Eth. Nic.*	*De cael. II*	*De pass.*	*De lin.*
οὖν	igitur	324	44	9	6
	om.	2	2	5	1

Franceschini mentions only *igitur*, but in all texts this word can be omitted as well. Bartholomew has a preference of *igitur* over *ergo* and can occasionally leave it out as well.

Greek	Latin	*Eth. Nic.*	*De cael. II*	*De pass.*	*De lin.*
ὥσπερ	quemadmodum	175	31		3
	ut	5			
	quasi	1			
	velut		1		

According to Franceschini, ὥσπερ is always translated as *quemadmodum*. Although this is almost always the case, we do come across an occasional *ut*, *quasi* and *velut*. Bartholomew always translates this with *sicut*, which distinguishes the two translators. Moerbeke renders ὥσπερ with *quemadmodum*, *sicut*, *ut*, *velut*, *itaque*, *quasi*, *tamquam*, and rarely with *(ut)puta* and *ac.*

[54] The Chantilly manuscript transmits one *quem*, one *quam* and one *quicumque* as well, but future research should judge whether these are palaeographical mistakes.

Greek	Latin	*Eth. Nic.*	*De cael. II*	*De pass.*	*De lin.*
ὥστε	quare	82	37	1	27
	ut	12	9		
	propter	2			
	quapropter	1			
	velut	1			

Franceschini notes *quare* as translation for ὥστε. The table shows that other variants can occur as well in Grosseteste's translating method. Bartholomew mainly uses *quare* too, but has used *quod* and *ita quod* as well. Moerbeke also has a preference for *quare*, but uses *itaque* as well.

This material shows that there is no fixed one-on-one relationship between the Greek and the Latin as previous research led to believe. Nevertheless, it is clear that Robert Grosseteste is still a very strict and literal translator who hardly deviates from his choices. Occasional alternatives are possible, yet we notice a very high degree of uniformity and more so than with other translators. Mercken even compared Grosseteste's translation method with a word processing program: in his article, he checked to what extent Grosseteste's translations can be reproduced with a program that follows some basic rules. The result is very striking, as almost 88% of Grosseteste's translation in question could be reproduced with such a program. The other 12% were mostly alternative translations that differed from the most commonly used form. If more than one Latin equivalent is possible, the program cannot predict the translator's decision and sticks with the most commonly used one (which is of course one of the limits of the program).[55] Exactly these limits have been exemplified by the tables above: Grosseteste, although following his strict method, for one reason or another very occasionally decided to render the Greek word with another Latin translation than the one he usually used. It is very important to keep track of these words in order to avoid getting into a vicious circle.[56]

[55] H. Paul F. Mercken, "Robert Grosseteste's Method of Translating: a Medieval Word Processing Programme?", in *Tradition et traduction. Les textes philosophiques et scientifiques grecs au Moyen Âge latin. Hommage à F. Bossier*, edited by R. Beyers, J. Brams, D. Sacré, and K. Verrycken (Leuven: University Press, 1999), 349.

[56] If one editor believes that γάρ is always translated as *enim*, then (s)he might be inclined to add an *enim* in cases where the Latin manuscript tradition does not have one but when a γάρ is available in Greek. By doing so, subsequent studies might assume that γάρ is always translated and never omitted, which affects the next edition, and so on.

This preliminary study on Grosseteste's translation method can immediately be put into practice and applied to the *Quadratura per lunulas*. This short mathematical treatise discusses the quadrature problem and is a fragment of Simplicius' commentary on the *Physica*. Only a part of Simplicius' commentary has been translated into Latin in the Middle Ages and this fragment's translation seems to go back to the thirteenth century. The Latin translation of the fragment is extant in two distinct versions, the first being a literal translation, and the other a paraphrase of that translation. The name of Robert Grosseteste has been put forward as the translator of this short treatise, and since Grosseteste discussed similar issues pertaining to the quadrature of a circle in his commentary on the *Analytica Posteriora*, he was familiar with this mathematical problem. However, modern scholarship disagrees on the authenticity of the ascription.[57]

The editor of the first literal version, Clagett, mentioned Grosseteste as translator since the fragment ends with "Hanc demonstrationem inveni Oxonie in quadem cedula Domini[?] Linco[lniensis]", but nevertheless suggests that Grosseteste's usual style of translation should be compared with this treatise.[58] To this end, I have compared his edition of the Latin literal translation with the Greek edition of Simplicius' commentary made by Diels.[59] Since this is a short fragment on a mathematical topic, not all words from the tables above occur, but these are the results:

ἄν	*itaque* 1
γάρ	*enim* 5 – *quia* 1
δέ	*vero* 4 – *quoque* 2 – om. 2 – *iam* 1 – *itaque* 1 – *autem* 1
ἐπεί	*quia* 2
ὥστε	*sicque* 1 – *sic itaque* 1

[57] See Celina A. Lértora Mendoza, "La obra 'De quadratura circuli' atribuida a Roberto Grosseteste", *Mathesis* 3 (1987): 394-395. The author also offers a discussion on the quadrature of a circle and a transcription of the text, which corresponds to Clagett's second version. On Grosseteste's commentary on the *Analytica Posteriora*, see Pietro Rossi, "Tracce della versione latina di un commento greco ai *Secondi Analitici* nel *Commentarius in Posteriorum Analyticorum libros* di Roberto Grossatesta," *Rivista di Filosofia Neo-Scolastica* 70 (1978): 434.

[58] Marshall Clagett, "The *Quadratura per lunulas*: a Thirteenth-Century Fragment of Simplicius' Commentary on the *Physics* of Aristotle", in *Essays in Medieval Life and Thought: Presented in Honor of Austin Patterson Evans*, edited by J.H. Mundy, R.W. Emery, and B.N. Nelson (New York: Columbia University Press, 1955), 99-101.

[59] Simplicius Cilicius, *Simplicii in Aristotelis physicorum libros quattuor priores commentaria*, edited by Hermannus Diels, Commentaria in Aristotelem Graeca IX (Berlin: De Gruyter, 1882), 56-57. The edition of the Latin fragment can be found in Clagett, "The *Quadratura per lunulas*", 102-105. Since the second version is a paraphrase and not made in the word-for-word translation method, it has not been taken into account.

Comparing these results with the tables above, one immediately notices that the two translation methods are different. For his Aristotelian translations, at least, Grosseteste did never translate ἄν with *itaque*; the renderings of δέ are entirely different than one would expect from Grosseteste; and also the translations of ὥστε did never occur in the tables above. Moreover, when comparing the Latin translation with the Greek source text, one notices a more free way of translating, since the order of the words are followed less strictly than one would expect from Grosseteste. Therefore, based on this preliminary study of his Aristotelian translations alone, I would suggest that Robert Grosseteste is not the translator of the first, literal, version of the fragment *Quadratura per lunulas*.

Conclusion

This contribution aimed at offering an overview of Robert Grosseteste's place in the *Aristoteles Latinus* project. This chronicle demonstrated that essential steps have already been made in the study of Grosseteste's translations of Aristotelian treatises, but at the same time showed that we are still faced with unfortunate gaps.

Robert Grosseteste has earned his spot next to the other famous thirteenth-century translators of the *Corpus Aristotelicum*. It is therefore to be hoped that, with the preparation of new critical editions, we will be able to examine his way of thinking and tackling a translation in more detail, and how his efforts to produce reliable translations were put into practice.

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RESEÑAS DE LIBROS/BOOK REVIEWS

Michael-Sebastian Noble. *Philosophising the Occult. Avicennan Psychology and 'The Hidden Secret' of Fakhr al-Dīn al-Rāzī.* Berlin and Boston: De Gruyter, 2021. 309 p. ISBN: 9783110644579. Hardcover: € 104.95

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Contemporary scholars of Islamic thought who have engaged with the corpus of the polymath Fakhr al-Dīn al-Rāzī (d. 1210) were able to show the quintessential role this thinker played in contributing to the development of the philosophical and theological traditions and to the dynamic interplay between them in the post-classical period. For instance, Heidrun Eichner, who approached this era from a different perspective, demonstrated how the conceptual framework of *General Matters* (*al-Umūr al-ʿāmma*) (*al-umūr ʿāmma*) that al-Rāzī developed in his *Compendium on Philosophy* (*al- Mulakhkhaṣ fi l-manṭiq wa-l-ḥikma*) and *The Eastern Investigations* (*al-Mabāḥith al-mashriqiyya*) gave birth to significant innovations during the transmission of Avicennan (after Avicenna, d. 1037) philosophy in what is called the post-classical period.[1] More recently, Frank Griffel argued that in the aforementioned texts, al-Rāzī not only communicates Avicenna's philosophy, but also caters for two substantial philosophical developments, one in epistemology, the other in ontology.[2]

Eichner and Griffel are just two among many scholars who focus on al-Rāzī's philosophical and theological works. Michael Noble's novel monograph introduces a different inquiry into Rāzian scholarship. It focuses neither on al-Rāzī's philosophical summae nor on his theological works. Rather, this monograph, which is based on Noble's dissertation and comprises twelve chapters, stands as the inaugural overarching exploration of what is arguably considered as one of al-Rāzī's most mysterious and understudied texts from his early career: *The Hidden Secret in the Secrets of the Stars*[3] (*al-Sirr al-maktūm fī asrār al-nujūm*). As Noble tells us in the first chapter, *al-Sirr* was a controversial work already at its time and was subject to criticism among subsequent Islamic scholars who either proclaimed al-Rāzī as an unbeliever (*kāfir*) or excluded *al-Sirr* from his oeuvre (p. 4). The primary reason given for this is that al-Sirr considerably flirts with "magic" (*siḥr*)

[1] Eichner has demonstrated that the structure of *al-umūr al-ʿāmma* offered a new paradigm of inquiry that was appropriated into philosophical and theological works in the post-classical period. See Heidrun Eichner, *The Post-Avicennian Philosophical Tradition and Islamic Orthodoxy:Philosophical and Theological Summae in Context* (Halle: Habilitationsschrift, 2009); Heidrun Eichner, "Dissolving the Unity of Metaphysics: From Faḫr al-Dī al-Rāzī to Mullā Ṣadrā al-Šīrāzī", *Medioevo* 32 (2007): 139-197.

[2] See Frank Griffel, *The Formation of Post-Classical Philosophy in Islam* (Oxford: Oxford University Press, 2021). See also Sultan Saluti, "Review of Frank Griffel. *The Formation of Post-Classical Philosophy in Islam*", *Revista Española de Filosofía Medieval* 29/2 (2022): 254-257.

[3] The full title is not given by Noble who lists only *The Hidden Secret*. See p. 1.

and "occult sciences" (*al-ʿulūm al-gharība*)[4] which, as Noble rightly observes, "was an important aspect of Islamic intellectual history and the object of profound and open rational engagement" (p. 47). Through careful analysis of the philosophical theory of the science of the talisman formulated by al-Rāzī in *al-Sirr*, Noble succeeds, by my lights, in securing the attribution of this work to al-Rāzī. To corroborate this attribution, Noble analyzes and interprets passages from *al-Sirr*, through cross-referencing to works where al-Rāzī mostly engages with Avicenna's philosophy – mainly to the *Commentary on Pointers and Reminders* (*Sharḥ al-Ishārāt wa-l-tanbīhāt*)[5] and *al-Mabāḥith al-mashriqiyya* – whereby themes on cognition (*maʿrifa*), prophecy, psychology, and soteriology (*khalāṣ*), or the study of salvation are brought into sharp focus.

In the second chapter, Noble accounts for the central theme of *al-Sirr* – which justifies al-Rāzī's study of the occult science – namely, the Sabian (*al-Ṣābiʾa*) doctrine of soteriology.[6] To vindicate his engagement with this science, al-Rāzī argues that the soteriological enterprise is grounded in occult knowledge, which fleshes out the zenith of all fields of inquiry.[7] That being said, al-Rāzī's ennobling of the occult science to the point of occupying the highest position, deserves further scrutiny. This is primarily because, insofar as we submit to Noble's compelling hypothesis raised in the last chapter – that al-Rāzī sought to compose *al-Sirr* in order to secure patronage –[8] this should then downplay the seriousness we attribute to al-Rāzī's crowning of the occult science with the highest status. This, however, is not made clear by Noble.

In the third chapter Noble analyzes the eight Sabian doctrines[9] and sets out to show that al-Rāzī was influenced by arguments of Avicenna and Abū l-Barakāt al-Baghdādī (d. c. 1165). Importantly, to establish the first doctrine that the spheres possess rational (*nāṭiqa*) souls, Noble argues that al-Rāzī draws primarily on Avicenna's argument in the *Ishārāt*.

[4] Noble restricts the meaning of the terms magic and occult science to the definition of talisman (*ṭilsam*. Pl. *ṭilsamāt*) formulated by al-Rāzī. The *ṭilsam* is the "blending of heavenly active forces with elemental passive forces, for the sake of being empowered to make manifest (*iẓhār*) that which runs contrary to the norm (*al-ʿāda*) or to prevent from occurring that which is consonant with it (*mā yuwāfiquha*)"" (p. 1). Cf. al-Rāzī, *al-Sirr al-maktūm fī asrār al-nujūm* (Cairo: Mīrzā Muḥammad Shīrāzī, lithograph, undated), 7.

[5] Henceforth, *Sharḥ al-Ishārāt*. The *Ishārāt wa-l-tanbīhāt* will be hereafter referred to as *Ishārāt*.

[6] As Noble observes, the term Sabian understood by al-Rāzī, denotes "the adherents of any form of astrolatrous paganism" (p. 48), who are also identified with the "masters of talismans" (*aṣḥāb al-ṭilsamāt*). For more on these sects see pp. 68-70.

[7] Mastery over occult science, according to al-Rāzī, exposes one to the secrets of the higher and lower worlds, such as the influence generated by the higher spirits upon the generation and corruption of the lower world. Further, perfecting one's knowledge of the higher spiritual beings, qualifies one to connect with these beings and to imitate them. See p. 51. Cf. al-Rāzī, *al-Sirr al-maktūm fī asrār al-nujūmi*, 3.

[8] This as Noble explains follows al-Rāzī's catering to the Khwārazmshāhs' interest in the Sabian occult science (p. 266).

[9] Which al-Rāzī introduces in *al-Sirr* to vindicate the occult astral science, and to explain the "planetary astral ritual" together with its role in the perfection of the human soul.

Further for establishing the fifth doctrine, which is pivotal for the practice of idol worship, he demonstrates how al-Rāzī takes over Abū l-Barakāt's conception of the *Perfect Nature* (*al-ṭibāʿ al-tāmm*) according to which each human soul is affiliated with one of the planet's spirits that causes the existence of the soul (p. 81).

Nevertheless, Noble's contention that in *al-Sirr* al-Rāzī establishes the rationality of the celestial soul – which serves as the groundwork for the subsequent doctrines – by invoking Avicenna's argument of *Ishārāt* merits a closer look. This is because, in his Commentary on the *al-Ishārāt*, which he authored after *al-Sirr*, al-Rāzī *undermines* Avicenna's line of reasoning. However, Noble does not draw sufficient attention to al-Rāzī's criticism and opts instead to mention it in a passing footnote. Noble rightly accounts for the *equivocal* quiddity of the celestial soul – which he portrays as "rational-bodily celestial soul complex"– as the means by which Avicenna endeavors to solve a "paradox of the celestial sphere's motion" (p. 91) which al-Rāzī is unsatisfied with.[10] However, Noble does not make clear that al-Rāzī's dissatisfaction with this solution is meant to *problematize* this "rational-bodily soul complex." Thus, it is unclear how did al-Rāzī incorporate the *Ishārāt's* argument of establishing the rationality of the celestial soul into the *Sirr*. Because inasmuch as al-Rāzī's understanding of this issue in *al-Sirr* is similar to that in his *Sharḥ al-Ishārāt* one could reasonably expect him to discard the *al-Ishārāt*'s argument and opt for another account to set up the celestial soul's rationality. One possible way to surmount this ambiguity, is to argue that in his *Sharḥ al-Ishārāt* al-Rāzī has undergone a development in his thought and became aware of the intricacy of the "rational-bodily souls complex." This point, however, is not illustrated by Noble who seems to treat *al-Sirr* and *Sharḥ al-Ishārāt* as subscribing to the same reading of *Ishārāt* which is not the case.

In the fourth and fifth chapters, Noble elucidates the concept of celestial causation. He probes al-Rāzī's perspective in *al-Sirr*, highlighting how the circular motion of the spheres determines the process of sublunary generation and corruption (*kawn wa-fasād*). The perpetual circular motion acts as an efficient cause (*ʿila fāʿila*) that brings about the terrestrial phenomena and mediates between them and God. However, Noble's account of the efficient causality here, is inconsistent with his analysis in the tenth chapter, where al-Rāzī is portrayed as championing classical-Ashʿarite occasionalism – the view which asserts that God is the only real agent in the cosmos. This portrayal results from al-Rāzī's rebuttal

[10] This paradox results from the fact that the celestial motion of the sphere is eternal, and thus the object of this motion must be universal. However, this eternal motion gives rise to particular configurations – i.e., particular places and positions (*ayūn wa-awḍāʿ*) covered by the sphere throughout its motion. Now the possessor of a universal intention (*qaṣd kullī*) which are subject to universal perception (*idrāk kullī*), and which must be abstracted (*mujarrad*) from matter is the rational (*nāṭiqa*) soul of the sphere.[10] And since from a universal intention a particular action cannot procced, the mover of the sphere must possess particular intentions, and as a result, it must be bodily. Thus, the mover of the sphere is corporeal (*jismāniyya*). Accordingly, the celestial soul is both corporeal and incorporeal. This, al-Rāzī argues in his commentary on the *Ishārāt*, is absurd. See al-Rāzī, *Sharḥ al-Ishārāt,* 2 vols., edited by ʿA. Najafzāde (Tehran: Anjuman-i Āthār wa Mafākhir-i Farhangī, 2005).

of the Sabians' belief that the planets are the proximate gods (*āliha qarība*) deserving of worship. Noble argues that al-Rāzī's refutation is grounded in his reckoning that God is the only real agent and that "any apparent causal relationship between celestial configurations and terrestrial phenomena can only be understood as God's norm (*ʿāda*) of acting in this world: it provides no evidence whatsoever of any real agency other than God's" (p. 225). Having said this, Noble's analysis of efficient causality versus what he calls "real agency" is somewhat perplexing. This is because it is unclear how one could reconcile between efficient causality attributed to the circular motion and between assigning no "real" agency to beings other than God.

Noble's study, despite the above criticisms, is a bold exploration of a somewhat *unorthodox* and enigmatic work of al-Rāzī. It is elegantly written, albeit containing a few shortcomings in the Arabic translation.[11] The monograph is very well structured, with clear progress evident in its multiple chapters and subsections that make up a coherent thesis. Noble's analysis widens our understanding of major philosophical themes in al-Rāzī's cosmology and occult science. His analysis further exemplifies the tendency in the postclassical period to integrate philosophical doctrines and themes in various fields of inquiry. Noble remarkably demonstrates the transmission of Avicenna's psychology, theory of perception, and prophetology – showing how al-Rāzī deviates from Avicenna's naturalistic account of prophethood in the task of safeguarding the exclusive status of the prophet. No less significant is the reception of Abū l-Barakāt's doctrine of the *Perfect Nature*, which al-Rāzī adopts in his construction of the Sabian occult science. One might question, however, whether al-Rāzī's sympathy with the Sabian doctrines, upon which he sought to establish their occult science, and which was motivated by his pursuit of patronage, does truly mirror his own thought in this rather early work.

[11] For instance, Noble translates *fikr* as "meditation" (p. 35). At other times he translates *fikr* as thinking (p. 21). Further is his use of intentions to translate, *maʿānī* which he also utilizes to translate *qaṣd*, pl. *maqāṣid* (e.g., p. 89). Another example is Noble's translation of *Muḥaqqiq* as "Investigator of truth" (p. 246). Although this translation coveys, to some extent, the meaning of *Muḥaqqiq*, it however leaves out a fundamental aspect of *taḥqīq* (the Arabic root of *Muḥaqqiq*) which designates a "critical inquiry." Accordingly, *Muḥaqqiq* might be better translated as a "Critical Inquirer of the Truth."

Nicole Oresme. *Questiones in Meteorologica de ultima lectura, recensio parisiensis. Study of the Manuscript Tradition and Critical Edition of Books I-II.10*, edited by Aurora Panzica (Medieval and Early Modern Philosophy and Science, 32). Leiden and Boston: Brill, 2021. ix+290 p. ISBN: 9789004461406. Hardback: € 140.98

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Nicole Oresme (ca. 1320-1382) is one of the most outstanding mathematicians, philosophers and theologians of the late Middle Ages. In general, his work is nowadays very well-known. Motivated by the pioneering investigations of Pierre Duhem and Anneliese Maier, several generations of scholars have put the best of their efforts forward in finding new manuscript copies of his writings, in translating and interpreting them and, perhaps the more substantial task of all, in editing them. Oresme's monumental work has recently turned again into the focus of attention with the publication of new studies, papers and editions of texts which are by him or, at least, attributed to him. In its variety and complexity, Oresme's work includes commentaries to several Aristotelian works on practical and natural philosophy (logic does not seem to have the focus of Oresme's attention, but, instead, mathematics), in Latin and, not to be dismissed, in French as well. Besides, the transmission of his writings represents a research case in itself: Many of his works are extant in different versions, and while some of them are conveyed in only one manuscript (that seems to be the case for the questions of the *Physics*, as far as we know), others were eagerly copied and widespread.

The present book proposes an edition of a text of great significance for our understanding of late medieval philosophy and science, namely of one set of Oresme's questions commentary on Aristotle's *Meteorologica*. It includes an introduction explaining the various textual problems of Oresme's works on the *Meteorologica* (more on that below, though), as well as a detailed analysis of the manuscript tradition. Let me say before moving over to the details that this is a key contribution to the growing Oresme scholarship that stays in one and the same line of excellence to which the author has already accustomed us and which we hope to see continued in the immediate future (forthcoming titles are announced herein, which are of paramount importance to modern scholarship).

The significance and the quality of this research is evident once the reader makes him/herself aware of the difficulties involved in the assumed task. This requires at once a great background of textual erudition and paleographical preparation, a fine understanding of the natural philosophical matters discussed in the text and – an obvious but difficult condition to be fulfilled – a big deal of exploring spirit regarding some of the main problems within the history of ideas.

First of all, one has to keep in mind the crucial role of the *Meteorologica* linking the more speculative philosophical works of the Aristotelian *libri naturales* to the empirical science of nature. A history of medieval philosophy, sometimes too focused on theory of knowledge and often overly fixed on the speculations connected to metaphysical concepts and their theological implications, has shown only a subordinated interest in exploring this doubtful and unstable realm of the material world. Aristotle's various works on zoology provided the history of biological sciences with a wide ranged number of materials to be studied. In turn, the history of physical sciences – when not focusing on the mathematics of the rainbow and some other particular cases – has honored above all the arguments and topics of the *Physics* and *De caelo*, infinity and continuity, the notions of space and vacuum, the concept of motion, the Aristotelian "dynamics" (just to mention some of the more frequently discussed topics). Yet, we know that Aristotle's *Meteorologica* have assumed an important position in the medieval curriculum of the Faculty of Arts. The text had been translated into Latin in the mid-twelfth century and again in the thirteenth century[1]. The *Auctoritates Aristotelis*, for instance, include a special section for every one of the four books of the *Meteorologica*[2]. Moreover, later on, during the cosmological revolution, the text has been seen as a particularly adequate vehicle to expose and transport own ideas rather than the old ones of the Philosopher. Thus, at the beginning of his voluminous commentary, the Jesuit Niccolò Cabeo (1586-1659) declares himself free of the (grammatical) duty of explaining the text of the *Meteorologica* and even more of defending uncritically any Aristotelian position.[3] Moreover, it seems to me quite evident that we would understand many of those physical ideas Descartes' exposed in *Les Météores* if we take into consideration the background of the late medieval commentary tradition on the Aristotelian *Meteorologica*.

[1] Henricus Aristippus translated the book IV (from Greek) and Gerardo de Cremona the books I-III (from Arabic). Both translations were unified into one work, to which the text known as *De mineralibus* (an Avicennian fragment) was appended (see Bernard G. Dod, "Aristoteles latinus", in *The Cambridge History of Later Medieval Philosophy. From the Rediscovery of Aristotle to the Disintegration of Scholasticism 1100-1600*, edited by N. Kretzmann, A. Kenny, J. Pinborg and E. Stump [Cambridge: Cambridge University Press, 1982], 47-79, 47. Michael Scot is credited to have translated the book IV of Averroes' *Commentary* on the *Meteorologica* (Dod, "Aristoteles latinus", 49). After a century, the text was re-translated by William of Moerbeke and thus incorporated to the "*corpus recentius*" of Aristotle's work (Dod, "Aristoteles latinus", 51).

[2] Jacqueline Hamesse, *Les* Auctoritates Aristotelis*. Un florilège médiéval. Étude historique et édition critique* (Louvain and Paris: Peeters, 1974), 171-174.

[3] For, "si supponis omnino verum esse, quod Philosophus dicit, nec in eo laboras, ut ostendas rationum eius momento ad se quemlibet trahere, et in sola dicentis auctoritate conquiescis, non philosopharis, sed fidelis Aristotelicus interpres evadis, nec tua cognitio scientia erit, sed fides, nec enim rationum momento sed dicentis auctoritas, te in sententiam trahit". Niccolò Cabeo, *In quatuor libros meteorologicorum Aristotelis commeniaria...* (Rome: Typis haeredum Francisci Corbelletti, 1646). An opponent of Galileo regarding the falling bodies and the theory of the tides, Cabeo did not hesitate to contradict empirically also Aristotle in several points, as for instance about the quickness how water freezes. On this point, see Lynn Thorndike, *A History of Magic and Experimental Science*, 8 vols., vol. 7: *The Seventeenth Century. Part 1*. (New York and London: Columbia University Press, 1958), 423.

Comparing to the *Physics*, one could rapidly describe the matters treated in the *Meteolorogica* as "more empirical than theoretical". This is correct as far as Aristotle actually deals here – especially in the books I-III – with concrete observations, phenomena, facts that he considered to be happening in the realm of the world under the Moon's sphere. Often enough it is about phenomena and processes which take place in the *elementa media*, air and water, like vapor, rain, dew, hail and snow, winds, whirlwinds and the likes; and so one can say without big deviations that it is in general about facts related to "weather". It is to be emphasized that Aristotle included here also the Milky Way and the comets, objects which he rejected to locate in the supralunar realm. Also lightning and thunder, the halo and the rainbow and even earthquakes are discussed. However, such an enumeration of facts should not lead the reader to think of any kind of "pure empiricism"; this work is for sure *not an encyclopedia* collecting varied information in natural history. The focus of the *Meteorologica* lays clearly on the *attempt to explain* these and other phenomena. Certainly, every explanation requires unavoidably the background of a more general theory, so that we always see Aristotle bringing up principles from his physics and his cosmology.

Aristotle's *Meteorologica* seems to have been Oresme's gateway to Aristotelian natural philosophy in general. It is not only that some other texts testified his interest in "meteorological" problems, but also that his first commentary (*prima lectura*) by Oresme on the *Meteorologica* is a very early text (1346). The here edited text is, however, not this one but the *ultima lectura*, a text which is also an early commentary by Oresme, datable in the later 1340s or early 1350s, and represents Oresme's teaching on this matter at the Arts Faculty, probably short before he became a Great Master of Theology at the College of Navarre.[4] As a matter of fact, this version was considered until now the only one extant commentary by Oresme on the *Meteorologica.* Moreover, besides these two texts, there is still a third one, a literal commentary (a *sententia*) which also predates the *ultima lectura*. The identification of the different redactions and the differentiation with parallel texts by other authors (especially by Themo Iudeus) has given rise to a number of competing theses concerning the composition of the text itself and the various extant copies (the scribes also seem to have played an important role). Panzica explains all these problems and the opinions of Lynn Thorndike, Alexander Birkenmajer and Stephen McCluskey with precision and clarity (7-9).

A substantial part of the book is the comprehensive analysis of the manuscript tradition (10-65). The reader who is not used to work with manuscripts might find this part exhausting and would like to jump over these pages. I do, however, advise her/him to take

[4] There are some passages in the text where Oresme refers back to own works previously written (Aurora Panzica, "Nicole Oresme à la Faculté des Arts de Paris: Les Questions sur les Météorologiques", *AHDLMA* 84 (2017): 7-89, 33. Two of these self-references are contained in the same question I. 8 (*utrum motus celi sit causa ignis in sua spera et etiam aeris superioris*, 156-163) and are conceptually of great significance. In the first one (162, lin. 8), Oresme refers back to his questions on *De caelo* when discussing the notion *impetus* in connection with the acceleration of the falling bodies. In the second one, immediately thereafter (162, lin. 17), Oresme mentions his questions on the *Physics* regarding his ontological examination of the concept of motion.

the needed time and to read them attentively since they contain very useful information. Panzica delivered a detailed analysis of the complete tradition of the text, with manuscript descriptions (including the full catalogue information and specialized bibliography and even considering the material features of the codices, the problems of the pagination, the structure of the fascicles and the details regarding the scribes) of the nineteen (!) codices which convey the text.[5] The scholar who is working on the manuscript tradition of the late medieval natural philosophy will find here a treasure of information possibly connected to her/his own research. Now, considering the manuscript tradition – the text was not printed in the Renaissance – the first striking fact in comparison to other Oresmian texts on natural philosophy is the unusual number of extant copies. The second evident fact is that the great majority of the copies belong to the German-Polish milieu, almost all indeed. There is only one copy in Paris (which is the ms. *P*, to which we will come back immediately) and, despite the extensive research work by Panzica in several European collections, only a partial list of questions in a Vatican manuscript (no other Italian copies!). It is manifest that this text attracted the attention of several *magistri* of Central and Eastern European universities. Thus, we learn that "Oresme's *Questions* had a great impact on the medieval reception of this Aristotelian text" (5), the *Meteorologica*. Moreover, Oresme's text, which has been the source for the Parisian commentaries by Albert of Saxony and Themo Iudaeus, was especially praised as a teaching tool at the university of Prague.

Now, the impatient reader may ask, why was the text edited only until the tenth question of the second book, if it is that important? Well, first of all, an edition of Oresme's *prima lectura* by the author is ready to appear in the near future.[6] Second, and directly relevant to the understanding of this work, is the fact there is a sound, specific reason for this decision, a reason which is very-well connected to the transmission of the text itself. As Panzica plainly explains (65-75) there are two families of copies. One family comprises all copies except the Paris manuscript (BnF, lat. 15156); the other family includes all other eighteen copies (the Central and Eastern family, so to say). Through a further analysis the author has been able not only to show the different under-families within the group of copies, but also – and this is the point – to determine with accuracy the quality of the conveyed text. She concludes that the Paris copy – which by the way was not known to Birkenmajer – has to be used as a basis for the edition since it provides in general the better text, whereas all other copies "contain important errors and omissions which are not shared by *P* and which – states Panzica – I do not think could be ascribed to Oresme" (106). Hence, it cannot be but a good decision to take this manuscript as the basis for the edition

[5] There are nineteenth copies in total of the *ultima lectura*. Additionally, as registered in Daniel A. Di Liscia and Aurora Panzica, "The Writings of Nicole Oresme: a Systematic Inventory", *Traditio* 77 (2022): 235-375, 256, a new copy has been identified in Berlin, SB - Preußischer Kulturbesitz, Fragm. Var. 573A, ff. 1ra-2rb which is only a fragment of book IV and therefore unusable for this edition that stops at II.10 (which is the end of the Paris manuscript).

[6] Aurora Panzica, *Nicole Oresme, Questiones in Meteorologica de prima lectura. Study of the Manuscript Tradition and Critical Edition*, forthcoming in the series *Medieval and Early Modern Philosophy and Science* (Leiden and Boston: Brill, 2023), ca. 450 pp.

and add, if relevant, some variant readings from the other copies when *P* fails to offer a good text. Now, the manuscript *P* "abruptly stops at question II.10 in the middle of a sentence" (*ibid.*) and for this reason the edition of the Latin text must also stop here, which is well understandable.

What makes this text especially interesting for the history of natural philosophy? Oresme's questions *de ultima lectura* are also from a doctrinal point of view worthy to be studied. One of the most important novelties of this text is perhaps the fact that compared to the other Oresmian writings that were previously known, Oresme uses here astral influence as an explanatory principle for many more phenomena. Thus, for example, in question I.5, the recurrent variation of opinions – and in this context he refers among other things to the theory of great conjunctions. Also the treatment of light, its propagation and its effects is, perhaps even more in connection to the quality of "warm", especially compelling (I.9). Oresme's discussion of the problem of the proportionality between the four elements, namely earth, water, air and fire (I.6-7) is much more technical than the other commentaries on *Meteorologica* and constitutes a relevant source to be connected to his reflections in his edited *Questiones de generatione et corruptione*[7]. Studying this text, the reader realizes that Oresme's critical reception of the Oxford *calculatores* has already begun, since he criticizes here the theory concerning the proportionality of the elementary spheres Bradwardine had proposed in his famous *Tractatus de proportionibus velocitatum in motibus*.

Regarding the nature of the Milky Way, in both commentaries Oresme rejects Aristotle's atmospheric theory, claiming that the Milky Way is located in the celestial sphere and results from the reflection of the sunlight on parts of the heavenly matter which are less dense than the stars but denser than the orbs. Interestingly, he tries to "rescue" the text of the Aristotle's *nova translatio* with a philological explanation, supposing that the presence of the atmospheric theory of the Milky Way resulted from a mistake made by the translator or even by a scribe.[8]

Finally, one could also add yet another thematic core to be mentioned, namely the discussion of the geological theory of permutations between seas and continental zones in II.9. Pierre Duhem, who found this theory in Buridan, attributed it to him, but this text by

[7] Nicolaus Oresme, *Quaestiones super De generatione et corruptione*, in Veröffentlichungen der Kommission für die Herausgabe ungedruckter Texte aus der mittelalterlichen Geisteswelt 20, edited by S. Caroti (München: Bayerische Akademie der Wissenschaften, 1996).

[8] "Dicendum est ergo quod galaxia est una pars celi; unde ymaginandum est quod alique partes celi sunt densiores et alique rariores, alique medio modo se habentes. Que sunt densiores, lucent et sunt stelle; que vero rariores, non lucent, et sunt ille partes que sunt prope stellas et inter illas. Alique sunt medio modo se habentes, ita quod non sunt ita dense sicut stelle nec sunt ita rare sicut alie partes celi que non lucent. Et sic se habent ille partes celi quesunt interpositestellis ibi existentibus ubi apparet Via lactea [...]. Ad auctoritatem Aristotelis respondetur quod illa non fuit opinio Aristotelis, sed erat interposita eius textui ex vitio scriptoris vel translatoris, quia hodierno tempore facientes scribere aliquos textus, videntes glosam quod eis placet in margine, dicunt suis scriptoribus quod illam glosam apponant textui, et ita potuit accidere textui Aristotelis" (I.19, 219-220).

Oresme reveals instead that it is a theory common to the Parisian milieu of those years, something not yet known.[9]

The book includes an Appendix showing the parallel passages in Aristotle's *Meteorologica*, for each question, a complete and well-ordered bibliography, as well as five indexes (of manuscripts, of sources, of concepts, of ancient names and of modern names). It goes without saying that this additional work makes the book an excellent research tool.

This is a complex and fascinating text, not only regarding the history of its transmission but also regarding its content. The reader who is not a specialist in the matter, could feel helpless with a naked Latin text without additional explanations on the theories discussed. However, Panzica is on the way of providing in the immediate future the needed help. And we are sure it will more than satisfy all the reader's needs and much more besides. In her comprehensive work (now in print), we will find an outstanding presentation of Latin medieval tradition of the *Meteorologica* commentaries, including, of course, a discussion of the Questions by Nicole Oresme here excellently edited.[10]

[9] See more in Aurora Panzica, "Les commentaires latins des Météorolo-giques: d'une climatologie astrologique à une climatologie mécanique" (in the forthcoming *De la Lune à la Terre,* ch. 20.3).

[10] Aurora Panzica, *De la Lune à la Terre: les débats sur le premier livre des Météorologiques d'Aristote au Moyen Âge latin (XIIe-XVe siècles)*, forthcoming in the series *Studia Artistarum*, (Turnhout: Brepols), ca. 800 pp. I am very grateful to Panzica for having allowed me to enjoy the use of this work before its publication.

Ovanes Akopyan. Ed. *Fate and Fortune in European Thought, ca. 1400-1650*. Leiden and Boston: Brill, 2021. 288 p. ISBN: 9789004359727. Cloth: € 129.32

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Com direção editorial de Ovanes Akopyan, o objetivo deste volume é mostrar as diversas facetas das abordagens sobre o fado e a fortuna na Europa, desde o Renascimento e até ao início da modernidade. Como refere Akopyan, embora as diferentes expressões do problema percorram toda a história da filosofia e a reflexão sobre o tema tenha assumido diferentes aspetos desde a antiguidade até aos nossos dias, a questão "whether free will and predestination are in fundamental conflict with each other" (1) foi alvo de uma atenção renovada na Europa, principalmente "as a consequence of the revival of an avalanche of forgotten sources, mostly of ancient origin" (1). Os estudos apresentados neste volume – que resultou, em larga medida, de um congresso que teve lugar na Universidade de Marwick em maio de 2016 – estão organizados a partir de uma abordagem interdisciplinar do tema do fado e da fortuna, que, segundo Akopyan, se situa "at the intersection of intelectual history, philosophy, literary studies, and art history" (2). Este facto justificou a organização do volume em torno de três tópicos principais: filosofia, política e sociedade, e história de arte. A divisão interna do volume apresenta-se deste modo: *Part 1 – The Concept of Fate in Philosophy and Theology* (13-94); *Part 2 – Political and Social Context* (95-147); *Part 3 – Artistic Considerations* (183-258). Segue-se uma bibliografia (259-284) e um *Index Nominum* (285-288). Uma vez que os estudos 7 a 10 deste volume, que intercetam as áreas da sociedade e da arte, se fazem acompanhar por diversas reproduções de imagem em número total de 49, nas pp. VII-IX é fornecida uma lista das Figuras.

A estrutura interna do volume está orientada para as três áreas temáticas mencionadas, de modo a servir o objetivo principal desta publicação, que consiste em mostrar a variedade de abordagens do tema do fado e da fortuna que ocorrem no início da modernidade. Assim, como explica Akopyan, "the first four essays center on the concept of fate in Renaissance and early modern philosophy", o segundo conjunto de estudos foca-se em "the political and societal factors that defined the discourse on fate and fortune in the early moderne period", e o terceiro e último grupo de ensaios "focuses essentially on the artistic representation of fate" (9-10). No que se segue resumimos os aspetos que nos pareceram mais relevantes em cada um destes ensaios.

Em "Renaissance Consolations: Philosophical Remedies for Fate and Fortune", John Sellars foca-se na forma literária da *consolatio* por considerar que, desde a antiguidade até ao Renascimento, esta literatura serviu de veículo para uma reflexão filosófica sobre o problema do fado e da fortuna. Segundo Sellars, um aspeto peculiar da abordagem destes temas na literatura de consolação é o facto de aí serem apresentados remédios para a cura dos males que ocorrem na vida humana e que, nesta literatura, aparecem associados aos

reveses da fortuna e do fado. Sellers parte de uma análise do *background* deste problema tal como ocorrem nas obras de Cícero e Séneca, para posteriormente centrar a sua análise num conjunto de obras que se podem enquadrar na tradição literária da *consolatio*, escritas por autores do Renascimento (Petrarca, Salutati, Bracciolini, Filelfo, Scala e Ficino). Paul Richard Blum, por sua vez, no ensaio "Coluccio Salutati and the Humanist Critique of Fate", põe em evidência a análise subtil feita por este filósofo renascentista acerca das forças do fado e da fortuna, com vista a mostrar que elas são, afinal, instrumentos da providência divina para que o ser humano, mediante o uso da sua liberdade, faça uso racional e livre dos efeitos contingentes que essas forças produzem na vida dos homens. No ensaio "Fate, Providence and Fortune in Giordano Bruno's *Expulsion of the Triumphant Beast*", Elisabeth Blum descreve o uso que este filósofo faz destes conceitos, nesta obra, com o objetivo de mostrar que, segundo este filósofo, essas forças operam de modo rival e contrastante, enquanto princípios causais que regem o curso dos fenómenos naturais. O ensaio de Jo Coture, sobre os conceitos de fortuna e fado em Pierre Gassendi, encerra a primeira parte deste volume. Com base na leitura e análise da obra de Gassendi *De libertate, fortuna, fato ac divinatione*, Coture mostra como este filósofo, construindo sobre a longa tradição precedente, encontra argumentos inovadores para compatibilizar a liberdade humana com a atividade causal destas forças cósmicas e divinas, tradicionalmente conotadas com ameaças ou impedimentos à liberdade.

A parte 2 deste volume, focada no contexto político e social, abre com o ensaio "Fate and Fortune in Machiavelli's Anatomy of the Body Politic" (95-117), no qual Guido Giglioni mostra como a interpretação de Machiavelli sobre os ciclos da vida das estruturas políticas, como a cidade e o estado, se baseia na convicção de que toda a história humana é movida por impulsos vitais e primários, como sejam "the desire to have and the fear to lose what one already has, which is also mirrored by the desire to be free and the anxiety about other people's freedom" (117). Segundo Machiavelli, este movimento antagónico entre impulsos estaria na origem das crises e tumultos permanentes na vida da comunidade. Enquanto movimentos vitais primários e contraditórios, medo e desejo estão na base de comportamentos destrutores, os quais, ínsitos fatalmente no ciclo da vida humana e na história, levam necessariamente a humanidade à autodestruição. No ensaio "'Fortune is a Misstress': Figures of Fortune in English Renaissance Poetry" (118-147), Orland Reade constata que se a Fortuna foi considerada na Antiguidade como uma deusa benéfica, nas fontes filosóficas e literárias medievais o seu papel aparece diminuído e os discursos contra a fortuna multiplicam-se. Contudo, se é verdade que o Renascimento voltou a prestar atenção à figura da Fortuna, também o não fez da forma mais positiva. Reade foca-se na obra poética de alguns escritores do renascimento inglês e mostra que as descrições que aí ocorrem da Fortuna estão frequentemente associadas a atitudes discriminatórias de género ou de raça, facto que se verifica se, como faz Reade, nos ativermos às figuras que representam, em alguma desta poesia, a fortuna e o fado. No último ensaio desta parte 2, Sophie Raux escreve sobre jogos de acaso nos Países Baixos durante os séculos XVI e XVII (148-179). Raux chama a atenção para o facto de este período da história europeia, marcado por mudanças profundas no plano teológico e religioso, ter colocado no centro das

preocupações dos homens a questão sobre os princípios que governam o destino humano (148). No seu ensaio, profusamente ilustrado com representações da época de jogos de sorte e de lotaria, Raux defende que as crises nas crenças religiosas e filosóficas tiveram forte impacto social, sendo uma das manifestações deste facto o desenvolvimento, particularmente visível nos Países Baixos, de múltiplas formas de jogos de sorte.

A parte 3 e última deste volume é composta por três ensaios. Damiano Acciarino, em "Renaissance Iconology of Fate" (183-214), identifica três figuras arquetípicas do discurso sobre o Fado e a Fortuna entre os séculos XIV e XVII: "Fate as Death", "Fate as Star" e "Fate as Chain" (185). Ilustrando estas três figuras com representações diversas da época, Acciarino constrói o seu ensaio em torno da descrição destes três tipos de fado, que se manifesta na condição humana, no movimento dos astros ou no percurso causal da natureza. Por sua vez, o ensaio de Dalia Jodovitz (215-232) baseia-se numa análise de algumas pinturas de Georges de La Tour representando quer cenas da vida social da época, quer cenas bíblicas, com o objetivo de mostrar como este pintor se posicionou sobre os temas do fado, da fortuna e da providência. O ensaio de Ovanes Akopyan, "Ptolemy, Fortune, and Politics: A Case of the Reception of Western Scholarship in Early Modern Russia" (233-258), que encerra este volume, analisa um caso particular de uso e adaptação de elementos específicos encontrados nas representações artísticas do mundo ocidental em dois ícones russos, atribuídos ao pintor Simon Ushakov. O ensaio de Akopyan está construído sobre três aspetos fundamentais: a discussão do problema da autoria das pinturas e a correspondente análise das razões da sua atribuição ao pintor russo setecentista; a análise dos esquemas iconográficos das duas pinturas e a abordagem do problema do fado e da fortuna, nelas presente, e a descrição do contexto político e cultural em que essas duas pinturas foram produzidas.

O presente volume é um excelente contributo para o conhecimento do tema do Fado e da Fortuna no arco temporal sobre o qual incidem estes estudos. A abordagem multidisciplinar, que se manifesta nos diversos campos de especialidade dos autores do volume, permite obter uma compreensão clara do modo como questões relacionadas com estes grandes temas da tradição filosófica e cultural foram tratadas no período que decorre entre o Renascimento e o início da idade moderna. Dada a relevância das questões coimplicadas na temática do fado e da fortuna – tais como a existência da liberdade humana e a análise das ameaças a esta liberdade nos campos teológico, cosmológico ou psicológico – , esta obra contribui muito substancialmente para um melhor conhecimento do contexto cultural, social, político, religioso e artístico, no qual, entre os séculos XV e XVII, tiveram origem importantes mudanças de posicionamento e tentativas de resolução das questões filosóficas mencionadas.

Alice M. Ramos. Ed. *Beauty and the Good: Recovering the Classical Tradition From Plato to Duns Scotus.* Washington, D.C.: The Catholic University of America Press, 2020. 415 p. ISBN: 9780813233536. Hardcover: $ 75

Reseñado por FRANCISCO JAVIER ORMAZABAL ECHEVERRÍA
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Este libro editado por la profesora Alice Ramos se propone una recuperación de una perspectiva estética tradicional "que enlaza la belleza con el ser y la verdad" (4), pero una recuperación renovada, que redunda en la actualidad – en la trascendentalidad, habríamos de decir – del estatus ontológico de esa belleza como resplandor del ser, como lo deseable o lo bueno del ser en su verdad.

El enfoque del libro es eminentemente histórico: como ya sugiere el subtítulo, los artículos presentes irán mostrando el desarrollo gradual de una herencia que nace de autores antiguos y acaba – muere o es desterrada – en la Edad Media tardía. No obstante, los planteamientos éticos, metafísicos, epistemológicos y psicológicos presentes en esta obra también constituyen una aportación explícita a la renovación contemporánea de la belleza y de la bondad. En el primer artículo, D. C. Schindler pone de relieve el concepto básico de la belleza como principio de orden en el *Banquete* de Platón. La belleza es mediadora entre trascendencia e inmanencia por ser lo absolutamente último y lo absolutamente primero en la jerarquía ontológica, la meta de nuestras acciones y el inicio de nuestra percepción que nos saca de nosotros mismos para buscar en la esfera ideal. "La belleza llama cada vez más arriba, paradójicamente, al estar ya presente abajo" (39). A continuación, Eric D. Perl continúa la estela del intelectualismo griego en su estudio de la belleza y el bien según Tomás de Aquino. También en Aristóteles y en Plotino, se nos dice, hay una equivalencia entre bien y verdad, en el primero porque la forma es también la belleza de la cosa – y la búsqueda de la inteligibilidad de las cosas es, por lo tanto, la búsqueda de su belleza –, y en el segundo porque, si algo es inteligible, satisface la mirada del conocimiento, luego es bello. En esta base encuentra Perl el trasfondo sustancial del intelectualismo clásico que luego se comunicará en la obra del Aquinate.

Aunque también Perl lo tome muy en cuenta, es Michael Pakaluk quien pone el foco de atención sobre la "belleza ética" en el pensamiento clásico. Su artículo explica que la razón de que Aristóteles no dé cuenta explícita del *kalon* podría residir en la común comprensión – en la "obviedad" – de la que partía su audiencia. Esta obviedad, explica Pakaluk, se sostendría sobre a) la noción platónica de la belleza como inteligibilidad de las formas, b) el campo de batalla como paradigma privilegiado para la ilustración del *kalon*, y c) el *leitmotiv* aristotélico de que el fin de la acción consiste en su conformidad con un ordenamiento antecedente asistido por las emociones del agente. Mark K. Spencer contribuye en el estudio de la propuesta moral aristotélica introduciendo la necesidad de la aprehensión de la belleza. Aunque no explícitamente, Aristóteles sí explica el modo de conocer el *kalon*, y

Spencer llama la atención sobre el hecho de que este modo equivale a la manera por la que, según la escuela filosófica fenomenológica, experimentamos la belleza. Para concluir con el filósofo macedonio, Jonathan J. Sanford conecta el *kalon* aristotélico con el *bonum honestum* tomista, ese bien que "merece honor por su belleza espiritual" (124). Su artículo explora cómo Aristóteles y Tomás de Aquino conciben la belleza en relación con las virtudes, al mismo tiempo que proporciona una visión aristotélica-tomista sobre la justicia como virtud.

También el estoicismo influyó en el Aquinate, como explica Mary Beth Ingham. En concreto, es el "bien en sí" Cicerón el que forma la base para el *bonum honestum*, que Tomás toma del programa estoico moral de auto-reflexión y de conversión al *kalon*. Entre éste, Séneca, Epicteto y Marco Aurelio, la filosofía estoica demuestra haber aportado al esquema un modo de vida acorde con el *Logos* y cuyo carácter consiste en "la completa armonía de las palabras y los actos con el orden de la Naturaleza" (147). Pero Tomás no es el único autor medieval cristiano que toma la doctrina estoica como lugar de esplendor del *kalon*. Paige E. Hochschild apunta también a Cicerón al hablar de las consideraciones estéticas de San Agustín. Este Padre de la Iglesia concebirá la bondad de la creación desde la bondad de la eterna belleza de Dios en *De vera religione*. Dios es la única fuente de la belleza intrínseca de las cosas, Cristo es la medida de la belleza de la pedagogía moral según nuestra conformidad con él, y el progreso espiritual e intelectual del hombre se lleva a cabo gradualmente en el tiempo de tal modo que la belleza de la obra providencial de Dios se hará visible en la belleza de todas las cosas.

Otro padre de la Iglesia con una estética trascendental innegablemente influyente fue Pseudo Dionisio el Areopagita. Brendan Thomas Sammon explica en que, a pesar de que el filósofo heredase una concepción estética marcadamente neoplatónica, se aleja del platonismo pagano al identificar a Dios con la Belleza y al defender tenazmente la doctrina de la Encarnación. A pesar de la importancia del Areopagita, Boyd Coolman ve en la obra de Hugo de San Victor la primera estética auténticamente teológica cristiana. Hugo, nos dice Coolman, se adelanta incluso a von Balthasar en sus ideas acerca de una estética teológica cristiana; más aún, insistiendo en la experiencia que Dios tiene de la belleza, desarrolla una estética profundamente teocéntrica que lleva a cabo una clase de "revolución copernicana" en sus reflexiones sobre la belleza. Por su parte, según analiza Martin J. Tracey, Alberto Magno respalda la perspectiva de Aristóteles sobre la felicidad, la cual se describe como la combinación de lo bello, lo útil y lo placentero. Alberto sostiene que la felicidad es, en efecto, bella, y además, explica que la belleza es un atributo tanto de los cuerpos como de las mentes. Asimismo, plantea que el placer puede ser concebido de manera material y mental. No obstante, como es de esperar, el maestro de Tomás niega que la felicidad de la actividad contemplativa aristotélica pueda ser completamente placentera o plenamente alcanzada en esta vida.

En su artículo, Christopher M. Cullen nos presenta la teoría bonaventuriana de las artes, que pueden llevarnos hacia Dios si el alma se despierta a los modos en que Dios se encuentra presente en ellas. En esto la belleza jugará el papel de mostrar a la mente el principio último de la unidad y la grandeza de las artes. Asimismo, el profesor Cullen explica detalladamente

las razones – presentes en Buenaventura – por las que el mundo medieval girará hacia el naturalismo. Toda esta teoría del fraile franciscano será luego extendida por Hans Urs von Balthasar en su obra de estética teológica. Mark McInroy estudia cómo la *ratio pulchri* medieval, a juicio de von Balthasar, añade al ser la manifestabilidad sensitiva, resultando para nosotros en asombro y perplejidad y constituyendo así un importantísimo factor para la aprehensión del ser.

Pulchra enim dicuntur quae visa placent[1]: Daniel D. De Haan explica a fondo la concepción tomista de la belleza, dando pistas sobre cómo conectar la percepción estética con la doctrina tomista de la belleza. Según De Haan, la belleza sí sería un trascendental por cuanto "añade una noción nueva al ser, es decir, una perfección de un nexo de cognición y de apetición que no es significado por la cognición en sí ni por la apetición en sí" (201). La noción tomista de la bondad intrínseca, por otro lado, llegará hasta Juan Duns Escoto a través del argumento de Alejandro de Hales según el cual el *bonum honestum* puede ser considerado en términos de belleza inteligible. En su contribución, Mary Beth Ingham propone un enfoque estético para considerar el razonamiento y juicio moral en la obra de Duns Escoto. Tal proposición es lícita, en primer lugar, porque para Duns Escoto la verdad es un reconocimiento moral de tipo auditivo, y, en segundo lugar, porque cree que la voluntad es la única potencia racional. A partir de aquí, Duns Escoto argumenta que una persona moralmente madura es capaz de tener una experiencia directa de la bondad moral, la cual se manifiesta como belleza.

Por último, tenemos el artículo de la profesora Ramos, donde podemos leer sobre cómo el arte contemporáneo ha llegado en ocasiones a profanar la belleza y a distorsionar la realidad – también y sobre todo la de la persona humana. Ramos dirige la mirada a las diferencias radicales entre la doctrina platónico-tomista y el *hummus* estético del mundo actual, que rechazando la fe religiosa lleva a cabo una iconoclastia anti-occidentalista. Según la profesora Ramos, la fe y el deseo natural de Dios contribuye a una mejor comprensión de la belleza, una que en lugar de alejarnos nos acerque al bien y a la verdad.

No cabe duda de que *Beauty and the Good* es una obra imprescindible para cualquier persona interesada en la filosofía de la estética y la belleza, que proporciona una comprensión sólida y detallada de la tradición clásica, así como una crítica y evaluación de las teorías modernas en este campo.

[1] ST I, q. 5, a. 4, ad 1.

J. H. Chajes. *The Kabbalistic Tree / האילן הקבלי*, University Park, Pennsylvania: The Pennsylvania State University Press, 2022. 456 p. ISBN: 9780271093451. Hardcover: $ 99.95

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This study of Kabbalistic diagrams easily qualifies as one of the most important publications in Jewish Studies in the last twenty years. This monograph offers a long, erudite, detailed, and beautifully illustrated study of the evolution of Kabbalistic diagrams. These diagrams span from their first basic, almost minimalistic forms during the Low Middle Ages to their incredible elaboration into baroque maps of the divine world during Modernity and Late Modernity.

This study fills a significant gap in the study of Jewish mysticism that, ironically enough, had been opened by the founder of the modern study of the Kabbalah himself: Gershom Scholem. At first, it may seem a paradox that Scholem strongly contributed to neglecting the role of Kabbalistic diagrams in the speculation on the divine worlds of emanation. On one occasion, he said that these diagrams were concealing much more than they sought to reveal. Following Scholem's harsh opinion that only showed his inability to appreciate art, most of the scholars in Jewish Studies followed his steps and usually overlooked Kabbalistic diagrams. They considered them as mere "drawings" or a curiosity that, nevertheless, is void of any true significance. And yet, these were no casual remarks. Scholem was imbued by German philosophy and eager to claim the speculative dignity of Jewish mysticism. It is probable that many of these diagrams – especially those indulging in anthropomorphism – puzzled him and barely reflected his opinion that the Kabbalah was no different from Western metaphysics. Therefore, he preferred to exclude them from his scholarship. Successive scholars in Jewish mysticism gradually departed from this outdated representation of Jewish mysticism and also questioned many historiographic presuppositions that unfortunately affected the field for years. And yet, no scholar has seriously considered reviewing Scholem's understatement of Kabbalistic diagrams for a long time.

Yossi Chajes – who is Sir Isaac Wolfson Full Professor of Jewish Thought in the Department of Jewish History at the University of Haifa – has been one of the first contemporary scholars who has systematically explored this neglected dimension of Jewish mysticism. He has done so from scratch and built a solid philological platform for his research. He has spent many years reviewing, collecting, and cataloging hundreds and hundreds of Kabbalistic diagrams. This collection has first resulted in a dedicated database that has graciously been made available to anyone online: *Ilanot – Maps of God* (https://ilanot.haifa.ac.il/site/).

This monograph is the culmination of this philological investigation. More than two hundred and fifty photographs document the complex evolution of Kabbalistic diagrams as well as the evolution of Jewish Kabbalah itself. These diagrams typically depict "trees" (*ilanot*) that articulate the divine powers, called *sefirot*, according to a structure that recalls a tree, with its trunk, its branches, and its roots. In its most minimalistic definition, "an *ilan* is a cosmological iconotext [...] The God being diagrammed is imagined at a considerable remove from the biblical God of Israel, creator of the universe, supreme and reigning above the innumerable ranks of divine beings" (1-2). Yet, Kabbalistic diagrams are not exhausted by the category of *ilanot*. On the contrary, these diagrams also include pictograms, circular structures, letter combinations, and other special charts.

This long monograph includes an "Introduction: A First History of a Forgotten Genre," a Conclusion with a short insight into contemporary art, an Appendix publishing a "Catalogue of the Gross Family Ilanot Collection," an Afterword by William Gross, and seven chapters: "The Emergence of the Kabbalistic Tree" (9-36), "Classical Ilanot" (37-88), "Visualizing Lurianic Kabbalah" (89-126), "Ilanot 2.0: The Emergence of the Lurianic Ilan" (127-201), "Luria Compounded" (201-290), "Ilan Amulets" (291-306), and "The Printed Ilan" (307-332). Among these dense chapters are also some special sections that allow for examining specific topics in greater detail: "Rolled or Folded? What's in a Name? Solving an Old Mystery" (57-58) on the horizontal or vertical orientation of these diagrams; ""Be as Rabbi Akiva" (71-72) on a famous passage from the Talmud depicting four rabbis entering Paradise from Tractate *Ḥagigah*; "Give Me of Your Beauty" (81) on the central role of *sefirah Tif'eret* in the system of emanation; "Four Worlds from Two Perspectives" (88) on the lower worlds of emanation; "Lurianic Cosmogony: What You Need to Know" (124-125) on the fundamental notions of Lurianic Kabbalah; "Jerusalem" (145-146) on the representation of Jerusalem in Kabbalistic diagrams; "An Ilan for the "Great Elector" (166-168) on an Early Kabbalistic print; "Knorr's Kabbalistic Tree Rings" (177-178) on one of the most important typologies of Kabbalistic trees; "Great Tree Components Key" (208) on the main types of Kabbalistic trees and their minor components; "Features and Functions of the Great Tree of R. Meir Poppers" (226) on Poppers' Kabbalistic diagrams; "Coppio on the Role of Images" (263-264) on Coppio's Grand Tree.

It goes almost without saying that the two special sections on the main notions of Jewish Kabbalah and the chart of the main typologies are required reading for both accomplished scholars and inexperienced readers. It is no mystery – pun intended – that Lurianic Kabbalah is extremely intricate and not an easy topic, especially considering the elaborations on the so-called *partzufim* or "visages" of God, actually different dispositions of the *sefirot* according to several different combinations. On a historiographical level, one shall distinguish between four main phases in the history of the Kabbalah: a pre-Kabbalistic phase spanning from Antiquity to High Middle Ages and including several forms of Jewish mysticism, regardless of its actual reference to a system of *sefirot*, which actually is the blueprint for the Kabbalah; a "classic" phase spanning from High Middle Ages to the emergence of Isaac Luria's system, which is epitomized in the ground-breaking text of *The Zohar* and includes the foundation of fundamental Kabbalistic notions, such as: the hidden,

infinite side of God (*En Sof*), its manifestation in a system of *sefirot*, their emanation according to specific configurations called *partzufim*, and so on; a Lurianic phase that consists of the elaboration and spread of Isaac Luria's interpretation of the *Zohar* and the elaboration of famous notions, such as: God's contraction (*tzimtzum*), God's exile, the "breaking of the vessels" (*shevirat ha-kelim*), and so on; finally, the post-Lurianic phase spanning from Early Modernity to the present day and including the further consolidation of these notions.

This complex development of the Kabbalah is also reflected in the history of Kabbalistic diagrams. There are fundamentally two main categories: "classical *ilanot*" which mostly resemble the famous and popularized "tree of *sefirot*" and "Lurianic *ilanot*" which are far more complex and include a variety of theological notions. Chajes explains the main difference between these two systems very clearly: "A Lurianic ilan, tasked with visualizing the dynamic emanatory emergence of an exponentially more complex Divinity, retains the tree as a fundamental structure, but rather than map the topography it signifies, the Lurianic ilan presents it as a process in motion. The fundamental difference between classical and Lurianic ilanot may thus be characterized as akin to that between a synchronic map and a diachronic timeline" (8). This distinction is reiterated and explained further throughout the book but this remains a solid presupposition: while classical *ilanot* describe the divine world from a static and linear perspective, Lurianic – and post-Lurianic – *ilanot* rather describe the hidden dynamics of this system that often involves the interactions of "lines and circles" that are two basic forms of the divine emanation according to both direct and circular light. This iconographic distinction also reflects a speculative one. On the one hand, Classic Kabbalah only postulates the existence of a hidden God, *En Sof* or "Infinite," that emanates according to a system of ten *sefirot* arranged as a "tree." On the other hand, Lurianic Kabbalah assumes that this hidden God has contracted himself (*tzitzum*) and then allowed for an emanation into ten *sefirot* that were arranged both in a linear and circular way, by forming a series of configurations (*partzufim*) that also include a variety of divine personae.

The intricacies of this system of emanation are too complex for being examined here. It is perhaps sufficient to say that Chajes was able to provide each tiny stratification of emanation with wonderful illustrations he also accurately describes each of its minute components. The result of this deep investigation is overall astonishing for the richness of philological, theological, and historical details. The book is carefully written with great attention for both beginners and advanced readers. The tone is overall professional but often punctuated with irony and humor – which are probably necessary for not taking these elucubrations too seriously. In conclusion, I can only strongly recommend this book for any scholar in Jewish Studies but also for whoever is interested in Jewish art, also due to the elegant design of this beautifully illustrated book.

Elina Gertsman. *The Absent Image: Lacunae in Medieval Books*. University Park, Pennsylvania: The Pennsylvania State University Press, 2021. 265 p. ISBN: 9780271087849. Hardcover: $ 124.95

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From the author's first writings on the *dance macabre* to more recent works on the performative nuances of visual cultures and abstraction, Prof. Elina Gertsman has had the chance to explore Medieval Art from many perspectives. For her contributions to knowledge dissemination and professorship, she is no stranger to fellowships, grants, and awards; *The Absent Image* is yet another example of that.[1]

The Absent Image takes the reader on a path of discovery around four perspectives from which to observe *lacunae* in medieval books. In the first chapter, absence[2] is described through the lenses of medieval texts. Using examples from the 13th century, the concept(s) of nothingness in natural philosophy and theology are explored, using images that represent the cosmic void and pre-Creation to demonstrate the complexity of the debates that were taking place. The second chapter moves further in time and substance. From the mathematical abstraction of the number zero, now to invisible images, intellect, and memory. This movement towards clarifying the many aspects of visual absence is done here with representations that elicited viewers' imagination and performance. Another kind of emptiness appears to have had deep roots in late-medieval ways of engaging with images: chapter three presents devotional manuscripts where wear and tear have impacted the painted surfaces and questions the meaning of the absences left behind. The fourth chapter, in a way, closes a cycle by going back to "raw" absence, the conceptual void represented by the physical void, which is sometimes an act of apprehension or intervention to create meaning, as is the case of the "Sacred Heart pierced by the Holy Lance" found in a fifteenth-century manuscript of prayers, and of the "Thott Hours" by Jean Poyet, analysed in length in this chapter. To conclude this comprehensive book on *lacunae*, Prof. Elina Gertsman directs the light towards a broader future exploitation of the fluctuant meanings, intellectual inquiries, and perceptive experiences that have been relevant since the Middle Ages.

This is an endeavour that was needed, and the author has found the narrative and the examples to deliver it superbly. On top of that, Gertsman's literary methodology and, in it, her descriptions of the images under observation, seem driven by her awareness of what it

[1] 2022 Charles Rufus Morey Book Award of the College of Arts Association of America.
[2] Throughout this review, I have opted for a rather free use of words equivalent to "nothing/ness", such as absence or void; the author of this book is not, obviously, as careless.

takes to analyse visual discourses and how to lead viewers to an understanding of medieval conceptual discussions through images.

The introduction gives the reader an overview of how empty spaces have been conceptualised in literature, art, and historical research in the last century, to which the author later returns to. It then presents how the subjects will be construed along the four following chapters, ending with a summary of why the inquiry about empty spaces should take us further back to the Late Middle Ages, a time immediately associated with the *horror vacui* by the broader public. Right from the start, readers and viewers are led to see the disruptiveness of the visual nothing, which seems quite an anachronic expression to start with. Seeing emptiness means being able to make a distinction between the visible and something different (though not necessarily invisible, as we will see). When one sees an image and comes to acknowledge an empty space, it is because there is a material supporting that emptiness (the medium) and because there are visible things around it. The more so when it is found in places where there are many things to distinguish it from, like in the first figure shown, a heavily illuminated initial depicting Creation from the Kaisheim Bible created in the 13th century. But how can nothing be something? Gertsman takes the reader through a journey of image compositions and their contexts (including their materiality), where a multitude of nothings become prolific carriers of meaning before one's eyes. When she writes about "absence as a generative presence", she opens the door to a view of empty spaces as triggers for thought, memory, senses, and actions.

In "Imaginary Realms" (chapter one), there is a focus on the first nothing, the *nihil*, understood as the moment and place before Creation. Once there was a conflict to resolve regarding pre-Creation, namely about the nature of the void, its material impossibility grounded on Aristotle's natural philosophy *versus* the omnipotence of God to create all things from nothing - visible and invisible, there was also a necessity to question the place of un-representability in images, and this was done empirically, by experimenting with signifiers, blank spaces, colour, framing, contrast, inviting the viewer to imagine what populates each empty space and what it can give birth to. In this sense, the image of the Creator from the Holkham Bible (14th c., fol. 2r) is, in part, a necessarily abstract visualisation of the "fullness" of the primordial void, which reflects the relationship between nothing and the potential it entails, as it is filled with God. The concept of zero was, conversely, the most extended discussion of the relationship between idea and image that emerged at the beginning of the Late Middle Ages. Combining mathematical and cosmological works with scholastic views of creation and infinity, this chapter is rich in examples where nothingness was a matter of debate; at the same time, it also highlights a *crescendo* in the dissemination of ideas, and imagery blossomed in all depths of shapes in which empty realms could and were being imagined.

Before moving to another prominent theme in medieval art - death and the absence it encompasses, Gertsman includes a sub-chapter titled "Dissimulation and *Virtus imaginativa* in Later Middle Ages". In it, the author provides a glimpse into concepts and texts that greatly influenced man's knowledge of himself. Being able to perceive and memorise

various aspects of reality, man's faculty of imagination was a hot topic in studies of the mind, connecting vision science with the capacity for deliberation of the intellect. Imagination acts upon what is known to create new things: with *imaginatio,* one summons memory; with *phantasia,* one invents. Images created to illustrate the faculties of the intellect become common in late-medieval books, and the empty skull is filled with defined spaces with defined functions.

Capturing this relationship between imagination and emptiness, in the second chapter, "Phantoms of Emptiness", Gertsman explores and describes framed empty spaces. These stand for things which are not representable, and they often communicate assertively with the reader. Framed empty spaces engage with viewers semantically, requiring them to conjure the "power of *fantasia*" to come to some form of knowledge over what is absent. By describing absences and framed blanks from fourteenth-century manuscripts – and with detail, Eustache Deschamps' *Le double lay de la fragilité humaine* manuscript (BnF, fr. 20029), the author highlights that these imaginative faculties are excited by images where nothing is represented, in the most various ways. The interplay between the visual codes used, such as shape or colour, and the narratives in which they are found is introduced progressively as the chapter moves towards the "phenomenological impossibility" (68) that is death. The encounter between the living and the dead is a moral story akin to medieval popular taste, as is the Dance of Death, and it emphasises the void between the two.

Chapter 3, "Traces of Touch", is dedicated to active emptiness, the voids left by human interaction with the medium. Many of these voids are found in devotional works; here, Gertsman explores the status of images, their critics and mystics of the 14th and 15th centuries. Finally, in "Penetrating the Parchment", the focus shifts to physical intervention located within the act of giving form to empty spaces, no longer in two dimensions, but in space and time too.

In the Thott Hours (France, c. 1490-1500. Copenhagen, KB, Thott 541), some folios have a rhombus-shaped hole at the centre of the text frame. As pages are turned, the superimposed holes of the folios make the progression of time visible at the same time as they create a spatial focus on the final folio that is not cut, but underneath, as a revelation or conclusion. The fourth chapter also analyses the materiality of the parchment as a tool to engage with emptiness, either by appropriation, such as in prior perforation in the skin used to make the book, that become included in the discourse of the page layout; or by intentionally cutting the parchment to augment the power of imagination through simulation. Emptiness as a visual experience can also be seen in another geometrical shape, the circle, especially the eye, the eye of God and the eye of the beholder, and in the conversation between infinity and imperfect reality, that "allows the beholder to *see through*, not just *look at*" (160).

The Absent Image is a book that excites the reader also by the simple fact that voids and emptiness still strike us today. Visual *lacunae* communicate the absence of what is not present (but sometimes hinted to) and of what is not representable but imaginable, giving it a shape or a medium for interpretation. In writing this book, Prof. Elina Gertsman has

dramatically added to our understanding of emptiness in medieval visual communication while aggregating arguments from many disciplines and sources, from influential thinkers and generalised practices. This work is also a reference for the perfect balance between presenting images that cannot be ignored (such as "The Creator with the Compass") and images that have been ignored or less studied in the past, thus contributing to the advancement of knowledge by building a broader availability of resources at the same time as providing scholarly transmission about original witnesses.

Prof. Elina has recently been involved with the "Abstraction Before the Age of Abstract Art" project, which challenges the conception of Abstract Art as something born from modernity. The team (professors and doctoral students) publishes regular updates, news, and events on their online *carnet de recherche* "Before Abstraction",[3] and one can already start anticipating the impact of the forthcoming works being prepared with Prof. Vincent Debiais.

[3] https://preabstract.hypotheses.org/about-this-blog

Lidia Lanza and Marco Toste. Eds. *Summistae: The Commentary Tradition on Thomas Aquinas' Summa Theologiae from the 15th to the 17th Centuries*. Ancient and Medieval Philosophy, Series 1, 58. Leuven: Leuven University Press, 2021. 447 p. ISBN: 9789462702622. Hardback: €120

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La *Summa theologiae* de Tomás de Aquino, como es sabido, ha sido una de las obras más influyentes de la historia de la teología. Su importancia también se ve confirmada por el hecho de que se convirtió en objeto de numerosos comentarios, desde el siglo XIV hasta bien entrado el siglo XVII, cuando se fue abandonando la exégesis y se empezaron a elaborar cursos *iuxta mentem* y manuales. Durante el siglo XVI, la *Summa* del Aquinate fue adoptada gradualmente como texto oficial para la enseñanza de la teología escolástica en la mayoría de las universidades católicas de todo el orbe. Como resultado, los docentes de muchas universidades de Europa, América y Filipinas comenzaron a impartir cursos y a escribir comentarios sobre la *Summa*, así como a utilizarla como pretexto y punto de arranque para muchas discusiones teológicas y filosóficas. Algunas de las obras de grandes autores como Vitoria, Soto, Molina, Suárez o Vázquez son, a todas luces, comentarios de la *Summa*, cada vez más libres a medida que el tiempo iba transcurriendo.

He aquí, por fin, un libro largamente anunciado y esperado. Se trata del primer esfuerzo académico conjunto para investigar esta tradición de comentarios de Santo Tomás. Se trata de una obra utilísima, en la que el lector especializado hallará infinidad de datos y una interpretación rigurosa y equilibrada. Como sucede en las obras colectivas, uno no puede entrar en detalle en cada una de las aportaciones, de modo que daremos unas pinceladas generales y nos concentraremos en el primer capítulo, el más sintético y novedoso.

Más allá de la extensa aportación de Lidia Lanza y Marco Toste, a la que volveremos, Monica Brînzei (CNRS-IRHT, Paris) y Chris Schabel (University of Cyprus) proporcionan un fresco de la *auctoritas* de Santo Tomás y de la *Summa* en la Edad Media, explicando los ataques de las demás congregaciones. A continuación, Ueli Zahnd (Université de Genève) proporciona un mapa de los comentarios a la *Summa* en la Edad Media tardía, y explica que nunca, hasta comienzos del siglo XVI, alcanzó el estatus de las *Sentencias* de Pedro Lombardo. Cierra la primera parte Matthew Gaetano (Hillsdale College), quien se ocupa de la vía tomista en Padua, en la que el tomismo incorporó elementos humanistas y patrísticos.

La segunda parte la abre Igor Agostini (Università del Salento), con unas anotaciones sobre la recepción de la controvertida cuestión acerca de si, como hacía Suárez, se podía admitir la demostración *a priori* de la existencia de Dios, algo que fue refrendado

por ciertos dominicos como Giovanni Domenico Montagnolo, Xantes Mariales o Pedro Godoy (quienes luego fueron combatidos con dureza por otros correligionarios suyos). Muy interesante también es la aportación siguiente, debida a Mauro Mantovani (Pontificia Università Salesiana), acerca de la discusión del valor de las cinco vías de Santo Tomás en los comentarios a la *Summa* escritos en la Península Ibérica durante el siglo XVI, y muestra con agudeza que cada comentarista dio un valor distinto a cada una de las vías. La siguiente aportación, de William Duba (Université de Fribourg), estudia la luz de la gloria (la visión beatífica) en los tres grandes autores jesuitas (Molina, Vázquez y Suárez). Helen Hattab (University of Houston) analiza la cuestión de la subsistencia de la materia prima, en los primeros comentarios modernos a la *Summa* (de Molina, Vázquez y Hieronimus Fasolus, un profesor de Nápoles). Daniel D. Novotný y Tomáš Machula (University of South Bohemia en Ceské Budejovice) afrontan el problema de la locación angélica (I, q. 52, art. 1) entre los comentaristas dominicos del siglo XVI. Jean-Luc Solère (Boston College) analiza el tránsito desde la ignorancia invencible hacia la tolerancia, en un itinerario que pasa por Arriaga, Vázquez y llega a Bayle, y muestra las sorprendentes analogías entre los tres. Andreas Wagner (Goethe University of Frankfurt) estudia la aproximación de los grandes comentaristas (Vitoria, Suárez, Soto y Gregorio de Valencia) a la cuestión *De infidelitate* o la increencia (II-II, q. 10). Marco Toste (Université de Fribourg) aborda el debate y el equilibrio entre la autopreservación y el autosacrificio en la escolástica del siglo XVI, al comentar la II-II, q. 26, y finalmente Lidia Lanza cierra el libro con un estudio acerca de si el prisionero condenado a muerte podía legalmente escapar (II-II, 1. 69, art. 4), de acuerdo con diversos comentaristas a la *Summa*, desde Cayetano, Vitoria y Soto hasta algunos profesores de Évora.

Como puede verse, los coautores son grandes especialistas y tratan cuestiones todas ellas de interés – o, en todo caso, curiosidad – para la exégesis de la *Summa*. En realidad, sin desmerecer cada una de estas valiosas aportaciones, hay que subrayar que lo que más va a interesar al público lector es la gran síntesis que han hecho Lidia Lanza y Marco Toste de la tradición de comentarios a la *Summa*. Tras una aguda revisión de la bibliografía en diversos idiomas, y de una inteligente ordenación de materiales, proporcionan un marco realmente útil, que se suma a su no menos importante aportación sobre la recepción de las *Sentencias*: "The Sentences in Sixteenth-Century Iberian Scholasticism", en *Mediaeval Commentaries on the Sentences of Peter Lombard*, vol. 3, editado por P.W. Rosemann (Leiden y Boston: Brill, 2015), 416-503.

En primer lugar, cabe llamar la atención acerca de la división en períodos de los comentaristas hasta finales del siglo XVII. El primero abarca el siglo XV y tiene un marcado acento germánico e italiano, en el que brillan autores como Konrad Köllin y, sobre todo, el cardenal Cayetano. El segundo período inicia con la exégesis de Francisco de Vitoria en Salamanca, que se extiende a otros puntos de la Península Ibérica y se propaga gracias a la naciente Compañía de Jesús. El tercer período, según ambos autores, da comienzo en 1590, especialmente con los maestros jesuitas (Molina, Gregorio de Valencia, Vázquez y Suárez), así como con la difusión de la exégesis jesuítica en las principales universidades europeas, al tiempo que en Salamanca se alternaban, en las cátedras de Prima, los dominicos y los agustinos, quienes eran fieles seguidores del Angélico Doctor. Este tercer período está

marcado por los grandes conflictos, especialmente la controversia *de auxiliis*. Habría un cuarto período que abarcaría hasta finales del siglo XVIII y que – por desgracia – no forma parte de la materia tratada en este libro. Esperemos que esta omisión suscite una ocasión propicia para preparar una nueva publicación.

En segundo lugar, hay que alabar el minucioso estudio de la enseñanza de la *Summa Theologica* en las universidades, especialmente de la Península Ibérica. Es excelente asimismo el análisis de la relación de la *Summa* y las órdenes religiosas: no solo de los dominicos y los jesuitas, sino también de los carmelitas de la antigua observancia, carmelitas descalzos, mercedarios, jerónimos, agustinos... y las congregaciones fundadas en el siglo XVI.

Por último, debe resaltarse el estudio geográfico. Los autores empiezan por Italia, y detallan las cátedras tomistas en las Universidades (Padua, Pavía, Bolonia...), así como los principales centros de estudio del tomismo (el *Studium* de los dominicos en Bolonia, o el de Santa Maria Sopra Minerva, así como el Colegio Romano de la Compañía de Jesús). Siguen los autores con el análisis del tomismo en París, para pasar luego a Lovaina y a la Europa Central. La exposición concluye con la América Virreinal y Filipinas, donde los dominicos poseían numerosas universidades y participaban en la docencia de otras tantas, así como también hacen los autores mención del papel de la *Summa* en los colegios jesuíticos.

Se trata, en fin, de un libro de grandísima utilidad, que merece la atención de los especialistas. No tengo ninguna duda de que será muy consultado y citado. Falta por estudiar el siglo XVIII, más rico en manuales que en grandes comentarios a la *Summa*. Sin embargo, es una empresa que, para el bien del conocimiento, Toste y Lanza deberían abordar. Mientras tanto les agradecemos encarecidamente su esfuerzo a ellos y a los coautores de este volumen.