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A COMPANION TO
THE PHILOSOPHY OF
ROBERT KILWARDBY



Edited by

HENRIK LAGERLUND & PAUL THOM

BRILL

A Companion to the Philosophy
of Robert Kilwardby

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2013

Cover illustration: Archbishop Kilwardby's seal. © The British Library Board. British Museum manuscripts catalogue. Seals. CVIII 97. Sulph. Cast. 3¼ × 2 in.

Library of Congress Cataloging-in-Publication Data

A companion to the philosophy of Robert Kilwardby / edited by Henrik Lagerlund and Paul Thom.

p. cm. — (Brill's companions to the Christian tradition, ISSN 1871-6377 ; v. 37)

Includes bibliographical references and index.

ISBN 978-90-04-23594-6 (hardback : alk. paper) — ISBN 978-90-04-23599-1 (e-book)

1. Kilwardby, Robert, d. 1279. I. Lagerlund, Henrik. II. Thom, Paul.

B765.K54C66 2012

189'.4--dc23

2012028261

This publication has been typeset in the multilingual "Brill" typeface. With over 5,100 characters covering Latin, IPA, Greek, and Cyrillic, this typeface is especially suitable for use in the humanities. For more information, please see www.brill.com/brill-typeface.

ISSN 1871-6377

ISBN 978-90-04-23594-6 (hardback)

ISBN 978-90-04-23599-1 (e-book)

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This book is printed on acid-free paper.

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ABBREVIATIONS

<i>CD</i>	<i>In Donati Artem maiorem</i>
<i>CPMa</i>	<i>Commentary on the Priscianus maior</i>
<i>CPMi</i>	<i>Commentary on the Priscianus minor</i>
<i>D43Q</i>	<i>De 43 quaestionibus</i>
<i>DOS</i>	<i>De ortu scientiarum</i>
<i>DSF</i>	<i>De spiritu fantastico</i>
<i>DT</i>	<i>De tempore</i>
<i>Epistola</i>	<i>Epistola Roberti Kilwardby Archiepiscopi Cantuariensis ad Petrum de Confleto Archiepiscopum Corinthi</i>
<i>NLPer</i>	<i>Notule super librum Peryarmenias</i>
<i>NLPor</i>	<i>Notule super librum Porphyrii</i>
<i>NLPos</i>	<i>Notule libri Posteriorum</i>
<i>NLPre</i>	<i>Notule super librum Predicamentorum</i>
<i>NLPri</i>	<i>Notule libri Priorum</i>
<i>NLSP</i>	<i>Notule super librum De Sex Principiis</i>
<i>Sent. 1</i>	<i>Quaestiones in librum primum Sententiarum</i>
<i>Sent. 2</i>	<i>Quaestiones in librum secundum Sententiarum</i>
<i>Sent. 3</i>	<i>Quaestiones in tertium primum Sententiarum</i>
<i>Sent. 4</i>	<i>Quaestiones in librum quartum Sententiarum</i>

PREFACE

Robert Kilwardby has not received the scholarly attention he deserves. There are very few book-length studies of his philosophical writings despite the fact that he was a very prominent figure in the thirteenth century. The present study is the first to cover the whole range of his philosophical thought from logic to his commentary on Aristotle's *Ethics*. Hopefully, it will generate a new, much-needed scholarly interest in Kilwardby.

It has taken six years to put this volume together and much has happened since the idea for the book was conceived at a small conference at Cambridge University in 2005. To the great sorrow of his friends one of our contributors has during this time passed away. Professor Alfonso Maierù died on 2 September 2011. He was a very good friend and mentor of mine, and I dedicate this volume to his memory.

Maierù was one of the foremost scholars of medieval philosophy of his generation. His monumental work from 1972, *Terminologia logica della tarda scolastica*, in many ways created modern scholarship on medieval logic. He also wrote numerous articles on medieval logic that we have all enormously benefited from.

In 1991, Maierù published, together with Ruedi Imbach, the extremely useful and original edited volume *Gli studi di filosofia medievale fra otto e novecento*. It is a study of medieval scholarship during the nineteenth and twentieth centuries. As no other work does, their volume presents the state of scholarship at the time: how it had developed and how it should develop. It was very influential and scholars today still return to it.

Maierù was also the founding member and first president of the Italian society for the study of medieval thought and he was a founding member of the European Symposia on Medieval Logic and Semantics. He was also on the editorial board of the *Encyclopedia of Medieval Philosophy* (2011). Throughout that project he was extremely supportive and I was in frequent e-mail correspondence with him. I was grateful that he was able to see the finished manuscript of the Encyclopedia.

Grazie amico,
Henrik Lagerlund

INTRODUCTION:
THE LIFE AND PHILOSOPHICAL WORKS OF ROBERT KILWARDBY

Henrik Lagerlund and Paul Thom

Recognized in his own time as a brilliant mind and as a leader within the recently founded Dominican order and more broadly within the English church, Robert Kilwardby was, in the words of his biographer Ellen Sommer-Seckendorff, “a man who was both a distinguished scholar and an eminent ecclesiastic, and who was in close touch with all the intellectual and political movements of his day.”¹

Born in England and trained in Paris, Kilwardby ended his days as a cardinal in the service of the pope at Viterbo. He has been overshadowed by his fellow Dominicans Albert the Great and Thomas Aquinas, and many of his works remain unedited. Even so, it is clear that he stands out among all the thirteenth-century scholastics for the depth of his understanding of Aristotelian logic and traditional grammatical theory, as well as for his unique synthesis of Augustinian and Aristotelian thought. For these reasons he is deserving of deeper study, and this is the first book-length study to encompass all of his philosophical writings. In this introduction we outline the present state of research regarding Kilwardby’s life and writings and summarize the chapters of the present book.

Kilwardby’s Life

Two major historical developments coincided with the early years of Robert Kilwardby’s life: the setting up of the first universities (from around 1200) and the foundation of the Dominican and Franciscan orders (around 1210). Kilwardby would play significant roles in both kinds of institution.²

Four dates in his life are known with certainty: his election as provincial of the English Dominicans in 1261, his nomination as archbishop of Canterbury in 1272, his creation as cardinal of Porto in 1278, and finally his

¹ Ellen M.F. Sommer-Seckendorff, *Studies in the Life of Robert Kilwardby* (Rome: 1937), ix.

² For a nice summary of Kilwardby’s life and work see José Filipe Silva, “Robert Kilwardby,” in *Encyclopedia of Medieval Philosophy*, ed. Henrik Lagerlund (Heidelberg: 2010), 1148–53.

death in 1279. Since it is also known that he was a student and a master in the Faculty of Arts at the University of Paris before joining the Order of Preachers back in England where he studied theology at Oxford, his career can be divided into three periods: (1) from his early years in England up to his time as a regent-master at the Faculty of Arts in Paris, (2) from his years as a student of theology in Oxford up to his time as provincial of the English Dominicans, and (3) his period in senior church offices, as archbishop of Canterbury and later as cardinal of Porto.

Early Years

The date and place of Kilwardby's birth are unknown. In his famous *Histoire des hommes illustres de l'Ordre de Saint Dominique*, Antoine Touron claims that Kilwardby was born in 1204, but he gives no arguments.³ Sommer-Seckendorff argues that, supposing his name to be a place-name, Kilwardby must have been born in either Leicestershire or Yorkshire counties.⁴ Some sources have him studying in Oxford before going to Paris, but there is no evidence for this.

The agreed-upon dating of his early career and life is the following: he was born around 1215, and therefore cannot have started his studies in Paris before 1231, nor can he have become a master of arts until about 1237. He distinguished himself by his lectures on grammar and logic in Paris; and, it is believed, given the number of works and commentaries he produced during these years, that he had a longer-than-normal career as a master.

From Student to Provincial

After his studies and lectures on philosophy at the University of Paris, it was to theology that he turned. It is thought that he left Paris for England in 1245. He entered the Dominican order sometime between 1245 and 1250.⁵ At this time the order was flourishing in England, with more

³ Antoine Touron, *Histoire des hommes illustres de l'ordre de Saint Dominique, c'est à dire, des papes, des cardinaux, des prélats éminens en s[c]ience & en sainteté*, 6 vols. (Paris: 1743–49), 1:397.

⁴ Sommer-Seckendorff, *Studies in the Life*, 1–3, “A small village in Leicestershire, near Ashby de la Zouche still bears this name. . . . In Kilwardby's time, and until the fourteenth century, there was another place in Yorkshire bearing that name.”

⁵ See the Albert Judy's introduction to Kilwardby, Robert, OP, *De ortu scientiarum*, ed. Albert G. Judy, OP (Toronto: 1976), xvi.

than six hundred members distributed through houses in most of the larger towns.⁶

The dates of his studies in theology are under dispute, but J.A. Weisheipl's view has become the most widely accepted. He argues that Kilwardby lectured on the *Sentences* around 1252–54, then on the Bible between 1254 and 1256, and that he became a master of theology in 1256. He was then the regent master of theology at the University of Oxford between 1256 and 1261.⁷

In 1261, Robert was elected provincial of the English Dominicans, and, on the basis of his learning as well as his sanctity, reelected in 1272.⁸ The provincial is the leader of the order in a province and is elected by a chapter composed of the priors of the different houses. As provincial, Kilwardby entered a new stage of his life. In this administrative role he came into contact with prominent members of the order. For example, in 1263 he attended a meeting of the general chapter of the order in London, where Thomas Aquinas and Pierre de Tarentaise were also present, and he attended another meeting of the general chapter at Montpellier in 1271, where Albert the Great was present.⁹

One of the duties that fell to Kilwardby as provincial was the collection of monies to support the armies engaged on the Crusade.¹⁰ It also fell to him to sit in judgement on sundry alleged wrongdoers. For example, in 1269 he, together with Thomas Aquinas and Latino Malabranca, investigated an alleged indiscretion committed by another commissioner for the Crusade, Praedicator Generalis Barthélemy of Tours.¹¹

In 1271, Kilwardby was asked by the master general of the Dominican order to answer forty-three theological questions. These questions were also sent to Albert the Great and Thomas Aquinas. This testifies to the growing influence that Kilwardby was gaining in the order, and to his significance as a thinker in the thirteenth century.¹²

⁶ Sommer-Seckendorff, *Studies in the Life*, 18.

⁷ See James A. Weisheipl, OP, "Robert Kilwardby," in *New Catholic Encyclopedia* (New York: 1967), 533.

⁸ Sommer-Seckendorff, *Studies in the Life*, 35.

⁹ Sommer-Seckendorff, *Studies in the Life*, 35–37.

¹⁰ Sommer-Seckendorff, *Studies in the Life*, 41–43.

¹¹ Sommer-Seckendorff, *Studies in the Life*, 36.

¹² See José Filipe Silva, "Robert Kilwardby on Celestial Motion," *Mediaevalia Philosophica Polonorum* 36 (2007): 90–119.

In Senior Church Offices

In 1272, Kilwardby was nominated archbishop of Canterbury.¹³ In this role he moved in the highest educational, religious, and political circles in England and abroad. He participated in the second Council of Lyon in May 1274, and on 19 August of that year he anointed and crowned King Edward I at Westminster Abbey. The coronation had been delayed because of Edward's absence on the Crusade.

It is clear from letters between the king and Kilwardby that they had a good relationship. In 1276, Edward gave the Dominicans in London permission to move their priory from Holborn (where it had been established in 1223) to a site between the Thames and Ludgate Hill, where it remained until 1538.

During the period of Kilwardby's tenure as archbishop, sentiment against the Jews in England was strong, resulting in occasional outbursts of anti-Semitic violence. At the same time, the Dominicans were intent on converting the Jews: in 1221, with this in mind, they had established themselves "in the very heart of the Jewish colony" in Oxford.¹⁴ The archbishop's attitude to the Jews was not a simple one. He doubtless shared his confreres' zeal to convert the Jews; but he is also known to have sought the king's intervention on behalf of one Jew.¹⁵ And he disciplined Robert of Reading, a Dominican who had converted to Judaism, married a Jewish woman, and begun proselytizing against Christianity.¹⁶ Some historians have attributed the subsequent persecutions culminating in the expulsion of the Jews from England in 1290 to the desire of the Dominican order to avenge this incident.¹⁷

¹³ Official documents pertaining to Robert's discharge of his duties as archbishop can be found in Sommer-Seckendorff, *Studies in the Life*, 177–85: (fourteen letters), in the Lambeth Palace Library, and in the archives of Canterbury Cathedral. The latter include a copy of Archbishop Kilwardby's seal, and professions of obedience to him from Walter de Merton as bishop-elect of Rochester (1274), Robert Burnell as bishop-elect of Bath and Wells (1275), Thomas Cantelupe as bishop-elect of Hereford (1275), among others. Also included are records relating to an ongoing dispute between the subprior and convent of Dover Priory and the prior and chapter of Canterbury Cathedral Priory concerning the restoration of a composition between the two priories and the breaking of the composition—a matter in which he was papal judge delegate. The case was still undecided in 1282, when Kilwardby's successor as archbishop, John Peckham, was dealing with it.

¹⁴ A. Neubauer, "Notes on the Jews in Oxford," in *Collectanea* 2, ed. M. Burrows (Oxford: 1890), 284.

¹⁵ The letter can be found in Sommer-Seckendorff, *Studies in the Life*, 178.

¹⁶ Joe Hillaby, "Robert of Reading," in *Encyclopaedia Judaica*, 2nd ed. (2007), 354. This Robert of Reading is not to be confused with another Oxford deacon who converted to Judaism and was burned in 1222.

¹⁷ Sommer-Seckendorff, *Studies in the Life*, 56–66.

Archbishop Kilwardby played an important role in the early history of Merton College Oxford. At Easter 1276, the archbishop in his capacity as patron of the college issued an injunction that *inter alia* directed that the fellows' books should always remain with the college.¹⁸

On 18 March 1277, Kilwardby, in a special congregation of all the masters of the University of Oxford, regents and nonregents, condemned thirty theses in grammar, logic, and natural philosophy. His condemnation came only ten days after the condemnation by Stephen Tempier, bishop of Paris, on 7 March. Both sets of condemnations can be seen as expressions of an ongoing tension between the church, as the traditional guardian of truth, and the universities. The more immediate context was a request from Pope John XXI that the bishop of Paris look into erroneous teaching that was rumored to be going on at the University of Paris. Instead of reporting back to the pope, Tempier took it upon himself to issue the condemnation. It has been suggested that something similar took place in England, but there is no evidence of this.¹⁹ There is evidence, however, that Kilwardby had preliminary contacts with Bishop Tempier.²⁰ The Oxford condemnation is different from the Paris one in that it did not stigmatize the holders of the condemned views as heretics; it was designed only to ban these theses from being taught—at least this is what Kilwardby says himself in a letter to Peter of Conflans, archbishop of Corinth. The content and intellectual context of Kilwardby's condemnations is considered in our discussion of his works.

Even while occupying this high ecclesiastical office, Archbishop Kilwardby continued to show considerable care for his students and former students. When his pupil Thomas Cantelupe was about to take his degree as master of theology "he so much wished to do it under the auspices of his beloved master, who had just been appointed archbishop of Canterbury, that he had the functions postponed until after the latter's consecration." The archbishop then went to Oxford for the ceremony, delivering a laudatory speech in which he "particularly mentioned that during the many years in which he had acted as Cantelupe's confessor, he never had cause to suspect the latter of a mortal sin."²¹

¹⁸ Merton College, *Injunctions of Archbishop Kilwardby 1276*, ed. H.W. Garrod (Oxford: 1929).

¹⁹ Sommer-Seckendorff, *Studies in the Life*, 136–39.

²⁰ See Daniel A. Callus, OP, *The Condemnation of St. Thomas at Oxford* (Oxford: 1955),

111–12.

²¹ Sommer-Seckendorff, *Studies in the Life*, 49–50.

Another illustration of the archbishop's devotion to his students can be seen in the *Tabulae super Originalia Patrum*, which he compiled for their use.²² These are alphabetic indexes of the subject matters treated in the writings of St. Augustine and other doctors of the church.²³ Daniel Callus lists twenty-one manuscripts of "this vast work" that remains unedited.²⁴

On 12 March 1278, Pope Nicholas III appointed Kilwardby cardinal of Porto and S. Rufina. Little is known of the new cardinal's activities. He was a cosignatory ("Ego Frat. Robertus Portuensis episcopus") to the papal bulls of 3 February, 18 March, and 7 May, 1279;²⁵ and he wrote two letters to King Edward (17 June and 11 July 1279).²⁶ He died on 10 September 1279 in Viterbo and was buried in the Dominican convent there, the church of S. Maria in Gradi.

Unlike many thirteenth-century cardinals, Kilwardby left no will. In accordance with procedures defined for such an eventuality his possessions were sold at auction. Some were bought by Cardinal Matteo Rosso Orsini, a nephew of Pope Nicholas III.²⁷ Kilwardby's successor as archbishop of Canterbury, the Franciscan John Peckham, under the pressure of his see's unmanageable debt,²⁸ tried unsuccessfully to have Kilwardby's worldly goods (including money, vases, necklaces, ecclesiastical ornaments, books, legal documents, and registers),²⁹ which he valued at more than five thousand marks, returned to Canterbury where he claimed they rightfully belonged.³⁰

²² Daniel A. Callus, OP, "The 'Tabulae super Originalia Patrum' of Robert Kilwardby OP," in *Studia Mediaevalia in honorem admodum reverendi patris Raymundi Iosephi Martin Ordinis Praedicatorum S. Theologiae Magistri LXXum natalem diem agentis* (Bruges: 1948), 243–70.

²³ Callus, "Tabulae super," 264–65.

²⁴ Callus, "Tabulae super," 252–53.

²⁵ Jules Gay, ed. *Les Registres de Nicolas III (1277–1280): Recueil des bulles de ce pape* (Paris: Albert Fontemoing, 1898), letters 458, 459, 475, 517.

²⁶ The letters can be found in Sommer-Seckendorff, *Studies in the Life*, 183–85.

²⁷ Agostino Paravicini Bagliani, *I Testamenti dei Cardinali del Duecento* (Rome: 1980), 33n2.

²⁸ Dorothy Sutcliffe, "The Financial Condition of the See of Canterbury, 1279–1292," *Speculum* 10 (1935): 53–68.

²⁹ *Registrum epistolarum fratris Johannis Peckham*, ed. C.T. Martin (London: 1882–85), 1:227, 2:550, 3:1058, 3 May 1280. Ibid., 2:550: to Robert de Seleseye, his proctor at Rome, "Tertio, ut bona ecclesiae nostrae inventa penes bonae memoriae praedecessorem nostrum per camerarium occupata in pecunia numerata, in vasis, monilibus, ornamentis ecclesiasticis, libris et processibus judicialibus ac registralibus nobis restituantur, ut iustitia exigit, de quibus non aliter ditari volumus quam vobis diximus viva voce."

³⁰ *Registrum epistolarum fratris Johannis Peckham*, ed. Martin 1:227, "Reverendo in Christo patri et domino M[attheo]. . . . Quod autem de bonis, quae bonae memoriae dominus R[obertus] praedecessor noster tempore mortis suae tenebat, expositis ad vendendum

Ellen Sommer-Seckendorff reported in 1937 that Cardinal Kilwardby's epitaph reads, "Here lies buried the venerable Englishman Brother Robert of Kilwardby of the Order of Preachers, theologian, and most clear philosopher, archbishop of Canterbury, primate of England, cardinal of Porto, 1280."³¹ It seems, however, that the stone on which his epitaph was inscribed is no longer conserved in the church of S. Maria in Gradi, having been destroyed during the Allied bombing of Viterbo in 1944.³²

Cardinal Kilwardby is memorialized in a 1352 fresco by Tommaso da Modena, which is one of a set of forty depicting famous Dominicans in the former Dominican convent at Treviso. The frescoes are now in the Sala del Capitolo, next door to the church of San Nicolò in Treviso. Kilwardby's image has the inscription "iste fuit quartus episcopus cardinalis Portuensis Ord. fratrum Praedic. vocatus est fr. Robertus Anglicus magister in S. Theologia. fuit vir in scientia perfectus optimis moribus adornatus."

Kilwardy's Works

The earliest list of Kilwardby's works is the one given by the English Dominican Nicholas Trivet (c.1257–c.1334),³³ who refers to but does not name Kilwardby's Parisian writings on grammar and logic, and then lists

aliqua comparastis, gratum gerimus et acceptum; vostrae benevolentiae, quantum ad nos pertinet, ea penitus concedentes, et utinam inde plura vestris manibus teneretis. Et quidem miramur valde quod camerarius sanctae memoriae domini N[icolai] papae bona ipsa diversorum generum, quae ultra summam quinque milium marcarum dictus praedecessor noster de bonis Cantuariensis ecclesiae secum tulit in suis vel mercatorum manibus, quae nobis et ecclesiae forsitan restituisset aliquo tempore si vixisset, taliter sequestravit, ut sic a manibus nostris crudeliter elongentur. Circa quae repetenda cum opportunitas aspiraverit, procuratores nostros dignemini efficaciter adjuvare, qui forsitan jam petivissent ea nobis qui in ecclesiae iuribus succeedimus assignari, nisi praesentium temporum importunitas dilationem circa hujusmodi suasisset. Et circa hoc non quaerimus pecuniam sed justitiam, quamquam ecclesia nostra sit onerosis debitis propter adversitates fortuitas multipliciter anxiosa. . . ."

³¹ Sommer-Seckendorff, *Studies in the Life*, 126, "Venerabilis Fr. Robertus de Kilwardby; Anglus, Theologus ac Philosophus praeclarus. Archiepiscopus Cantuariensis, Primas Angliae, Cardinalis Portuensis, ordinis Praedicatorum hic sepultus jacet 1280."

³² Luca Gili and Julian Gardner, personal communication with Luca Gili, 25 January 2012.

³³ For an overview of Kilwardby's works, see Olga Weijers and Monica B. Calma, *Le travail intellectuel à la Faculté des arts de Paris: Textes et maîtres (ca. 1200–1500)*, vol. 8, *Répertoire des noms commençant par R.* (Brepols: 2010), 198–219. See also Patrick Osmund Lewry, OP, "Robert Kilwardby," *Medieval Philosophers*, vol. 15 of *Dictionary of Literary Biography* (Detroit: 1992), 257–62.

De tempore, De universali, De relatione, and De ortu scientiarum.³⁴ Trivet also mentions the *Tabulae super Originalia Patrum*. He does not mention *De spiritu fantastico* or Kilwardby's questions on the four books of the *Sentences*. Also omitted from Trivet's list is the commentary on the *Ethica Nicomachea* 1–3, which Anthony Celano argues is a genuine work of Kilwardby's.

Laurence Pignon (c.1368–1449) specifies the grammatical and logical writings as commenting on Porphyry, Aristotle's *Categories* and *Peri Hermeneias*, the *Librum sex principiorum*, Boethius's *De divisione* and *Topics*, Aristotle's *Prior Analytics*, *Posterior Analytics*, *Topics*, and *Sophistical Refutations*, as well as *Priscianum minorem* and *Sophisticam grammaticalem et logicalem*.³⁵

A number of works that were formerly attributed to Kilwardby are no longer thought to be by him. Some of these are grammatical works like the commentaries on *Priscianus maior* and *In barbarismum Donati*, and the *Sophismata grammaticalia*, the *De accentu prisciani*, and the *Sophismata logicalia*.³⁶ Commentaries on the *Physics* and *Metaphysics* that used to be ascribed to him are now doubtful.³⁷ Of his genuine works, here follows a short account in six sections, dealing respectively with his writings on grammar, logic, natural philosophy, ethics, *De ortu scientiarum*, and finally the 1277 condemnations.

³⁴ Nicholas Trivet, *Annales sex regum Angliae qui a comitibus Andegavensibus originem traxerunt*, ed. Thomas Hog (London: 1845), 278, "Nempe ante ordinis ingressum Parisiis rexerat in artibus; cujus in his peritiā, praecipue quoad grammaticam et logicam, redacta in scriptis edocent monumenta. Post ordinis vero ingressum studiosus in divinis scripturis, originalibusque sanctorum patrum, libros Augustini fere omnes, aliorumque doctorum plurium, per parva distinxit capitula, sententiam singulorum sub brevibus annotando. Extant tractatus ejus *de tempore, de universali, de relatione, et De ortu scientiarum* curiosus utilisque libellus."

³⁵ Laurentius Pignon, *Catalogi et chronica: Accedunt catalogi Stamsensis et Upsalensis scriptorum O.P.*, ed. G. Meersseman (Rome: 1936), xiii, inserted in the catalogue by Pignon (Meersseman, *Catalogi* 22, no. 7), "Fr. Robertus Kalberbi, natione Anglicus, magister in theologia et cardinalis, scripsit super Porfirium, praedicamenta, perihermeneias, super librum sex principiorum, divisionum et topicorum Boecii, circa librum priorum, posteriorum, topicorum [et] elenchorum Aristotelis, super Priscianum minorem; item librum de natura relationis; item sophisticam grammaticalem et logicalem; item librum De ortu scientiarum. . . ."

³⁶ See Irene Rosier-Catach, *La parole comme acte: Sur la grammaire et la sémantique au XIII^e siècle* (Paris: 1994).

³⁷ See Daniel A. Callus, "The Subject Matter of Metaphysics according to Some Thirteenth-Century Oxford Masters," in *Die Metaphysik im Mittelalter*, ed. P. Wilpert (Berlin: 1963), 393–99.

The Writings on Grammar

Kilwardby's works on grammar comprise his commentary on books 17 and 18 of Priscian's *Institutiones grammaticae* (*Priscianus minor*), and the chapters on grammar in *De ortu scientiarum*. Of questionable authenticity are the *Barbarismus* (on the third book of the *Donatus maior*) and the commentary on Pseudo-Priscian's *De accentibus*. The commentary dates from Robert's Parisian period, and only the latter two works have been edited. In his contribution to the present volume, C.H. Kneepkens sets these writings in the context of the fundamental changes in the nature of educational institutions that took place from the third quarter of the twelfth century. As Kneepkens points out, Kilwardby's commentary on *Priscianus minor* is the oldest datable university commentary on this work that can be attributed to an identifiable author, and is thus of enormous importance for our knowledge of linguistic thought in the thirteenth century. Kilwardby viewed grammar as a science and therefore as a university discipline. In enlisting several notions that are central in Aristotle's *Physics*, he made a serious attempt to render syntax scientific; and the *Physics*' notions of act, potency, and *motus* pervade his linguistic thought. Kneepkens distinguishes Kilwardby's linguistic intentionalism from the linguistic modism that later came to dominate the field. Whereas the modists emphasized the constraints that the rules of grammar impose on speakers of a language, the intentionalists paid equal attention to the freedom that speakers have to depart from those rules in figurative or deviant speech. Kilwardby introduces the doctrine of a double *intellectus*, a combination that is necessary in order to excuse deviant or figurative speech. And he instances the wise man (*sapiens*), who is able to depart judiciously from accepted grammatical rules in order to convey his intended meaning. This emphasis on the speaker's intentions is but one of the ways in which Kilwardby draws on the thought of Augustine.

The Writings on Logic

Alessandro D. Conti studies the notions of Being—substance and accident, universal and individual, and individuation and matter—as they are found in Kilwardby's commentaries on the *Logica vetus*.³⁸ He argues that Kilwardby's world, as evidenced by these commentaries, is neither a

³⁸ For Alessandro D. Conti's transcriptions of some of these works, see http://www-static.cc.univaq.it/diri/lettere/docenti/conti/Allegati/Kilwardby_praedicamenta.pdf.

purely Aristotelian world nor a purely Augustinian one, but contains elements of both. The young Parisian master applies to logic principles and modes of analysis drawn from Aristotle's physics and metaphysics, at the same time addressing tensions that such applications cause when injected into the Patristic tradition. For example, Kilwardby thinks that universals can be considered as they exist in individuals, or in our minds. But he also accepts the Augustinian notion that the likeness of the universal exists in the divine mind even when all the instantiating individuals have perished. His thought in these works shows other Augustinian influences too, for example, in accepting a plurality of substantial forms in composite substances, the presence of seminal reasons in matter, and individuation by matter and form. In the commentary on the *Isagoge* he holds that there is some kind of materiality in angelic intelligences, thus adopting the doctrine of universal hylomorphism, which he will later defend in his *Epistulae*. He attributes active powers to matter, and he holds that there must be a plurality of substantial forms in a composite substance.

Paul Thom finds a similar combination of Aristotelian natural philosophy with traditional medieval material in Kilwardby's *Notule* on the *Prior Analytics*.³⁹ This influential work was published in 1499 under the name of Giles of Rome. While Kilwardby's reading of the text is close and sympathetic, he makes many original contributions, particularly in his treatment of modal syllogistic. His interpretive framework is drawn from Aristotelian natural and metaphysical philosophy. For example, the four causes are invoked in his interpretation of what a syllogism is; and he sees the syllogism's final cause as being to show the truth of a categorical proposition (in a sense of "showing" that is connected with the notion of demonstration). The material and formal causes are understood, however, in a distinctly Augustinian way: a syllogism may have multiple forms, and may be incompletely formed. Nothing is a pure form, and even an abstract syllogistic formula has some material component—in this case the letters *A*, *B*, *C*, which constitute a "transcendental matter." Syllogistic form belongs primarily to pairs of premises, but Kilwardby notices that not all premise pairs that yield a deductive conclusion possess syllogistic form, and he shows that some deductive inferences that are reducible to a perfect Aristotelian syllogism lack syllogistic form.

³⁹ An edition of this work is under preparation by Paul Thom and John Scott. It is to appear in the series *Auctores Britannici Medii Aevi*, published for the British Academy by Oxford University Press.

Kilwardby's commentary on Aristotle's *Posterior Analytics* again evinces a desire to synthesize Aristotelian natural philosophy with traditional Augustinian material. Amos Corbini shows that such a synthesis had already been a goal of Robert Grosseteste's commentary on the same text, and that this was by no means the only respect in which Kilwardby's commentary drew on that of Grosseteste.⁴⁰ Again, we find Kilwardby accommodating two senses of the term *universal*: in one sense it refers to something in the divine intellect, and in another it means a form that is immanent in things and determines their character. Corbini sees the former notion as springing from Neoplatonic origins, via Augustine.

The Writings on Natural Philosophy

Different aspects of Kilwardby's writings on natural philosophy are discussed by Cecilia Trifogli, Silvia Donati, and José Filipe Silva. Trifogli discusses some of the main issues about time raised by Kilwardby in the treatise *De tempore*. For Kilwardby, time possesses a unity as a successive continuous quantity inhering in motion, a quantity that every motion has by its own nature. Time, like motion itself, is a successive thing, a thing having parts that exist not simultaneously but one after another. She sees Kilwardby's treatment of time as being original in positing a parallelism between space and time as a basis from which to argue for time's mind independence. Also original, she finds, is his view that there are numerically many times, only one of which, the time of the celestial motion, is the measure of the durations of all the other motions.

Silvia Donati's chapter is a study of Kilwardby's use of the notion of matter in *De ortu scientiarum* and in the questions on book 2 of the *Sentences*. The background for her discussion is Avicenna's theory of universal hylomorphism, a theory that posited a matter/form analysis for all created beings, including spiritual substances. She shows that Kilwardby's endorsement of this theory was not an unusual one in early thirteenth-century England, but that he, sensitive as ever to homonymy, distinguishes a general sense of *matter* in which spiritual substances have matter, from the strict Aristotelian sense, in which they do not. In its general sense, matter is the *genus generalissimum* of substance. In its narrow sense it includes the further determinations of corporeity and extension: it is formed matter. Kilwardby defends the theory of the active potentiality of matter in the strict sense in

⁴⁰ Kilwardby's commentary, in turn, was used by Albert the Great and in this way transmitted to Thomas Aquinas.

his letter to Peter of Conflans, arguing that the theory provides an explanation for the fact that matter can acquire a new form, without having to suppose that the form is already present or that it is imposed entirely from outside. Matter, in its general sense, can be considered according to its essence (by itself) or according to its existence (in conjunction with form). Kilwardby allows for different types of prime matter, distinguished by their greater or lesser purity. The Dominican master's view on the relationship between matter and quantity is that, because corporeal and incorporeal substances are both subject to discrete quantity, and because they have nothing in common other than that they are substances, discrete quantity can arise from nothing other than substantiality, whereas continuous quantity is a feature that is peculiar to the corporeal.

José Filipe Silva's chapter is a study of Kilwardby's influential view of the human soul as it is presented in *De ortu scientiarum*, the *Epistolae*, and the questions on the *Sentences*. It is in his account of the soul that Kilwardby most clearly and explicitly develops his doctrine of the plurality of substantial forms. He argues that a human being is composed of two substances, each of which is composed of matter and substantial forms whose vegetative and sensitive *potentiae* are naturally generated, while the intellective *potentia* is created by God and infused in each being at a certain stage of development. The three *potentiae* coexist only *postquam est homo*, that is, when the embryo is completely formed and receives the *ultima forma*. Silva also discusses Kilwardby's view of sense perception as outlined in *De spiritu fantastico sive de receptione specierum*. In Augustinian fashion, Kilwardby argues that sense perception is active and that the soul is the efficient cause of sensations. He combines this view with an Aristotelian account of intellection in the form of a theory of abstraction.

The Writings on Ethics

Anthony Celano's chapter is devoted to Kilwardby's account of ethics in the *Quaestiones supra libros Ethicorum* (ms. Cambridge Peterhouse 205), the *De ortu scientiarum*, and questions on the *Sentences*. Celano argues that, notwithstanding that no ethical commentary is mentioned in the earliest lists of Kilwardby's works, the content of the Peterhouse *Quaestiones* and its consistency with his known ethical writings strongly suggest him as the author. Celano sets Kilwardby's ethical views in the context of other ethics commentaries of the time. Kilwardby was writing at a time when comprehension of Aristotle's theories of goodness, virtue, and happiness

was comparatively undeveloped. Kilwardby's commentary was preceded by a few anonymous commentaries and it was superseded by Albert the Great's commentary; Celano argues that Kilwardby's commentary should be seen as the culmination of an older tradition of studying Aristotle's *Ethics*. Kilwardby divides ethics into two parts, one dealing with happiness as the supreme human good, and the other with lesser goods, that is, the virtues, which are ordered to the supreme good. Kilwardby argues that Aristotle's discussion of virtue does not cover the theological virtues; similarly, his discussion of happiness concerns only what is attainable in this life and thus does not cover the religious notion of beatitude. In Kilwardby's view, theoretical and practical knowledge are closely connected, and ethics contributes to all other disciplines by allowing the virtuous to more readily acquire knowledge.

De ortu scientiarum

Kilwardby's *De ortu scientiarum* develops in depth and with encyclopedic knowledge his division of all the sciences. In his comprehensive study of this work, Alfonso Maierù places Kilwardby's division in its historical context, showing that while it is inspired by Aristotle, it also draws on medieval sources. It differs from Aristotle's treatment in its development of the classification of the mechanical arts—arts that are important, Kilwardby argues, because the soul naturally desires to be united to a body and therefore wants the body's good. Kilwardby, in Maierù's interpretation, develops an interesting view of the purpose of science, according to which science is grounded in our sense of our own imperfection. God has no use for science, since he is perfect. We desire to know because we have a natural desire to perfect ourselves. The theory of natural desires used by Kilwardby as the basis of the articulation of sciences is substantially detached from Christian anthropology, putting forth a new, Aristotelian anthropology.

The 1277 Condemnations

Archbishop Kilwardby is famous for his intervention in the teaching program of Oxford University in 1277 when he banned the teaching of certain propositions in grammar, logic, and natural philosophy.⁴¹

⁴¹ See Patrick Osmund, OP, "The Oxford Condemnations of 1277 in Grammar and Logic," in *English Logic and Semantics from the End of the Twelfth Century to the Time of*

Patrick Osmud Lewry sees the censure of grammatical propositions⁴² as reflecting Kilwardby's conservative reaction against the importation of ideas influenced by the Parisian modists—ideas that allowed expressions like *Catonis legit* or even the simple *lego* as giving a complete sense even while lacking what was strictly necessary for grammatical congruity. Lewry writes, "The condemned positions seem to have arisen from a conceptual approach to speculative grammar in which considerations of completeness and congruity of expression were sacrificed to the mental grammar of the meaning of words."⁴³ Lewry does not see the condemned propositions in logic⁴⁴ as exhibiting such a high degree of resemblance. Nonetheless he writes, "The referential aspects of language were clearly, however, a central issue for Kilwardby. He was anxious to preserve the distinction between signification and object signified, between validity and truth, between the extensional character of subjects and the intentional character of predicates, between determinacy of the future in its own time and the indeterminacy of its coming about."⁴⁵ To these distinctions we should add Kilwardby's use in his grammatical and logical writings of the distinction between habitual and actual being.

As for the condemned propositions in natural philosophy,⁴⁶ José Filipe Silva observes that several of these are opposed by Kilwardby himself in

Ockham and Burleigh, ed. H.A.G. Braakhuis, C.H. Kneepkens, and L.M. de Rijk (Nijmegen: 1981). 235–77. Also Irène Rosier-Catach, "O magister . . . : Grammaticalité et intelligibilité selon un sophisme du XIII^e siècle," *CIMAGL* 56 (1988): 1–102, esp. 40–46.

⁴² (1) Ego currit est bonum Latinum; (2) Currit legit est perfecta oratio, sicut curro lego; (3) Sum ego, sicut ego sum; (4) Sortes legere et Sortis legere et Sortem legere, et sic in omni casu; (5) Verbum manens verbum potest privari omni accidente; (6) Nullum nomen est tertiae personae; et consimili.

⁴³ Patrick Osmund Lewry, OP, "Grammar, Logic, and Rhetoric 1220–1320," in *History of the University of Oxford*, 1:401–33, at 421.

⁴⁴ (7) Contraria possunt esse simul vera sicut in modalibus; (8) Sillogismus peccans in materia non est sillogismus; (9) Non est suppositio in propositione pro suppositis de virtute sermonis magis quam prosignificato; (10) Signum non disponit substantiam in comparatione ad predicatum; (11) Haec est vera, animal est omnis homo; (12) Terminus in universali propositione distribuit pro presentibus et futuris respectu cuiuslibet predicati.

⁴⁵ Lewry, "Grammar, Logic," 425.

⁴⁶ (13) Tot sunt principia quot principiata; (14) Nulla potentia activa seu diminuta est in materia; (15) Forma corrumpitur in pure nihil, scilicet forma substantialis; (16) Privatio est pure non ens, et ipse est in supracelestibus; (17) Conversiva est generatio animalium sicut elementorum; (18) Vegetiva et sensitiva sunt simul in embrione, et nulla prior alia; (19) Omnes forme priores corrumpuntur per adventum ultime; (20) Substantia, que est genus generalissimum, nec est simplex nec composita; (21) Minimum in predicamento substantie est species specialissima; (22) Tempus non est in predicamento quantitatis; (23) Non est idem secundum substantiam in tot tempore; (24) Non habetur ab Aristoteles quod intellectiva maneat post separationem; (25) Albedo intensa et remissa differunt

his earlier writings. Among the condemned theses is the unitary view of substance that Aquinas is so famous for defending. Indeed, of the sixteen propositions condemned in natural philosophy five deal with the unity of form in humans, and another six follow from this. Some scholars, consequently, have interpreted Kilwardby's condemnation as a campaign against the growing influence of Thomas Aquinas's thought among the Dominican order,⁴⁷ but others have challenged this.⁴⁸

One should bear in mind that the thirteenth century saw the introduction and eventual domination of Aristotelianism. This was not uncontroversial, of course, and many intellectual and theological battles were fought during this time. Kilwardby was very much a part of these debates and he was himself trying to find middle ground between old Augustinian views and the new Aristotelian philosophy and science. Aquinas cannot have been the sole target of Kilwardby's condemnations. In any case, a conflict between Aquinas's followers and Kilwardby was brewing within the Dominican order. Some scholars have seen Kilwardby's appointment as cardinal as an attempt to save Kilwardby, and some have seen it as a way of muting his campaign against Aquinas's views.⁴⁹

The chapters of this book present a multilayered picture of an important and influential thinker. From grammar to logic through philosophy of science, natural philosophy, philosophy of mind, metaphysics, ethics, and theology, the book aims to present a comprehensive picture of Kilwardby's philosophical thought. What emerges is that Robert Kilwardby the philosopher deserves to be studied more extensively. A prerequisite of such further study is that his numerous unedited works should be edited.

secundum speciem; (26) Vacuum potest esse per aliquod tempus; (27) Corpus vivum et mortuum est equivoce dictum et dimensiones eadem; (28) Materia non differt a forma per essentiam; (29) Concretum verius est in genere quam abstractum; (30) Causa prima est individuum in genere substantie.

⁴⁷ Lewry, "Robert Kilwardby," 258.

⁴⁸ See L.E. Wilshire, "Were the Oxford Condemnations of 1277 Directed Against Aquinas?" *New Scholasticism* 48 (1964): 125–32.

⁴⁹ See Daniel A. Callus, OP, *The Condemnation of St. Thomas at Oxford* (Oxford: 1955), 113; Sommer-Seckendorff, *Studies in the Life*, 128–29, 143.

ROBERT KILWARDBY ON GRAMMAR

C.H. Kneepkens

The developments of linguistic thought from the 1190s to the 1230s—the period of the conception, birth, and cradle of the university—are almost terra incognita to us. We only have some names of masters who commented on Priscian, the main representative of grammar in the obligatory curriculum of the Arts Faculties at Paris and Oxford, and are able to assign with certainty only a few anonymous grammar commentaries to this period.¹ It is to Robert Kilwardby's regency in the Arts Faculty at Paris (ca. 1237–45) that we owe the oldest datable university commentaries on grammar that can be attributed to an identifiable author,² for Kilwardby's *Commentary on the Priscianus minor*, books 17 and 18 of Priscian's *Institutiones grammaticae* that deal with the doctrine of syntax, is one of the few grammatical texts of the period of which the authenticity of the text is confirmed by manuscript attributions and tradition.³ This text is therefore of paramount importance for our knowledge of the linguistic thinking of the English master and the development of linguistic

¹ See Irène Rosier-Catach, "La grammaire dans le 'Guide de l'étudiant'," in *L'enseignement de la philosophie au XIII^e siècle: Autour du Guide de l'étudiant du ms. Ripoll 109*, *Studia artistarum*, vol. 5, ed. Claude Lafleur and Joanne Carrier (Turnhout: 1997), 255–79, esp. 255. It is true that John of Garland composed several grammatical treatises at Paris in the 1220s, but those texts are not directly related to the curriculum of the Arts Faculty.

² See Rosier-Catach, "La grammaire," 258–59.

³ Hereafter *CPMi*. Kilwardby is referred to as the author of a commentary on the *Priscianus minor* in the older part of the *Tabula Parisiensis* (dating from before 1300); see Laurentius Pignon, *Catalogi et chronica: Accedunt catalogi Stamsensis et Upsalensis scriptorum OP*, ed. Gillis Meersseman (Rome: 1936), xiii, inserted in the catalogue by Laurentius Pignon; Meersseman, *Catalogi*, 22, no. 7, "Fr. Robertus Kalberbi, natione Anglicus, magister in theologia et cardinalis, scripsit super Porfirium, praedicamenta, perihermeneias, super librum sex principiorum, divisionum et topicorum Boecii, circa librum priorum, posteriorum, topicorum [et] elenchorum Aristotelis, super Priscianum minorem; item librum de natura relationis; item sophisticam grammaticalem et logicalem; item librum De ortu scientiarum . . ."; the same entry is found in the the so-called Stams Tabula (before 1350); see Meersseman, *Catalogi*, 57, no. 6, and Daniel A. Callus, "The 'Tabulae super Originalia Patrum' of Robert Kilwardby OP," in *Studia mediaevalia in honorem admodum reverendi patris Raymundi Josephi Martin Ordinis Praedicatorum S. Theologiae Magistri LXXum natalem diem agentis* (Bruges: 1948), 243–70.

thought at the University of Paris in general. During the Middle Ages, this voluminous commentary was widely known and used by, for example, Kilwardby's kinsman Roger Bacon, who relied upon it when writing his *Summa gramatice*.⁴ The authorship of the two other grammar commentaries—on the third book of the *Donatus maior*, the so-called *Barbarismus*, and the Pseudo-Priscian *De accentibus*—that are attributed to Kilwardby in modern literature is more problematic. These texts have been preserved in three manuscripts, but are only attributed to Kilwardby on the flyleaf of one of them, the Mantua manuscript,⁵ whereas the medieval author catalogues in which one encounters Kilwardby's *Commentary on the Priscianus minor* do not mention Kilwardby's authorship of commentaries on these textbooks.⁶ The *De accentibus* commentary, in which difficulties of the Latin word *accent* are discussed, was attributed by its editor, Patrick Osmund Lewry, OP, to Kilwardby.⁷ By way of proving Kilwardby's author-

⁴ The text has been handed down, completely or partially, in seventeen manuscripts; for a survey, see G.L. Bursill-Hall, *A Census of Medieval Latin Grammatical Manuscripts* (Stuttgart: 1981), and O. Weijers, *Le travail intellectuel à la Faculté des arts de Paris: Textes et maîtres (ca. 1200–1500)*, fasc. 8, *Répertoire des noms commençant par R–* (Brepols: 2010); in addition, one manuscript containing Kilwardby's *CPMi* is referred to in the medieval booklist of King's Hall, Cambridge, but not identifiable with one of the manuscripts preserved; see C.E. Sayle, "King's Hall Library," *Cambridge Antiquarian Society* 24 (1923): 53–76, esp. 64. For Bacon's dependence on Kilwardby's *CPMi*, see C.H. Kneepkens, "Roger Bacon's Theory of the Double Intellectus: A Note on the Development of the Theory of *congruitas* and *perfectio* in the First Half of the Thirteenth Century," in *The Rise of British Logic*, ed. Patrick Osmund Lewry, OP (Toronto: 1985), 115–43; idem, "The Absoluta cuiuslibet Attributed to P.H.: Some Notes on its Transmission and the Use Made of it by Robert Kilwardby and Roger Bacon," in *Medieval and Renaissance Logic in Spain: Acts of the Twelfth European Symposium on Medieval Logic and Semantics, Held at the University of Navarre (Pamplona, 26–30 May 1997)*, ed. Ignacio Angelelli and Paloma Pérez-Ilzarbe (Olms: 2000), 73–403; see also Irène Rosier-Catach, "Roger Bacon and Grammar," in *Roger Bacon and the Sciences: Commemorative Essays*, ed. Jeremiah Hackett (Leiden: 1997), 67–102, esp. 68.

⁵ See Bursill-Hall, *A Census*, and Weijers, *Le travail*, 8.

⁶ See inter alia Meersseman, *Catalogi et chronica* and *Catalogi*, 57, no. 6.

⁷ For the editions of these commentaries, see Robertus Kilwardby, OP, *In Donati Artem maiorem III*, ed. Laurentius Schmücker (Brixen: 1984), and Patrick Osmund Lewry, OP, "Thirteenth-Century Teaching on Speech and Accentuation: Robert Kilwardby's Commentary on De accentibus of (Pseudo-)Priscian," *Mediaeval Studies* 50 (1988): 96–185. The commentaries on the *Barbarismus* and *De accentibus* have always been handed down in the same manuscript. To the manuscripts used by Lorenz Schmücker and Lewry, e.g., Cambridge, Peterhouse 191 3, fols. 11a–21vb (*Barbarismus*) and fols. 22a–9vb (*De accentibus*), and Vatican City, Biblioteca Apostolica Vaticana, Chigi L. V. 159, fols. 92a–104va, and 104vb–109vb; see also Samuel Harrison Thomson, "Robert Kilwardby's Commentaries *In Priscianum* and *In Barbarismum Donati*," *New Scholasticism* 12 (1938): 61–65. To these two manuscripts, one can add Mantua, Biblioteca Comunale, E.4.18 (627), fols. 181a–229va (on the *Barbarismus*), and 230a–44ra (on *De accentibus*). The Cambridge, Peterhouse manuscript, which unfortunately is suffering from many minor omissions, appears to preserve a text of the *Barbarismus* commentary that partially differs from the text preserved in the

ship, he linked together two arguments. First, Lewry pointed to evidence from the manuscript tradition. In the manuscripts, the commentaries on the *Barbarismus* and *De accentibus* are immediately preceded by Kilwardby's *Priscian minor* commentary.⁸ Additionally, Lewry found doctrinal and literal similarities in the *Barbarismus* and *De accentibus* commentaries to such an extent that it was obvious to him that both texts were composed by one and the same author. Moreover, he discovered striking literal and doctrinal similarities between the *Commentary on Priscianus minor* and the *De accentibus* commentary, and accordingly concluded that they were written by Kilwardby. As a consequence, Lewry accepted, in his introduction to the *De accentibus* edition, the authenticity of the commentary on the *Barbarismus*, about which he was at first less certain.⁹ In the meantime, adapted quotations from Pseudo-Priscian's *De accentibus* found in the *Commentary on Priscianus minor* strengthen Lewry's later view that these three commentaries were composed by one and the same author—Robert Kilwardby.

Two comprehensive and important works, both stemming from grammar instruction in the Arts Faculty, have been associated in the manuscripts with Kilwardby, but were rejected after detailed examination by modern scholarship. In three Cambridge manuscripts, a commentary on

Vatican and Mantua manuscripts. A detailed examination of their mutual relationships is needed. For the arguments in favor of Kilwardby's authorship of the *De accentibus* commentary, see Lewry, "Thirteenth-Century Teaching," 99–108.

⁸ Lewry only had the Peterhouse and Chigi manuscripts at his disposal, but in the Mantua manuscript the situation is similar. It must be borne in mind, however, that the inauthentic commentary on the *Priscianus maior* also has been handed down in manuscripts that contain genuine Kilwardby material; see below, n59.

⁹ For the arguments in favor of Kilwardby's authorship, see Schmücker's introduction to Robert Kilwardby (pseudo), *In Donati Artem maiorem* 3, ed. Laurentius Schmücker (Brixen: 1984), which, incidentally, needs to be used with care. In his PhD thesis, Patrick Osmund Lewry, OP, still questioned Kilwardby's authorship; see Irène Rosier-Catach, "O Magister . . . : Grammaticalité et intelligibilité selon un sophisme du XIII^e siècle," *Cahiers de L'Institut du Moyen-Âge grec et latin* 56 (1988): 4. Lewry became less reluctant in his introduction to the *De accentibus* edition; cf. Lewry, "Thirteenth-Century Teaching," 108. There are several topics on which Kilwardby's *CPMi* and this *Barbarismus* commentary differ. Lewry already pointed to the classification of the synecdoche; to this, one may add the discussion on the status of the proper noun *Romam* in the sentence "uado Romam." Rosier-Catach cautiously speaks about the authenticity of these works in "La grammaire," 255, 260. On the other hand, like the *De accentibus* commentary, the *Barbarismus* commentary is, to a large extent, in harmony with Kilwardby's *CPMi*, but from a methodological point of view, this is not a conclusive argument to attribute these texts to Kilwardby. Considering the still-existing uncertainty about Kilwardby's authorship of these two commentaries, I refer to them as composed by (Pseudo-)Kilwardby.

the *Priscianus maior* has been handed down,¹⁰ which is explicitly attributed to Kilwardby in one of the codices dating from the fifteenth century, whereas in the other two manuscripts authentic Kilwardby material has been retained.¹¹ In the secondary literature, this text was attributed to Kilwardby since the end of the nineteenth century,¹² but in 1975 and 1988 Lewry called into question the authenticity of this text.¹³ Lewry's doubts are confirmed by doctrinal positions on important issues that are diametrically opposed to views held by Kilwardby in his *Commentary on Priscianus minor*.¹⁴ Anne Grondeux and Irène Rosier-Catach have clearly shown that the important and widely spread collection of grammatical sophisms that has been handed down under the name of a certain Robertus Anglicus, was not written by Robert Kilwardby.¹⁵

In addition to the Arts commentaries, Kilwardby's introduction to philosophy and the sciences, *De ortu scientiarum*, composed at Oxford about 1250, is a momentous source for his reflections on those disciplines that are language-oriented (*sermocinalis*) and their respective positions in the

¹⁰ Incipit: "Sicut scribitur in primo Posteriorum: Quod non est est non contingit scire. Quare si aliquid scitur illud est ens." The manuscripts are Cambridge, Peterhouse 191, sec. 1, fols. 1r–11v (s. 13); Cambridge, Peterhouse 206, fols. 308–29r (s. 13/14); Cambridge, University Library, Kk 3.20, fols. 25r–224r; 228v–229v (s. 14); for a description of the manuscripts, see Pinborg, 2*, and for a partial edition, see *The Commentary on "Priscianus maior" Ascribed to Robert Kilwardby*, ed. Karin Margareta Fredborg et al. (Paris: 1975).

¹¹ The manuscript Cambridge, Peterhouse, Kk 3.20, has a contemporary headline "Kilwardby in Magno"; see Patrick Osmund Lewry, OP, "The Problem of the Authorship," in Fredborg et al., "The Commentary," 12*–17*, esp. 13*–14*.

¹² See Thomson, "Commentaries *In Priscianum* and *In Barbarismum Donati*," 52–65, esp. 54; see also this article for earlier literature.

¹³ See Lewry, "The Problem," 14*–17*, and "Thirteenth-Century Teaching," 97.

¹⁴ An important distinction between both the English masters Kilwardby and Bacon and the continental masters was inter alia the different use of the notions *significatio specialis* / *significatum speciale*. In the *Maior* commentary, the term *significatum speciale* is used in a way that is in accordance with the continental party; cf. Fredborg et al., "The Commentary," 39, where this notion is used to define the logician's domain against the grammarian's task; the logician deals with *significata specialia*, on which the truth and falsity of a proposition rests; cf. C.H. Kneepkens, "*Significatio generalis* and *significatio specialis*: Notes on Nicholas of Paris' Contribution to Early Thirteenth-Century Linguistic Thought," in *Medieval Analyses in Language and Cognition: Acts of the Symposium: The Copenhagen School of Medieval Philosophy, January 10–13, 1996*, ed. Sten Ebbesen and Russell L. Friedman (Copenhagen: 1999), 17–43, esp. 25, and Robertus l'Anglais, *La Sophistria de Robertus Anglicus: Étude et édition critique*, ed. Anne Grondeux and Irène Rosier-Catach (Paris: 2006), 57–58.

¹⁵ *La Sophistria*, ed. Grondeux and Rosier-Catach, 58–59, 72–75, 78–83.

overall survey of philosophy.¹⁶ This introduction must be considered, together with his *Commentary on the Priscianus minor*, the main sources for research into Kilwardby's linguistic thought.

The New Institutional Circumstances

The fundamental changes that took place in the domain of higher education beginning in the third quarter of the twelfth century had far-reaching implications for the way in which Kilwardby commented on the Arts textbooks.¹⁷ The masters were not only confronted with a completely new intellectual discourse due to the recent availability of large parts of the *Corpus Aristotelicum* and the accompanying Greek and Arab commentaries in Latin translations. The institutional novelties in the educational field, starting with Alexander III's regulation of 1179 that a preceding examination was obligatory for granting the *licentia docendi*,¹⁸ resulted in uniform standards of the universitarian teaching system. The introduction of the examination, a more or less independent committee of examiners, and an obligatory curriculum laid down in the statutes the system of the three university grades of student (*scolaris*), graduate student (*baccalaurus*), and master (*magister*), the institutionalized distinction between elementary, preparatory, and in-depth magisterial courses (*legere cursorie* versus *ordinarie*) left an unmistakable mark on the contents and format of textbooks and commentaries.

In the earliest statutes of the Faculty of Arts of the University of Paris, both the *Priscianus maior* and the *Priscianus minor*, were part of the curriculum till far into the fourteenth century; the same held for Donat's *Barbarismus*, and Pseudo-Priscian's *De accentibus*. It was obvious that these

¹⁶ Robert Kilwardby, OP, *De ortu scientiarum*, ed. Albert G. Judy, OP (Toronto: 1976); hereafter *DOS*.

¹⁷ In her study on early university grammar and its textbooks, Irène Rosier-Catach "La tradition de la grammaire universitaire médiévale," in *Manuscripts and Tradition of Grammatical Texts from Antiquity to the Renaissance* (Cassino: 2000), 449–98, also pays attention to Kilwardby's *CPMi*; see also Rosier-Catach, *La parole comme acte: Sur la grammaire et la sémantique au XIII^e siècle* (Paris: 1994), 21.

¹⁸ The pope had laid down that it was not allowed to the local ecclesiastical authorities to exact a payment for granting a *licentia docendi*, but also that one should not refuse to grant the license to any petitioner "qui sit idoneus," "who is such that he is appropriate to teach in his discipline," although how one should examine the appropriateness of the petitioner was not established by Alexander III; see *Chartularium Universitatis Parisiensis*, 4 vols., ed. Henrich Denifle and Émile Chatelain (Paris: 1889–97), no. 12, 1:10.

textbooks were commented on by Kilwardby or provided with commentaries under his name, and that accordingly these commentaries were collected in one manuscript as a corpus of indispensable grammar texts.¹⁹

A detailed regulation was also introduced about the duration of the courses and the way in which the master should read the textbooks. The *Priscianus maior* and *minor* should only be read *ordinarie*, that is, by a master on fixed hours on the common days on which courses should be given (*leguntur ordinarie in diebus legibilibus*). According to the statute of the Parisian Faculty of Arts of 1255 the courses on each of the Priscian texts had to be completed within “about twenty-five weeks,” whereas the time allotted to the *Barbarismus* and the *De accentibus* was six weeks.²⁰ Consequently, the textbooks were cut into regular and manageable pieces, each headed by a main lemma marked by underscoring and capitalization, called *lectiones*, a term that often occurs in Kilwardby’s commentaries, although it still is not easy to discover the exact demarcation of the quantity of text dealt with in a *lectio*. This management approach led to a uniform and recognizable format of the university commentaries that is also met in Kilwardby’s texts. He starts his commentary with an introductory section in which the position of the discipline and the related textbook in the whole of philosophy is established. The exposition of the text begins with a division of the textbook in major parts, and each part is subdivided into minor pieces which, in turn, are subdivided in still smaller parts. Dividing the text, Kilwardby inserts general remarks about the function of the part in question in the whole of the treatise.²¹ The

¹⁹ In *CPMi*, Kilwardby often refers to the *Priscianus maior*; therefore, it is obvious that he also commented on the *Priscian maior*, but this commentary has not yet been identified in the manuscripts. The frequent attribution of commentaries and other works to Robert Kilwardby in the manuscripts is also caused by the combination of his English origin—because of which he was often referred to with the geographical adjective *Anglicus*—the commonness of his Christian name, and the circumstance that at the beginning of the thirteenth century, *Anglicus* was a common surname. Accordingly, we meet “*Roberti Anglici*” in the manuscripts, who are not easy to separate; for this identification problem, see the section on the several “*Roberti Anglici*” in the introduction to Robertus l’Anglais, *La Sophistria de Robertus Anglicus*, by Grondeux and Rosier-Catach, 75–79.

²⁰ See *Chartularium Universitatis Parisiensis*, 278.

²¹ *CPMi* (Vatican City, Biblioteca Apostolica Vaticana, Fondo Chigi, L. V-159 [hereafter Chigi, L.V. 159]), fol. 1ra, “QUONIAM IN ANTE EXPOSITIS LIBRIS ETC.”; Priscian, *Prisciani Grammatici Caesariensis Institutio Grammaticarum*, ed. Martin Hertz (1855; reprt., Hildesheim: 1961), 17.1:107, 23 (hereafter *IG*). Liber iste diuiditur in proemium et tractatum, qui incipit ibi QUOD QUEMADMODUM LITERE; *IG*, 17.2:108, 7. Et patet ordo et sufficientia per hoc quod proemium tradit cognitionem in uniuersali de agendis et est ad remouendum ignorantiam negationis, ut dicitur. Tractatus autem tradit cognitionem de eisdem in

discussions of the minor pieces are concluded with *dubitabilia* and *questiones* in which the commenting master exhibits his view on problematic aspects of the texts and shows his own solutions. Usually, these are the most interesting parts of the commentary.²²

Grammar and the New Aristotelian Paradigm of the Sciences

The recovery of the *Corpus aristotelicum* made Aristotle's division of philosophy and his scientific methodology available gradually at first hand in all its depth, and brought a new theoretical framework to the Latin scholarly world, which also became apparent in the development of linguistic thought. Aristotle's *Posterior analytics*, his textbook of scientific methodology, his *On the Soul*, *Metaphysics*, *Physics*, and finally his *Ethics* (the *Ethica nicomacheia*) and the Greek and Arab commentaries became obligatory textbooks of the Arts curriculum and, accordingly, were read by all the masters and heard by all the students of the Arts Faculty.

speciali, et est ad remouendum ignorantiam dispositionis. Et in hiis duobus sufficienter habetur scientia. Prohemium diuiditur in duas partes, quia primo dat intentionem cum modo procedendi circa ipsam, secundo resumit eam et addit ei finem uel utilitatem, cum dicit IN SUPERIORIBUS IGITUR; *IG*, 17.2.108, 5. Dat igitur intentionem dicens quod hic determinandum est de ordinatione partium orationis quam Greci sintasim uocant. Addit etiam modum dicens quod ipse determinatus est maxime imitando Appollonium et hoc addendo bene dicta circa constructionem tam a philosophis Grecis quam Latinis et quod ipsemet secum excogitare potuerit ad propositum. Et addit causam huius dicens quod ipse determinaturus est de constructione sub hac forma, quia in libris precedentibus qui sunt de partibus orationis, scilicet in magno uolumine, sic executus est de partibus orationis, scilicet imitando Appollonium et addendo bene dicta aliorum et que ipse potuerit secum bene cogitare. Et hoc est QUONIAM IN ANTE; *IG*, 17.1.107, 23. Intentionem dat cum dicit DE ORDINATIONE SIUE DE CONSTRUCTIONE; *IG*, 17.1.108, 1. Et si dicat quod in hoc intendat dare subiectum libri, intelligi debet ordinatio in constructione siue pro oratione siue pro dictione ordinata siue constructa. Modum procedendi dat, cum dicit EIUSDEM UESTIGIA SEQUENTES; *IG*, 17.1.108, 2. Causam etiam istius modi dat, cum dicit QUONIAM IN ANTE; *IG*, 17.1.107, 23. Et sic exponendo hoc ipsum 'quoniam' causaliter tenetur, scilicet pro 'quia.' Potest autem legi continuatiue, ut scilicet ponatur pro 'cum.' The texts from *CPMi* quoted in the footnotes are primarily based on, Chigi, L.V. 159, but in several places silently corrected with the help of the manuscript Berlin, SBPK, lat. fol. 501, Cambridge, Peterhouse 191; Melk, Stiftsbibliothek, 582/965; Oxford, Corpus Christi 119; Merton, 301; and Paris, BnF, lat. 16221; for readability of the texts, critical notes and references to the manuscripts adduced other than the Chigi manuscript are omitted.

²² The medievals already acknowledged the paramount importance of the *questiones* sections as may be gathered from the fact that only the *questiones* of the commentary on the *Priscianus minor* by Nicholas of Paris have been handed down without the *divisio textus* and the exposition; ms. Oxford, Bodleian, lat. misc. fol. 34.

Mary Sirridge emphasized that the Aristotelian works offered an obligatory paradigmatic framework to medieval scholars, but that it was nevertheless possible for them to create, within this framework, a personal interpretation and rethinking.²³ This enabled them to develop, in one and the same scientific discourse but from an entirely different approach to language, linguistic modism (the *Modistae*) and linguistic intentionalism (including Robert Kilwardby and Roger Bacon), two currents in linguistics existing at the same time in the same place, but fundamentally differing in many respects. Both these currents handle the same grammatical heritage—the textbooks composed by the ancient grammarians and the twelfth-century commentary tradition, of which Petrus Helias's *Summa* and the *Absoluta cuiuslibet* (Petrus Hispanus *non-papa*) were the most influential—within the same theoretical framework, and accordingly had much in common.²⁴ They differed, however, in their evaluations of fundamental linguistic oppositions, which were already perceived by grammarians in the twelfth century, but now came sharply to the fore, forced by the requirements of the new Aristotelian paradigm: the opposition between the grammars of particular languages and the universal aspects of grammar, that between convention and universality, and, to a certain degree, the opposition between attending to the prudent and expert speaker's freedom from the rules and attending to the constraints of the rules of grammar.

The modists of the last quarter of the thirteenth century emphasized the general linguistic aspect of grammar. They focused on the prevailing processes within their linguistic universe that they grounded in extramental reality through the claim of isomorphism between the worlds of reality, mind, and language. This system-directed approach to language and linguistics implied that they scarcely paid any attention to deviant and figurative speech. Kilwardby's position, and in his vein, Roger Bacon and several other scholars, was different, as has been clearly shown by Irène Rosier-Catach.²⁵ From a more Augustinian point of view, these linguists paid more attention to the human and, because of that, the

²³ Mary Sirridge, "The Science of Language and Linguistic Knowledge: John of Denmark and Robert Kilwardby," in *Sprachtheorien in Spätantike und Mittelalter*, ed. Sten Ebbesen (Tübingen: 1995), 109–34.

²⁴ Petrus Helias, *Summa super Priscianum*, 2 vols., ed. Leo Alexander Reilly (Toronto: 1993); for the "*Absoluta cuiuslibet*," see Petrus Hispanus, *Summa "Absoluta cuiuslibet"*, ed. C.H. Kneepkens, in idem, *Het Iudicium Constructionis*, vol. 4 (Nijmegen: 1987).

²⁵ Rosier-Catach, *La parole*.

conventional aspect of language.²⁶ They did not exclusively focus on the scientific speaker and the language system, but also looked at the prudently speaking expert and the hearer. And while the modists were more interested in the general structure of language, in the system of language, Kilwardby and his partisans, called by Rosier “intentionalists,”²⁷ also paid serious attention to the communicative and sometimes therefore deviant aspects of language. The capacity of the listener and the intention of the speaker are important factors in their reflections and judgements of linguistic phenomena.

Kilwardby’s emphasis on the conventional character of language leads to the question about the place that he assigned to grammar in the overall building of philosophy, and, in line with this, whether grammar meets the requirements of an Aristotelian science or whether we have to consider grammar an art that, by definition, does not deal with universal, necessary, and eternal phenomena. In his *De ortu scientiarum*, Kilwardby departs from the Isidorian definition of philosophy as the general discipline that studies divine and human things.²⁸ It is evident for him that the language-oriented disciplines are no part of speculative philosophy, since they are not concerned with *res divinae*,” with God and his creation,²⁹ of which only speculative *scientia* is possible, but deal with human deeds and products. To leave no doubt, human utterances (*voces*) as sounds directly belong to God’s creation and, consequently, are studied by the natural philosopher,³⁰ but human utterances as bearers of meaning are not created by God, but are the products of the human will.

²⁶ Rosier-Catach, *La parole*, 146–48; Mary Sirridge, “Robert Kilwardby,” in *Lexicon grammaticorum: Who is Who in the History of World Linguistics*, ed. H. Stammerjohan (Tübingen: 1996), 796; for an outline of the far-reaching role Augustinianism played in Kilwardby’s thought, see Alexander Broadie, “Robert Kilwardby,” in *A Companion to Philosophy in the Middle Ages*, ed. J.J.E. Gracia and R.B. Noone (Oxford: 2003), 611–15.

²⁷ For the term *intentionalists* in this context, see Rosier-Catach, *La parole*, 238; see also, *La Sophistria de Robertus Anglicus*, ed. Grondeux and Rosier-Catach, 50–83.

²⁸ *DOS*, para. 3, 10, “Alia [sc. definitio philosophiae] tangit subiectum et finem, et ideo completior est et est talis: Philosophia est rerum divinarum humanarumque cognitio cum studio bene vivendi coniuncta”; Isidore of Seville. *Isidori Hispalensis episcopi Etymologiarum sive originum libri 20*, ed. Wallace Martin Lindsay (Oxford: 1962), 2.24.1.

²⁹ *DOS*, para. 5 (de rebus divinis), 13 (subiectum [sc. scientiae speculativae], universa natura scibilis, scilicet quae per se condidit), 333 (speculativa est de rebus divinis, et sunt res divinae Deus et omnia quae a Deo facta sunt per seipsum).

³⁰ *CPMi* (Bav, Chigi, L.V. 159), fol. 5rb, “Litterarum uero ordinatio in sillabis est ab arte et ideo adhuc ipsam determinat. Ordinatio uero earum extra sillabas et secundum se pertinet magis ad naturalem quam ad gramaticum. Naturalis enim habet considerare naturam instrumentorum et locorum generationis litterarum penes que littere ordinationem

The part of philosophy that deals with mankind and its products covers three large domains: ethics and craft, which taken together are subsumed under the label of *philosophia activa*, and the language-oriented disciplines. Should this imply that according to the Aristotelian model the disciplines that are part of active philosophy are excluded from the status of science (*scientia*)? Kilwardby's answer is clear for active philosophy. Assessing the scientificity of the several parts of philosophy, Kilwardby applies a sliding scale model. The purest form of true and certain science is to be found in metaphysics, less pure in mathematics, and in physics less pure than in mathematics, but more pure than in ethics, and in ethics more pure than in craft disciplines.³¹ In the language-oriented disciplines the scholar considers sensible and corruptible things, but insofar as he considers them not as singulars but in abstraction from their state of singularity, he is occupying himself with universals; and about universals science is possible.

The Subjects of Grammar and Its Subdisciplines

The cornerstone of Kilwardby's attitude to grammar is that he considers grammar as a university discipline that should be subject to the same analytical method as the other university disciplines. This approach greatly contributed to the development of grammar from grammar of Latin to grammar as the discipline of general linguistics.

In the Aristotelian philosophy of science, the subject of a science is its unifying and constitutive element. For Kilwardby, the search for the subject of grammar is, therefore, of paramount importance. Since grammar is part of the language-oriented disciplines, he will first have to establish their subject. In the *DOS*, he claims that the subject of the language-oriented disciplines is speech and its parts.³² The subject of grammar as a language-oriented subdiscipline is more specific, that is, "conventionally meaningful speech as such" (*sermo significatiuus secundum quod*

seruant naturalem prout secundum se considerantur et ideo ordinationem litterarum non determinat gramaticus."

³¹ Cf. *DOS*, para. 392; for a similar view, based on Averroës, *Avicennae Cantica*, see the anonymous *Philosophica Disciplina* (ca. 1245), ed. Claude Lafleur, in idem, *Quatre introductions à la philosophie au XIII^e siècle*, vols. 57–84 (Montréal: 1988), 260–61.

³² *DOS*, para. 423, "Ex his perpendi potest subiectum sermocinalis scientiae in genere, scilicet sermo et eius partes."

huiusmodi) in opposition to dialectic and rhetoric, which have as subject “inquisitive speech” (*sermo inquisitiuus*).³³ The result of Kilwardby’s investigations on the subject of grammar enabled him to maintain the conventional character of language and, accordingly, to fix the place of grammar within the whole of philosophy. On the other hand, he established grammar’s scientificity by creating linguistic universals through abstraction from sensible and singular linguistic phenomena, and safeguarded grammar’s position in the recently developed universitarian educational system. The purpose of grammar becomes an expressing of every concept of the mind in a congruous and fitting way.³⁴ The added value of grammar to the process of learning a language consists in being able to use speech according to the rules of the art,³⁵ for grammar as a discipline, the *scientia grammatica*, deals with the scientific study of the grammatical framework that is indispensable for obtaining an active and passive command of speech according to the rules of the art. Only a man who is well versed in grammar at this level is able to express and pass on his thoughts in a clear and understandable way, and to correctly interpret a message that has been drawn up according to the requirements of the *ars grammatica*. Kilwardby is aware that the great majority of language users learn a language without following courses in grammar. Their method of learning a language is *usus*, based on the imitation of other speakers and the innate cleverness of mankind; the result is an active and passive command of the *sermo usualis*: the daily use of ordinary language.³⁶

In *De ortu scientiarum*, para. 489, Kilwardby comprehensively discusses another definition of the subject of grammar—the “congruous sentence

³³ *DOS*, para. 488, “Similiter dicendum quod non agit [sc. ars grammatica] de omni voce significativa, sed de sermone significativo secundum quod huiusmodi, et per hoc quod dico sermonem intelligitur vox ad placitum significativa.” For the difference between dialectic and rhetoric Kilwardby appeals to Boethius’s *De differentiis topicis* 1, ed. Migne, *Patrologia Latina* 64, 1177C, where the distinction is found between the kinds of questioning of *thesis* (dialectics) and *hypothesis* (rhetoric).

³⁴ *DOS*, para. 484, “Ex his patent subiectum, finis et definitio huius scientiae. Subiectum enim sermo significativus est secundum quod huiusmodi; finis, congruus et aptus modus significandi omnem mentis conceptionem; definitio, scientia de sermone docens omnem animi conceptionem congrue significare.”

³⁵ *DOS*, para. 427, “Ad haec dicendum quod de sermone bene potest esse scientia, hoc est de modo artificialiter sermocinandi,” and *DOS*, para. 490, “Et ideo grammatica intendit modum artificiosum docere significandi omne quod mente concipitur.”

³⁶ See *DOS*, para. 441, where, referring to Augustine’s *Confessiones* 1:8, 13, Kilwardby expounds the natural process of language learning.

as such”: “*oratio congrua secundum quod huiusmodi*.”³⁷ He claims that this definition does not conflict with the previously described subject of grammar, which appears, however, to be methodologically more advanced,³⁸ for unlike the term *speech* (*sermo*), the term *sentence* (*oratio*) may not be predicated of a word or the parts of a word, namely, the vowels and consonants and the syllables, whereas the true subject of a science should be predicable of all parts discussed in the respective science.

In fact, here we are confronted with a development in Kilwardby’s linguistic thinking, for the definition of the subject of grammar that he considered acceptable but inferior in the *De ortu scientiarum* had been defended by him, about fifteen years earlier, in the introduction to his *Commentary on the Priscianus minor*. After a short preamble, introduced by a remark derived from Aristotle’s *De anima* and in which he emphasizes that speech and, accordingly, the language-oriented disciplines, are indispensable for study and scholarship, he succinctly deals with the differences between the three such disciplines. Speech may be studied from the point of view of its informative function (grammar) or of its moving function, for it can move the speculative intellect (logic) or the practical intellect (rhetoric).³⁹

The main part of the introduction consists of the discussion of the subject of grammar.⁴⁰ In his *Commentary on the Priscianus minor*, Kilwardby makes a distinction between the *subiectum principale* and the *subiectum commune*.⁴¹ The principal subject of grammar is the construed or congru-

³⁷ I translate *oratio* as *sentence*, since, in this context, *oratio* means the “well-formed sequence of words expressing a complete sense”; cf. Priscian, *IG*, 2.15, ed. Hertz, 1:53, 28–29, “Oratio est ordinatio dictionum congrua, sententiam perfectam demonstrans.”

³⁸ *DOS*, para. 489, “Oratio enim congrua continet omnia de quibus est grammatica et sermo congrue significativus similiter, sed sermo congrue significativus de pluribus praedicatur quam oratio.”

³⁹ In *DOS*, para. 468, Kilwardby changed his scope and pointed to the significative function of language (grammar) and its inquiring function (logic and rhetoric); see also n33 above.

⁴⁰ The discussion of the subject of a discipline is primarily founded on reflections by Aristotle and Avicenna; it is already found, in a concise form, in John Blund. *De anima*, ed. Daniel A. Callus and Richard William Hunt (London: 1976), one of the oldest university Arts texts (1204 or earlier); see the introduction, xi.

⁴¹ *CPMi* (Bav Chigi, L.V. 159), fol. 11a–b, “Ad quod dicendum quod dupliciter est accipere subiectum alicuius scientie. Vno modo illud de quo et propter quid est principaliter scientia. Alio modo id quod est commune predicabile de omnibus partialibus subiectis illius scientie. Verbi gratia. In libro *Periarmeneias* uno modo dicitur subiectum enuntiatio una simplex, de qua ibi agitur principaliter. Alio modo interpretatio secundum nobiliores eius differentias. Et hoc est predicabile de nomine et uerbo et oratione et ceteris de quibus agitur ibi.” In his commentary on the *Peri hermeneias*, he mentioned that he derived the

ous sentence as such (*oratio constructa sive congrua in se*) which means the *oratio constructa* considered from its material (the parts of speech as constructibles) and formal principles (the modes of signifying).⁴² It contains the indicative, imperative, optative, deprecatory, and enuntiative sentences⁴³ as parts of its subject and the letter, syllable, word and phrase as its integral parts. On the principal subject, Kilwardby bases the four-pronged division of grammar⁴⁴ into: syntax (*diasintetica*) dealing with the *oratio constructa* considered *in se*; morphology and the doctrine of the parts of speech (*ethimologia*) dealing with the *oratio constructa* considered from its parts; orthography dealing with the uncompounded nonsignificative part, that is, the letter; and prosody dealing with the compounded nonsignificative part, that is, the syllable.

The common subject consists of the lettered utterance that is arrangeable to obtain a congruous unity or arrangeable to be meaningful or giving information (*uox litterata ordinabilis propter congruum siue ordinabilis ad significandum uel ad informandum*). It can be said of all the partial subjects of grammar: the letter, the syllable, the word, and the phrase. This definition helps Kilwardby to demarcate the boundaries of grammar against the other disciplines. The phrase “lettered utterances” removes grammar from the disciplines that deal with the things in the outer world, the

distinction between the two subjects from Averroës's commentary on Aristotle's *Metaphysics*; see Kilwardby, *Notule super librum Peryarmenias*, unpublished edition (only available in typescript) by Patrick Osmund Lewry, OP, 2, 9–16, “Et sic est sumere huius subiectum dupliciter: aut id in quo communicant omnia ista de quibus est hic intentio, et hoc est interpretatio; aut id de quo per se et primo est hic intentio, et hoc est enuntiatio. Testatur enim Aueroiz [in 4 *Metaph.*, 1003a33–b22, ed. Venice 1574, according to Lewry] quod est sumere eius subiectum dupliciter: aut id in quo communicant omnia illa de quibus hic est intentio, et hoc est ens uniuersaliter; aut id de quo per se et primo est intentio, et hoc est per se ens et primum ens, quod est ens substantia.” For a similar distinction, see Albert the Great's commentary on Porphyry's *De quinque universalibus*, c. 4, in *Ordinis fratrum praedicatorum Super Porphyrium de 5. universalibus*, ed. Manuel Santos Noya (Münster, 2004), 6. In the further development of thirteenth-century thinking about the subject of a discipline, Kilwardby's principal subject, the *oratio constructa*, will be called the *subiectum attributionis*, and the *subiectum commune*, the *vox literata ordinabilis*, the *subiectum praedicationis*; Rosier-Catach, “La grammaire,” 266–67.

⁴² CPMi (Bav, Chigi, L.V. 159), fol. 1rb, “Eadem [= oratio constructa] autem secundum principia eius tam materialia quam formalia est subiectum totius gramatice.”

⁴³ For the five species of sentence, see Boethius, *Commentarii in librum Aristotelis De interpretatione*, 1st ed., ed. C. Meiser (Leipzig: 1877), 71, paras. 1–5.

⁴⁴ This is the so-called Priscian division of grammar. On Donat's major grammar, the *Ars maior*, the medievals based a three-pronged division: *grammatica praeceptiva* (bks. 1 and 2), *permissiva* (the sections on figurative speech of bk. 3), and *prohibitiva* (the sections on the vices of speech of bk. 3).

res, and the phrase “arrangeable in a congruous way” and so forth marks off grammar from logic and rhetoric.⁴⁵

The *oratio constructa* or the *vox litterata ordinabilis* as a subject of grammar are abstracted from any particular language, and are the same for everybody. Through their universal character, they enable grammar to meet the requirements of an Aristotelian science.⁴⁶ The same holds true for the four declinable parts of speech (noun, verb, pronoun and participle) and their semantic functions.⁴⁷ Although their material principles, the *constructibilia*, differ linguistically in their actual vocal appearance, their essential formal principles, the essential modes of signifying, are the same for all speaking people. These four parts of speech are present in every language and, accordingly, are essential parts of the human linguistic system. Kilwardby emphasizes grammar’s universal aspects. Although he does not consider grammar to be a speculative science, as we have seen above,⁴⁸ he nevertheless tries to root the passing vocal construction

⁴⁵ *CPMi* (Bav, Chigi, L.V. 159), fol. 1ra–b, “Aliter autem potest accipi subiectum gramatice id quod continet secundum predicationem omnia de quibus agitur in gramatica sic: Uox litterata ordinabilis propter congruum siue ordinabilis ad significandum uel ad informandum. Et dico *uox litterata* ad differentiam scientiarum que sunt de rebus. Et dico *ordinabilis etc.* ad differentiam logice et rethorice.

Sic autem accepto subiecto respondendum est ad obiecta quod alia est uia sumendi subiectum commune quam per istas differentias *articulatum inarticulatum*. Et est *uox contracta* subiectum, sicut iam dictum est, et predicatur subiectum hoc modo de omnibus partialibus subiectis gramatice ut de littera, sillaba, dictione et oratione.

Adhuc sic sumpto subiecto diuiditur gramatica sic: uox litterata ordinabilis propter congruum aut est ordinabilis in se aut in alio. Si in se, aut est simplex aut composita. Si simplex, sic dictio de qua est ethimologia. Si composita, sic oratio constructa de qua est diasintetica. Si sit ordinabilis in alio, aut est simplex ut littera de qua ortographia, aut composita ut sillaba de qua est prosodia.”

⁴⁶ Cf. *CPMi* (Bav, Chigi, L.V. 159), fol. 1rb, “sicut geometria non est de magnitudine lignea neque de magnitudine erea neque de aliqua alia contracta ad materiam specialem, sed de magnitudine simpliciter, ut abstrahitur ab omni tali, sic gramatica non simpliciter est de oratione constructa secundum quod continuit linguam latinam uel gramaticam et huiusmodi. Sed hoc accidit, immo est de oratione constructa secundum quod abstrahit de omni lingua speciali. Sic autem manet subiectum gramatice idem apud omnes. Et similiter intelligamus de uoce litterata ordinabili propter congruum.”

⁴⁷ *CPMi* (Bav, Chigi, L.V. 159), fol. 7vb, “parcium orationis quedam sunt de esse gramatice sicut nomen et uerbum et aliquo modo pronomen et participium, quedam autem sunt de bene esse, scilicet partes indeclinabiles. Partes autem que sunt de esse gramatice oportet manere easdem apud omnes, partes autem que sunt de bene esse non oportet.” and *ibid.* f. 58va, “constructibilia sunt principia materialia constructionis et eorum principia essentialia eadem sunt apud omnes. Eadem enim est substantia huius elementi ‘a’ apud Latinos et Grecos et omnes loquentes; similiter eadem pars orationis secundum substantiam est nomen apud omnes et sic de aliis.”

⁴⁸ It is important to point to (Pseudo-)Kilwardby’s position in the *Priscianus maior* commentary, who deviates from Kilwardby, whose view he mentions referring to “secundum

by means of its mental representation in the world of the *res* to attain a degree of permanence.⁴⁹

As a partial discipline of grammar, syntax or *diasintetica* has its own subject that in turn is a partial subject of the subject of grammar. This implies that the subject of syntax cannot be the *vox litterata ordinabilis* or the *oratio constructa* considered from its material and formal principles, for this is the subject of grammar. For Kilwardby, the subject of syntax is the *oratio constructa* considered from its formal principles, which are the same for all people, and therefore universal. He rejects the identification of *constructio* with the *oratio constructa*.⁵⁰ In his view *constructio* is an *actio* of the constructor who is the subject of the action, or a *passio* of constructibles that are its material cause, that is its subject. According to its habitual being,⁵¹ one could say that its subject is one part of speech; however, according to its actual being it needs to be in more than one part of speech, parts that are mutually arranged. The reason for this is obvious, for a construction is a union of constructibles, and not of one constructible alone. Like grammar, syntax also has two kinds of subject: (1) the principal or primary subject, namely, the two principal declinable parts of speech (the noun and verb)⁵² correctly arranged, and (2) the common

quosdam", "Ad ultimum dicendum quod scientia de sermone secundum quosdam non est speculativa nec practica, sed ut speculativa et ut practica. Est enim quasi adminiculativa ad has. Sed potest dici magis speculativa quam practica, quia complementum sermonis est a ratione ut ratio est, quae potius dicitur virtus speculativa quam practica"; see Fredborg et al., "The Commentary,"¹³. In fact, (Pseudo)Kilwardby held a view that we also find in Boethius of Dacia's *Quaestiones* commentary on Priscian minor; see C.H. Kneepkens, "The Tradition of Universal and Speculative Grammar in the Late Middle Ages," in *El Brocense y las humanidades en el siglo 16*, ed. Carmen Codoñer Merino, Santiago López Moreda, and Jesús Ureña Bracero (Salamanca: 2003), 31–60, esp. 37–39.

⁴⁹ *CPMi* (Bav, Chigi, L.V. 159), fol. 25rb, "Et nota quod constructio magis a parte rerum attenditur quam a parte uocum. Et ideo quamuis dictiones non maneant unite in prolotione uocis, sunt autem unite secundum intellectum; et sic manet constructio, quando est congrua dictionum ordinatio."

⁵⁰ As was done, for example, by Helias, *Summa*, 2.900.79–80, "Constructio enim tribus modis dicitur: active et passive et etiam constructio dicitur ipsa oratio constructa."; and Hispanus, *cuiuslibet*,¹: Constructio tripliciter attenditur: uel actus constructentis quem in lectione exercemus, uel passio construendorum que dictionibus attribuitur cum dictionem transitiue uel intransitiue construi dicimus, uel oratio constructa, hoc est ex dictionibus composita."

⁵¹ For Kilwardby's interpretations and use of the *habituale* terminology, see Sten Ebbesen, "The Chimera's Diary," in *The Logic of Being: Historical Studies*, ed. Simo Knuutilla and Jaakko Hintikka (Dordrecht: 1986), 115–43, esp. 124–30.

⁵² Construction and constructible are analogue concepts for Kilwardby; cf. *CPMi*, (Bav, Chigi, L.V. 159), fol. 25va, "constructio est passio analogica sicut constructibile analogum, et primo inuenitur in partibus declinabilibus, posterius autem in indeclinabilibus, et inter

subject consisting of parts of speech correctly and mutually ordered that function as one subject.⁵³

The discussion of the subjects of Donat's *Barbarismus* and Pseudo-Priscian's *De accentibus* in the two (Pseudo-)Kilwardbian commentaries is much more concise. In the commentary on the *Barbarismus*, a definition of the subject of grammar is given that perfectly fits in with Kilwardby's definition in the *Commentary on the Priscianus minor*: The lettered utterance that is able to enter an arrangement (or ordering) in order to be meaningful.⁵⁴ Since the *Barbarismus* is a partial discipline of grammar, its subject must be part of the subject of grammar. An arrangement or ordering can be proper and congruous or improper and incongruous. It is this subdivision that enables (Pseudo-)Kilwardby to define the subject of the *Barbarismus*: The lettered utterance that is able to enter an arrangement (or ordering) in order to be meaningful under an improper or incongruous change or ordering.⁵⁵ The accent cannot be the subject of Pseudo-Priscian's *De accentibus*, as one would be inclined to conclude from the title of this textbook. Accent is not, however, either speech or a part of speech, but is an obligatory requirement for every subject of a discipline that is part of a language-oriented discipline (*scientia sermocinalis*).

*The New Paradigm: Grammar under the Dominance of the
Physics Methodology*

An important difference between the late twelfth-century grammarians and their early thirteenth-century colleagues is the introduction into lin-

declinabiles primo est parcium principalium, scilicet nominis et uerbi, et posterius conuenit pronomini et participio."

⁵³ *CPMi* (Bav, Chigi, L.V. 159), fol. 25vb, "Potest dici quod eius subiectum primum cui primo conuenit, est partes prime et principales [i.e. subject noun and finite verb] debito modo ordinate. Subiectum autem commune ipsius sicut ipsa passio est communis, est partes adinuicem debito modo ordinate. Et ideo bene dicitur constructio congrua dictionum ordinatio uel constructibilium unio."

⁵⁴ Kilwardby, *CD* 3:32–34, ed. Schmücker, 5, "Cum igitur grammatica sit pars sermocinalis scientiae [Chigi and Mantua mss. om. Schmücker], potest non irrationabiliter dici uox litterata ordinabilis ad significandum esse [Chigi om. Mantua est Schmücker] subiectum grammaticae."

⁵⁵ Kilwardby, *CD* 3:34–40, ed. Schmücker, 5–6, "Sed hoc contingit dupliciter, scil. sub mutatione uel ordinatione propria uel impropria. De uoce litterata ordinabili primo modo principaliter consistit grammatica tota, secundum quod a Prisciano tradita est, de ipsa uero ordinabili secundo modo est quidam liber a Donato editus, qui dicitur Barbarismus. Patet igitur, quod Barbarismus est de uoce litterata ordinabili ad significandum sub mutatione uel ordinatione impropria. Et ita patet, quod sit eius subiectum siue causa materialis."

guistic thinking of the key notions of the conceptual framework of Aristotle's *Physics*.

Louis Kelly credited the Modists with efforts to provide grammar with the status of a speculative science by introducing the key notions of Aristotle's *Physics* into grammar.⁵⁶ In addition, Irène Rosier-Catach also pointed to the *Physics* approach that is found in the *Summa grammatica* of the "intentionalist" Roger Bacon, and called this one of the characteristics of speculative grammar.⁵⁷

Kilwardby's *Commentary on Priscianus minor* evidently represents an earlier stage of the application of the *Physics* concepts and terminology to describe and explain linguistic phenomena.⁵⁸ The famous *Physics* saying, "*Ars imitatur naturam*" becomes Kilwardby's adage, with which he intends, more than once, to support his explanation of linguistic facts.⁵⁹ In adducing several notions that are central in Aristotle's *Physics*, he made a serious attempt to render syntax scientific. The *Physics* act and potency doctrine pervades the whole of his linguistic thought; it is found, among other places, in the domains of the composition of the syllable, the discussion of the subject or material cause of the construction and composition of a proposition, of the analysis of the verbal accidents and the doctrine of the cases and their functions.⁶⁰ We encounter the Aristotelian *motus* concept

⁵⁶ Louis G. Kelly, "La physique d'Aristote et la phrase simple dans les ouvrages de grammaire speculative," in *La grammaire générale des modistes aux idéologues*, ed. André Joly and Jean Stefanini (Villeneuve-d'Ascq: 1977), 107–24, esp. 107.

⁵⁷ Cf. I. Rosier-Catach, "Roger Bacon," 69.

⁵⁸ From quotations, it appears that in addition to Aristotle's logical works and his *De anima*, Kilwardby is acquainted with his *Metaphysics*, *Physics*, *De generatione et corruptione*, *De sompno et vigilia*, and *Ethics*.

⁵⁹ Aristotle, *Physica*, 2:2 194a21 *Les Auctoritates Aristotelis* Aristotle, *Physica*, 2 (60), ed. J. Hamesse (Louvain: 1974), 145, 14 "Ars imitatur naturam in quantum potest." Kilwardby adduces this adage at least trice in his *CPMi* (Bav, Chigi, L.V. 159), fol. 25rb, "Ex oppositis est generatio in natura et ars imitatur naturam; quare ex oppositis fit in arte constructio, et ita tunc erit de constitutione constructionis."; fol. 49va, "Masculinum nobilius est feminino sicut uirtus agentis nobilior uirtute patientis et quia sic est in natura et non econuerso sic debet esse in arte et non econuerso, cum ars imitatur naturam, ut dicit Aristotiles in secundo *Phisicorum*."; fol. 53rb, "Ars imitatur naturam in quantum potest. Sed natura non intendit aliquid non rectum, sed solum rectum et accidat ibi non rectum preter intencionem nature; ergo similiter si in arte contingat aliquid in proprium hoc erit preter intentionem eius."

⁶⁰ *CPMi* (Bav, Chigi, L.V. 159), fol. 2rb "Omnis enim sillaba aut est ex duabus uocalibus aut ex uocali et consonante. Si fiat ex uocalibus, hoc est quia una uocalis grossioris soni est et altera subtilioris. Sonus autem grossior est potencialis et materialis ad subtiliorem, ut ex eis fiat sonus unius sillabe. Si autem fiat ex uocali et consonante, cum uocalis per se uocem faciat, consonans autem non nisi per adiunctum uocalis, patet quod consonans est potentialis et materialis ad uocalem, ut ex eis fiat sonus unius sillabe. Sic igitur patet

as the fundamental notion underlying the explanation of the semantics of the verb.⁶¹ Kilwardby reinterprets Priscian's Stoic-based action and being acted upon (*actio & passio*) as the general semantic contents of the verb into the Aristotelian categories of the accidents of *actio* and *passio*, but he refuses to accept an isomorphy between the realm of linguistics and that of logic. The distinctions between the eight parts of speech do not correspond to the logical distinctions between the ten categories, because the ground of the distinctions between the parts of speech is not the things signified, but the modes of signifying.⁶² The verb signifies *actio* and *passio* through the same mode of signifying, namely, in becoming and succession.⁶³ The philosophical, in particular the physical, concept

quod quia littera una in potentia est et materialis respectu alterius, ex illis possit fieri sillaba. Hec autem potentia et actus sunt cum potestatibus et essentialibus litterarum."; *ibid.*, fol. 34rb, "dicendum quod uerbum impersonale dicitur, non quia non habet personam actu neque potencia, sed propter predictam priuationem persone, que bene patitur secum potentiam et aptitudinem ad personam."; *ibid.*, fol. 61va, "Si autem aliquis uelit extendere suppositum ad suppositum uerum et actuale et ad suppositum non uerum quod est solum potentiale, non debet dicere quod actuale suppositum designatur per nominatiuum et potentiale per uocatiuum, quia nominatiuus significat substantiam que iam in actu agit, et uocatiuus illam que consequenter aget, immo dicitur nominatiuus actuale suppositum, quia significat actu rem per modum stantis, et ita per modum suppositi, et uocatiuus dicitur potentiale suppositum, quia significat substantiam excitatam et non per modum stantis, et talis substantia est in potentia, ut postea de ea enuncietur tanquam de actuali supposito quando nominatiue designatur."

⁶¹ Unlike Nicolas of Paris and Roger Bacon, Kilwardby does not yet use the *Physics fluxus / fluere* metaphor to indicate the verbal way of signifying; cf. Nicholas of Paris, *Questions in Prisciani minoris librum primum*, ms. Oxford, Bodl., Lat. misc. fol. 34, fol. 17ra–b, "Per hoc patet quare pocius fiat per uerbum, quia non est aliqua pars que significet rem suam in fluxu et in motu sicut uerbum. . . . Et unus actus non potest terminare fluxum alterius," and Robert Bacon, *Summa gramatica*, ed. Steele, 83, "Ad ultimum, dicendum quod quamvis hoc uerbum 'est' non significet motum, tamen aliquid per modum motus, scilicet esse fluens et egrediens ab aliqua substantia, aliter enim sua res non mensuraretur tempore."

⁶² *CPMi* (Bav, Chigi, L.V. 159), fol. 8va, "Adhuc. Quia non distinguuntur partes orationis secundum distinctiones rerum, sed secundum distinctionem modorum significandi, possunt autem omnes res eodem modo significari, scilicet per modum habitus, ideo res omnium predicamentorum possunt per nomen significari, ut qualitas, quantitas et sic de aliis; et hac ratione non sunt decem partes orationis, sicut sunt decem predicamenta rerum."; *ibid.*, fol. 8rb, "quod interiectio uno modo significat mentis conceptum, scilicet quantum ad audientem, quantum autem ad proferentem, mentis affectum. Et ideo potest esse pars orationis. Vel dicendum quod omnis pars et interiectio et alie significant mentis conceptum, sed alie partes expriment ipsum per modum conceptus, sola autem interiectio per modum affectus. Et ideo dicitur affectum significare et alie partes conceptum. Per modum enim significandi distinguuntur partes."

⁶³ *CPMi* (Bav, Chigi, L.V. 159), fol. 8rb–va, "Sed quia ordinatio et sufficientia coniuga sunt, ideo queritur de parciuum sufficientia. Si enim partes distinguuntur secundum distinc-

that according to Kilwardby underlies the essential verbal mode of signifying is *motus*. The Stoic-Hellenistic notions of the verbal transition and intransition⁶⁴ that are closely related to the doctrine of the verbal *actio* and *passio* are also incorporated by Kilwardby into the *motus* model.⁶⁵ Every motion must have a *terminus a quo* or principle in which it inheres as its mover and a *terminus ad quem* to which the motion is directed.⁶⁶ This may be a *terminus* outside the motion itself, a direct or indirect object, or in the case of absolute or intransitive verbs an intrinsic final *terminus*, the *res verbi*—the substantiated lexical content of the verb—which if added nowadays we would call an internal object, e.g., *ambulo spacium* or *vivo vitam*; but for Kilwardby an expressed internal object caused a figurative construction.⁶⁷ Furthermore, Kilwardby brought together all the nominal cases into one system that was based on the concepts of *actus / actio* and

tionem rerum significatarum, erunt decem partes sicut decem res. Et adhuc cum actio et passio non reducuntur ad idem genus, substantie autem omnes reducuntur ad idem genus, uidetur enim quod si actio et passio possunt significari per partem unam sicut per uerbum, quod omnes substantie significantur per partem unam. Et ita non erunt plures partes orationis substantiam significantes, uel si sint, et plures erunt partes significantes actionem et passionem. Et dicendum . . . Patet etiam ex hiis responsio ad obiecta. Diuersus enim modus significandi solum discernit partes. Unde quia actio et passio significantur eodem modo ut in fieri et in successione, ideo una pars est significans actionem et passionem. Et quia etiam diuersus est modus significandi substantiam, scilicet puram et cum qualitate, et hoc dupliciter, ideo diuerse sunt partes significandi substantiam.”

⁶⁴ Cf. Jan Pinborg, “Classical Antiquity: Greece,” in *Current Trends in Linguistics*, vol. 13: *History of Linguistics*, ed. Thomas A. Sebeok (The Hague: 1975), 69–125, esp. 87–90, and C.H.M. Versteegh, *Greek Elements in Arabic Linguistic Thinking* (Leiden: 1977), 82.

⁶⁵ *CPMi* (Chigi, L.V. 159), 26vb, “Queritur hic de predictis et primo quomodo fiat transitio personarum sine actu, cum omnis transitio sit in motu, et motus est cum actione. Et dicendum quod nulla transitio est sine actu penitus. Illa enim transitio que est personarum, habet subintelligere uerbum substantium cum nomine infinito, sicut docet Priscianus in *Secundo* huius. Unde ‘capa Sortis’ subintelligitur ‘capa que est Sortis’ uel ‘capa ens Sortis,’ scilicet participium uerbi substantiui.”

⁶⁶ *CPMi* (Bav, Chigi, L.V. 159), fol. 34ra, “etsi omne uerbum significet cum motu et omnis motus habeat terminum a quo et in quem, non tamen sequitur quod omne uerbum sit personale. Terminus enim a quo aliquando designatur ex parte ante per nominatiuum et per modum subiecti et tunc est uerbum personale, aliquando tamen ex parte post per modum efficientis siue infinite ut ‘curritur,’ siue finite ut ‘curritur a me’. Et tunc non facit uerbum impersonale.”

⁶⁷ *CPMi* (Bav, Chigi, L.V. 159), fol. 90va, “Ad tertium et quartum dicendum quod uerbum quod dicitur absolutum, bene potest transitue construi cum ablatiuo casuali et cum accusatiuo solum terminante motum mediante prepositione. Non enim dicitur absolutum ab huiusmodi transitione, sed a transitione in accusatiuum significantem id quod immediate patitur. Talem enim habet intra se et non requirit ipsum extra se. Quando autem opponit et dicit quod bene dicitur ‘uado iter,’ ‘ambulo spacium,’ et sic transit absolutum in aliquid extrinsecum immediate passum, dicendum quod hoc est per figuram et inproprie. Sic enim dicit Priscianus: De sua essentia complent talia uerba sententiam transeundo

motus. A similar preference for the conceptual framework of the *Physics* is found in the (Pseudo-)Kilwardbian *Barbarismus* and *De accentibus* commentaries.⁶⁸

A complete or perfect sentence consists of two main parts:⁶⁹ (1) the *suppositum* or subject term in the *casus rectus* or *nominatiuus* actually used or understood;⁷⁰ the nominative case signifies a substance by the way of standing by itself from which the action or motion signified by the verb comes off; unlike the ablative case, the nominative—and in special cases the vocative—signifies its substance as the subject of an action or motion, and (2) the finite verb that signifies the action or motion itself. Traditionally, the combination of the subject nominative case and the finite verb was called an intransitive construction. Kilwardby adopted this view, but he reinterpreted it within the *actus / motus* framework.⁷¹ The oblique cases

intra in rem propriam ut 'uado,' 'ambulo'; et ideo non exigunt accusatiuum immediate passum extra sibi apponi, sed si apponitur, erit inproprietas".

⁶⁸ (Pseudo-)Kilwardby, *In Donati Barbarismum*, ed. Schmücker, pp. 79, 1585–1601, "Ad quod dicendum est, quod casus ablatiuus significat substantiam prout principium motus et accusatiuus prout est terminus eiusdem; hoc enim supponendum est ex diuisione casuum.

Item omnis habitudo quae magis se habet ad principium motus, uel quae est propinquior principio motus quam termino, debet reduci ad habitudinem ablatiui, et omnis habitudo propinquior est termino motus quam principio, debet reduci ad habitudinem accusatiui; haec autem praepositio 'in' notat continentiam in loco. Sed haec potest esse dupliciter, scilicet uel actualis continentia rei in loco uel potentialis; contentia autem actualis propinquior est principio motus quam fini, quia res actualiter continetur in loco, si debet inde exire, oportet sumere principium sui motus in illo loco, et ideo haec praepositio 'in', secundum quod notat actualem continentiam rei locatae in loco, deseruit casui ablatiuo; continentia autem potentialis rei in loco propinquior est fini quam principio motus, quia, si aliquid comparetur ad locum non ut actu contentum ab ipso, sed potentia, comparatur ad ipsum sicut ad finem siue terminus sui motus, et propterea haec praepositio, in quantum denotat potentialem continentiam rei in loco, deseruit casui accusatiuo." Id., *In De accentibus*, 16, ed. Lewry, 122, 28–30, "Consequenter manifestat et qualiter eius nota est littera et per consequens quid sit elementum, dicens quod cum sit proruptio a sono, qui solum potentia est vox, in uocem actu, illa vox appellatur *elementum*."

⁶⁹ *CPMi* (Bav, Chigi, L.V. 159), fol. 60va, "Pars enim casualis supponens est principium orationis primum et incoatiuum, uerbum autem principium secundum. Sed secundum semper habet respicere ad primum et non econuerso, quia primum est absolutum ad secundum comparatum." and *ibid.*, fol. 61vb, "nominatiuus non ponitur in oratione sine uerbo consimilis persone et numeri sine eclipsi."

⁷⁰ *CPMi* (Bav, Chigi, L.V. 159, f. 61va), "Et dicendum quod uocatiuus a uerbo inperatiuo secunde persone exigitur, ut dictum est, sed non ex ui suppositi nisi extendamus nomen suppositi ad suppositum uerum et non uerum. Solum enim ille casus uerum suppositum dicit qui designat per modum stantis. Talis est solus nominatiuus secundum Priscianum. . . . *ibid.*, 61vb] Et ideo solus nominatiuus a gramatico debet dici suppositum."

⁷¹ *CPMi* (Bav, Chigi, L.V. 159), fol. 26rb–va, "Propterea dicendum quod constructio intransitiua est ubi dictiones que construuntur et earum significationes ad eandem personam referuntur et ut ad eandem, et sic soluuntur omnia opposita. Licet enim cum dico

also signify (by the way of) a substance, but functionally subordinated to a word signifying another substance either by the way of a substance, that is, in the case of a *transitio personarum* (the genitive and dative cases), or by the way of being or becoming, that is, in the case of a *transitio actuum* (the accusative, ablative, and vocative cases).⁷² An important aspect of Kilwardby's theory of transitivity is that *motus* is involved not only in the *transitio actuum*, but also in the *transitio personarum*.⁷³ The genitive case indicates a substance as the principle of another substance that is designated by the *casus rectus* (*domus patris*)⁷⁴ or the *res verbi* of the finite verb

'ego Robertus sedeo' uel 'ego sum homo,' coniungantur persone diuerse, tamen per constructionem ponuntur ut eadem persona in supposito uno. Cum autem dico 'uideo me' uel 'Sor uidet Platonem,' significo personas diuersas uel eandem ut diuersam, scilicet prout fit uno modo agens et alio modo paciens. . . . Una enim eadem est persona numero, dico persona suppositi respectu actus ad quem referuntur significationes tam subiecti quam uerbi. Ponuntur enim due intentiones, scilicet subiecti et appositivi, in persona una. Ex hiis patet quomodo intelligenda est idemtitas persone, cum dicitur quod intransitio pertinet ad eandem personam. . . . Sic igitur patent modi intransicionis. Quidam tamen uolunt sub ipsa comprehendere reciprocacionem, sed proprius pertinet ad transitionem."; *ibid.*, fol. 33vb] "Ad quartum dicendum quod etsi omne uerbum significet cum motu et omnis motus habeat terminum a quo et in quem, non tamen sequitur quod omne uerbum sit personale. Terminus enim a quo aliquando designatur ex parte ante per nominatiuum et per modum subiecti et tunc est uerbum personale, aliquando tamen ex parte post per modum efficientis siue infinite ut 'curritur,' sue finite ut 'curritur a me'. Et tunc non facit uerbum inpersonale."; *ibid.*, fol. 70ra, "Sed nominatiuus significat substantiam in qua est actus et a qua egreditur. . . . Sed nominatiuus significat illam ut subiectum actus in quo scilicet est."

⁷² *CPMi* [(Chigi, L.V. 159), fol. 59va, "Deinde uidendum de transitibus sic: Si substantia significata sub casuali proprietate comparatur ad aliud sub diuersitate substantie aut persone, aut igitur illud aliud se habet per modum entis aut substantie aut per modum fieri et esse. Si primo modo, fit personarum transitio; si secundo modo, actuum."

⁷³ *CPMi* (Chigi, L.V. 159), fol. 26vb, "Queritur hic de predictis et primo quomodo fiat transitio personarum sine actu, cum omnis transitio sit in motu, et motus est cum actione. Et dicendum quod nulla transitio est sine actu penitus. Illa enim transitio que est personarum, habet subintelligere uerbum substantiium cum nomine infinito, sicut docet Priscianus in *Secundo* huius. Unde 'capa Sortis' subintelligitur 'capa que est Sortis' uel 'capa ens Sortis,' scilicet participium uerbi substantiui."

⁷⁴ *CPMi* (Chigi, L.V. 159), fol. 59va, "Si igitur illud ad quod comparatur substantia sub casu, sit per modum entis aut substantie, aut illa substantia comparatur ad ipsum in ratione principii et sic est genitiuus, aut in ratione termini et sic datiuus ex quibus patet quod genitiuus et datiuus proprie sunt transitui personarum, quia significant substantiam ut comparatur ad aliud se habens per modum entis aut substantie et ita per modum persone. Quod autem genitiuus predicto modo significet, declaratur sic. Genitiuus secundum Priscianum est patrinus uel possessorius, sed pater est in ratione principii et similiter possessor in ratione principii per accidens prout seruans et ordinans dicitur principium. Adhuc. Si genitiuus construat cum uerbo, hoc non erit ratione modi uerbalis significandi, set ratione rei uerbi ipsius intellecte per modum habitus. Unde sublato modo uerbalis significandi adhuc construitur cum re uerbi sic 'miserere tui,' idest miseria tui, 'peniteo tui uel penitet,' et pena uel penitencia tui, et sic in similibus et ex hiis patet quod genitiuus significat substantiam, ut est principium entis uel substantie. Uerbum enim cum

(*misereor tui* and *miseria tui*). The dative case terminates the substance signified by the verb as its *res verbi*; “*dono tibi*” is “rewritten” as “*ago* or *facio donum tibi*.”⁷⁵ The situation of the ablative case is more complex. It indicates a substance as the principle of action or motion. This might be a local starting point, the *terminus a quo*, or the producer (*efficiens*) of action or motion, be it the agent in the case of a passive verb or the instrument by means of which the action or motion has been effected.⁷⁶ The accusative case signifies a substance that terminates an action or motion when it is expressed as an *actus significatus*⁷⁷ (*video Sortem*).⁷⁸ The voca-

transit in accusatiuum, adhuc modo uerbali significandi ablato res uerbi remanens per modum habitus aut substantie construetur cum genitiuo, ut ‘amo illum’ ‘amor illius,’ ‘lego Uirgilium’ ‘lectio Uirgili’ et huiusmodi.”

⁷⁵ *CPMi* (Bav, Chigi, L.V. 159), fol. 32rb–va, “Et dicendum quod quedam sunt uerba uehementis transitionis que ratione modi significandi uerbaliter et per modum fieri cum obliquis construuntur et talia cum accusatiuo et ablatiio proprie ordinantur. Quedam autem sunt transitionis non uehementis que solum ad modum nominum transeunt, scilicet non per naturam uerbalem in eis, sed per naturam rei uerbi nominaliter intellectam et talis essentie illius rei nominaliter intellecte cum genitiuo et datiuo construuntur cuiusmodi sunt ‘misereor, noceo’ et consimilia. Per hoc patet responsio ad primum et secundum, ad tertium similiter, quia dicendum quod isti duo obliqui quando cum uerbis construuntur ordinantur cum ipsa re uerbi intellecta nominaliter, ut [fol. 32va] ‘misereor tui / miseria tui,’ ‘noceo tibi / nocumentum tibi’;” *ibid.*, fol. 59va, “Quod autem datiuus significet substantiam ut est in ratione termini patet quia significat eam ut ei aliquid incommodi inferitur uel aliquid commodi confertur. Quod autem eam significet eam ut est terminus entis uel substantie, patet quia cum uerbum aliquod construitur exuto modo uerbali significandi. Adhuc. Cum eodem construetur res uerbi nominaliter designata sic: ‘dono tibi: donum tibi,’ ‘accidit michi: accidencia michi,’ et sic datiuus significat substantiam ut est terminus substantie et non esse aut fieri. Ex hiis patent habitudines duorum casuum qui sunt transitui transitione personarum.” The *res verbi* is the substantiated contents of a verb, e.g., *currere* → *cursus*, *videre* → *visus*, *misereor* → *miseria*.

⁷⁶ *CPMi* (Bav, Chigi, L.V. 159), fol. 59va, “Quod autem ablatiuus significat substantiam in ratione principii, patet quia principium aut est extra sicut terminus motus, aut sicut efficiens motum. Et dico principium quod dicitur terminus a quo sicut terminus motus ut ‘uenio de ecclesia’. Sicut efficiens motum, hoc contingit dupliciter: Aut scilicet sicut efficiens per se aut sicut per accidens cuius est instrumentum. Uerbi gratia: ‘percucior a te baculo,’ hoc est exempla de ambobus. Et omnibus hiis modis sumendo principium ipsius esse uel fieri ponitur ipsum sub ablatiio.” and *ibid.*, fol. 70rb, “Ablatiuus enim significat substantiam efficientem et illam a qua egreditur actio, et in hoc conuenit cum nominatiuo. Sed nominatiuus significat illam ut subiectum actus in quo scilicet est, et ablatiuus ut efficientem et inferentem passionem.

⁷⁷ For the notions of *actus significatus* and *actus exercitus*, see Gabriel Nuchelmans, “The Distinction actus exercitus / actus significatus in Medieval Semantics,” in *Meaning and Inference in Medieval Philosophy*, ed. Norman Kretzmann (Kluwer: Dordrecht, 1988), 57–90 [repr., *id.*, *Studies on the History of Logic and Semantics, 12th–17th Centuries*, ed. E.P. Bos (Aldershot, 1996)], Rosier-Catach, *La parole*, 157–206.

⁷⁸ *CPMi* (Bav, Chigi, L.V. 159), fol. 59va, “De illis qui sunt transitui actuum sic dicendum: Substantia comparata sub casu ad id quod se habet per modum fieri et esse, aut se

tive case performs the function of the accusative in the case of an *actus exercitus*: it signifies a substance that terminates the *actus exercitus* (*O Virgili* can be rewritten as *voco te, Virgili*).⁷⁹ In the case of an *actus significatus*, however, the vocative functionally behaves like a nominative case in particular when occurring in an imperative sentence.⁸⁰

Kilwardby's reinterpretation of the basic functions of the six (pro)nominal cases in their relation to the syntactic notions of intransitivity and transitivity within the *motus* framework can be diagrammatically summarized as follows:

habet per modum principii ad illud aut per modum termini. Si per modum principii, sic significatur ablatiue. Si per modum termini, sic accusatiue. Et sic patet quomodo isti casus sunt proprie transitiiui actuum."

⁷⁹ Cf. *CPMi* (Bav, Chigi, L.V. 159), fol. 59vb, "in significatione aduerbii uocandi non intelligitur nomen sed uerbum uocandum secundum Priscianum sic: 'o Uirgili,' idest 'uoco te, Uirgili';" and *ibid*, "Uel sic et forte melius cum casus sic significans substantiam sit intransitiuus, scilicet aut est omnino intransitiuus, scilicet et quo ad actum significatum aut quo ad actum exercitum et sic est nominatiuus; aut est simpliciter intransitiuus, secundum quid tamen transitiiuus, scilicet intransitiuus quo ad actum significatum et transitiiuus quo ad exercitum, et sic est uocatiuus."

⁸⁰ *CPMi* (Bav, Chigi, L.V. 159), f. 61ra, "Ad oppositum sic. Cum uocatiuus et nominatiuus communicent in constructione intransitiua cum uerbo, uidetur quod sicut nominatiuus a uerbo exigitur, sic et uocatiuus.

Adhuc. Actus imperatiuus secundum quod huiusmodi cadit sub imperio, imperatur alicui substantie. Quare actus imperatus secundum quod huiusmodi dependenciam habet ad substantiam talem cui fit preceptum. Sed huiusmodi substantia proprie et per se est substantia que excitatur ad agendum id quod imperatur. Talis autem est substantia designata per uocatiuum. Quare necessarium est quod actus imperatus secundum quod huiusmodi exigit substantiam uocatiui excitatam.

Adhuc. Dicit Priscianus inferius, ubi determinat constructionem imperatiui modi, illud quoque notandum est quod imperatiua uerba uocatiuis nominum adiuncta perfectionem orationis habent, ex quo necessarium est quod aliqua est orationis perfectio que per ipsum solum imperatiuum uerbum non completur, sed per uocatiuum adiunctum completur. Exigitur igitur aliquando uocatiuus a uerbo ad perficiendum secum orationem.

Adhuc. Casus intellectus in uerbo ex parte ante, si exprimat, ab eodem uerbo exigitur, sed uocatiuus est in aliquo uerbo intellectus prout dicit Priscianus in *Magno* in tractatu de prepositione [*JG*, XIV, 31] quod uerba quia nominatiuum semper significant uel uocatiuum, prepositioni per compositionem coniunguntur sicut nominatiui et uocatiui.

Adhuc. *Ibidem* dicit uerba quoque quia semper secundum intellectum nominatiuo uel uocatiuo sunt adiuncta casibus, carent preponi per appositionem non adiunguntur. Ex quibus liquet quod aliquod est uerbum in cuius intellectum semper est uocatiuus. Et puto quod hoc sit uerum. Puto enim quod uerbum imperatiuum secunde uocante habet intellectum uocatiui et ideo ipsum uocatiuum exigit. Unde sic dico 'Willelme, scribe' dico quod uocatiuus exigitur et ex hoc patet quod semper exigitur uocatiuus a uerbo quando fit excitatio ad aliquid agendum. Tunc enim semper ordinatur cum secunda persona imperatiui."

	Principium	Terminus
Oratio perfecta <i>intransitio</i>	Casus rectus per modum stantis (nominativus & vocativus)	
Substantia <i>transitio personarum</i>	Genitivus	Dativus
Actus significatus fieri vel esse Actus exercitus <i>transitio actuum</i>	Ablativus	Accusativus Vocativus

Kilwardby's Semantics

An important part of Kilwardby's linguistic thinking consists of reflections on the doctrine of signification. Since the last decades of the eleventh century, semantics reentered the hard core of philosophical and theological thought.⁸¹ In Kilwardby's grammatical writings one can observe his efforts to adapt the achievements of his predecessors to the new scientific paradigm.

Kilwardby's signification theory is based on the traditional Aristotelian-Boethian semantic triplet of *res* → *intellectus* (*passio animae*) → *vox*, but, as we will see below, he attached much importance to a reverse triplet that gives the situation of the decoder of the message sent: the receiver or hearer. He also stuck to the traditional view that the relationship between the *res* and the *intellectus* is, by nature, the same for all people and therefore universal, whereas the relationship between *vox* and *intellectus* is by convention, and accordingly not the same for all and not universal.⁸²

⁸¹ There are many very important studies on late eleventh and twelfth-century semantics by, inter alios, Sten Ebbesen, Karin Margareta Fredborg, Kl. Jacobi, A. Maierù, J. Marenbon, C. Marmo, G. Nuchelmans, L.M. de Rijk, Jan Pinborg, Irène Rosier-Catach, L. Valente.

⁸² Kilwardby, *NLPer*, 21–22, "Queritur postea super hoc quod dicit quod uoces non sunt eedem nec littere apud omnes, quia hec uox 'homo,' a quocumque proferatur, eadem est, et similiter quelibet alfa figura etiam eadem est apud omnes, ut hec figura a, [22].

Set dicendum quod comparando uocem ad rem, dicitur non esse eadem. Similiter littere compare ad elementa quorum sunt signa, in quantum illa constituunt uocem comparatam ad rem, non sunt heedem. Passiones autem et res heedem sunt apud omnes. Et causa est quia res non sunt a nobis. Non enim est in nobis res facere, similiter nec facere similitudines quascumque ad intelligendum ipsas res, immo si quis subtiliter inspiciat, uidebit similitudinem in anima non omnino esse diuersim a re ipsa set aliquo modo esse rem ipsam. Ex quo patet quod non dicemus ipsam uocem rem et intellectum significantem

Conferring meaning on a vocal unit takes place by human intervention, the *impositio*,⁸³ through which a vocal string becomes a *dictio*. Unlike later thirteenth-century grammarians,⁸⁴ Kilwardby claims that reflecting on *impositio* was part of the grammarian's task:

In my view, both orderings of words belong to the domain of the art (namely of grammar). For their ordering outside the sentence rests on the imposition of their meaning and their invention, and both activities are regulated by the art and concern the grammarian. Their ordering in a sentence rests, in most cases, on their consignificates (*accidentia or secondary grammatical categories*), and these belong to the domain of the art and regard the grammarian. And therefore the grammarian determines both the orderings of the words.⁸⁵

The traditional view of imposition is that except in the case of equivocity one word represents only one concept. For some words, however, Kilwardby adduces a more complex semantic analysis. They are able to signify two hierarchically ordered concepts (*intellectus*). For instance, the noun *populus* in the meaning of people primarily represents something in the outer world as being under a certain form—let us call it *populitas*—which is the cause of its imposition. This form necessarily resides, however, in a multitude. Accordingly, the noun *populus* signifies not only the concept of “people” as a unity as in the expression “the English people” (*populus Anglicus*), but also unavoidably evokes the concept of “multitude.” By consequence, the singular nominative *populus* may be construed, as subject term, with a finite verb in the plural because of its *intellectus secundus* just like the English noun “people.”⁸⁶

plura significare. Littere autem et uoces, quia a nobis sunt, ideo non heedem sunt apud omnes set diuerse apud diuersos.”

⁸³ Unlike the (Pseudo-)Kilwardby of the *CPMa*, who commonly used the *institutio* terminology, Kilwardby generally preferred the *impositio* terminology.

⁸⁴ E.g., (Pseudo-)Kilwardby held the view that the metaphysician was the preeminent scholar to perform the task of name-giver; Fredborg et al., “The Commentary,” 77–78.

⁸⁵ *CPMi* (Bav, Chigi, L.V. 159), fol. 5rb, “Et dicendum quod utraque ordinatio dictionum est ab arte. Ordinatio enim earum extra orationem est penes impositionem sue significationis et penes suam inuentionem et utraque ab arte est et spectans ad gramaticum. Ordinatio enim earum in oratione est a suis consignificatis ut in pluribus et hec sunt ab arte et pertinet ad gramaticum. Et ideo gramaticus utramque ordinationem dictionum determinat”; see also *ibid.*, fol. 9ra, “quia res per uerba significatas non est gramatici considerare nisi ex parte illa qua est uocum inpositorum” (since it is not the grammarian's task to consider the things that are signified by words except as far as he acts as a name-giver).

⁸⁶ *CPMi* (Bav, Chigi, L.V. 159), fol. 15vb, “in una dictione est aliquando intellectus primus et secundus, ut in hoc nomine ‘populus,’ quod primo significat formam aliquam, et hoc est eius primus intellectus. Secundo autem significat multitudinem in qua radicitur illa forma, et hoc est eius intellectus secundus.”; a similar discussion is found *ibid.*, fol. 2ra, “sensus duplex est secundum gramaticos, scilicet sensus exterior et interior. Quid autem sit sensus exterior, hoc liquet, et quid sit sensus interior patet per plura dicta Prisciani.

The doctrine of the imposition of words was a usual topic in the introductory sections of a *Priscianus maior* commentary. The Pseudo-Kilwardby treated, systematically and at great length, the *impositio* or *institutio vocum*.⁸⁷ For him, central issues were the distinction between the vocal and mental word (*vox sensibilis exterior* versus *vox mentalis*) that he found in John Damascene's *De fide orthodoxa*;⁸⁸ the correlated question whether imposition occurs to the vocal or the mental word; the way in which the mental, nonmaterial conceptualization of the *res* in reality (a *species intelligibilis*) was united to a vocal—that is, material—entity; and the communicative force, value, and range of an imposition. In Kilwardby's writings, the situation is different. We do not have a commentary on the *Priscianus maior* by Kilwardby at our disposal, and, traditionally, the text of the *Priscianus minor* is not inclined to evoke systematic discussions on *impositio* or even on fundamental aspects of signification. On the other hand, one encounters, more than once, the notion of imposition in the discussions of several topics, which offers us an interesting glance at Kilwardby's view on this phenomenon.

The *impositor* or name-giver, who is a grammarian and as such acts "*ab arte*,"⁸⁹ had a signification model at his disposal that was based on the conceptualizations of the ways or modes in which the *res* that exist in the outer world present themselves to his mind. The fixed set of seven parts of speech was directly linked to this model. Incidentally, the eighth part of speech, the interjection, which was brought into the grammatical system by the Latins, does not correspond to a conceptualized way of being of a *res*, but to an *affectus mentis*.⁹⁰ Kilwardby's signification model

Dicit enim in hoc exemplo 'pars in frusta sequant' [Verg. *Aen.* 1:212] quod actor reddidit uerbum plurale ad sensum nominatiui, et hoc est ad multitudinem intellectam sub nominatiuo, que dicitur secundus intellectus." Kilwardby uses the same opposition between the *interior* and *exterior intellectus* in a "quod non"—argument of his discussion of the figure of apposition: *CPMi* (Bav, Chigi, L.V. 159), fol. 51vb, "Adhuc. Si interior intellectus apponitur, et exterior, ut uidetur. Sed interior intellectus huius pronominis 'ego' ualet 'idem michi'. Quare sicut bene dicitur 'tu idem michi amas me,' et bene dicitur, dico, per euocationem 'tu ego amas me'. Et ita non solum apponuntur prima et secunda persona tercie, sed etiam adiuuicem."

⁸⁷ For the text, see (Pseudo-)Kilwardby, *CPMa*, 49–81, and the analysis in depth of this section by Rosier-Catach, *La parole*, 123–55.

⁸⁸ (Pseudo-)Kilwardby, *CPMa*, 58; Johannes Damascenus, *De fide orthodoxa*, c. 36, ed. E.M. Buytaert (St. Bonaventure, N.Y.: 1955), 54–58, 135; Rosier-Catach, *La parole*, 127.

⁸⁹ See 130 above.

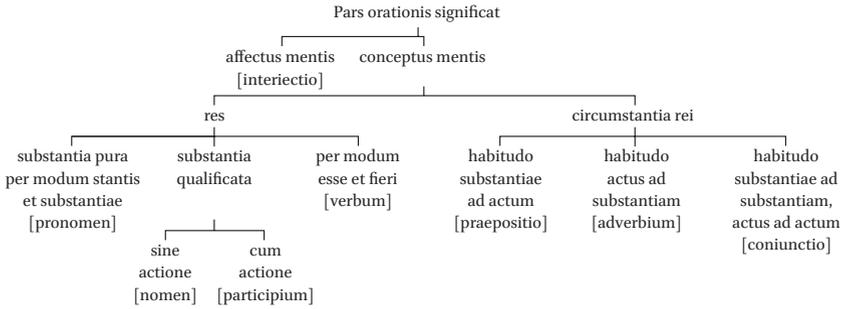
⁹⁰ The status of the interjection in ancient and twelfth-century linguistic thought is dealt with by Jan Pinborg, "Interjektionen und Naturlaute: Petrus Heliae und ein Problem der antiken und mittelalterlichen Sprachphilosophie," *Classica et Mediaevalia* 22 (1961):

is based on the distinction between signifying a *res*, a thing, or the basic circumstantials or relationships of a thing. A *res* can be signified either as substance, standing on its own or as being and becoming or growing. A verb signifies a *res* as being and becoming or growing, or it signifies by the mode of being and becoming or growing, for example, “*currere*.” A *res* signified as or by the way of substance on its own, can be signified as a pure substance—this is done by the pronoun, “*hic*” or “*is*”—or as a substance under qualification. If it is signified as a substance under qualification without action, it is signified by a noun: “*cursus*”; if with action, it is signified by a participle: “*currens*.” The other main branch of the distinction is three-pronged. The circumstance of a *res* might be: the relationship of substance to act, signified by a preposition; of act to substance, signified by an adverb; or of substance to substance or of act to act, signified by a conjunction.⁹¹

This distinction between the parts of speech is not based on a distinction between things (such as is found between the ten categories) but on modes of signifying of a word, which are based on conceptualizations of modes of being of the things. By consequence, this system enables us to signify the things of the predicamental order with one and the same mode of signifying, namely, the mode of *habitus*, a submode of the mode of standing on its own and substance. Furthermore, it must be emphasized

117–38; for the thirteenth-century discussions on the interjection, see Rosier-Catach, *La parole*, 57–83. In Kilwardby’s grammatical system, the interjection was closely linked to the adverb, as was done by the Greek grammarians and Priscian, in *IG*, 15 c. 17 in Hertz, 2:73, 14–15; in book 17 c. 13; ed. Hertz, 2:116, 18, he claims a separate and independent position in the system of the parts of speech for the interjection.

⁹¹ *CPMi* (Bav, Chigi, L.V. 159), fol. 8rb–va, “Pars orationis aut significat mentis conceptum aut mentis affectum. Si mentis affectum, sic est interiectio. Si mentis conceptum, aut significat rem aut habitudinem siue dispositionem aut circumstanciam rei. Si significet rem, aut ergo se habentem per modum stantis et substantie aut per modum esse et fieri. Si secundo modo, sic est uerbum. Si primo modo, aut significat substantiam puram et sic est pronomen aut substantiam perfectam siue completam per qualitatem. Et hoc dupliciter. Aut enim significat substantiam qualificatam sine actione et passione et sic est nomen, uel cum actione uel passione et sic est participium. Et sic significando rem et per modum rei sumuntur partes declinabiles. Si autem significat circumstanciam aut habitudinem rei, aut significat habitudinem substantie ad actum, et sic est prepositio; aut actus ad substantiam, et sic est aduerbium, aut indifferenter habitudinem substantiarum ad inuicem et actuum adinuicem, et sic est coniunctio. Sic igitur patere potest numerus et sufficiencia partium. Patet etiam ex hiis responsio ad obiecta. Diuersus enim modus significandi solum discernit partes. Unde quia actio et passio significantur eodem modo ut in fieri et in successione, ideo una pars est significans actionem et passionem. Et quia etiam diuersus est modus significandi substantiam, scilicet puram et cum qualitate, et hoc dupliciter, ideo diuerse sunt partes significandi substantiam.”



that Kilwardby does not use the term *modus essendi*, but uses *modus rei* or *rerum*.⁹²

In his semantics, Kilwardby distinguishes between *significatio*, *consignificatio*, and *modus significandi*. The *significatio* of a word is the direct result of the act of imposition, which is based on the quality of the *res* conceived by the name-giver. The *consignificatio* of a word concerns the meaning-bearing secondary grammatical categories:⁹³ number, gender, case, time/tense, mode, and so forth, which are the inevitable concomitants of a particular part of speech, and accordingly the indirect results of the *impositio*.⁹⁴ The *modus significandi* designates the way in which a word presents its signification or a consignification in relation to the basic modes of occurring of a *res* in the physical world. Although the signification, consignification, and mode of signifying of a word are inter-related and Kilwardby sometimes subsumes the *modus significandi* under the signification of a word,⁹⁵ in his general semantic theory, *significatio*

⁹² *CPMi* (Bav, Chigi, L.V. 159), fol. 8va, "Quia non distinguuntur partes orationis secundum distinctiones rerum, sed secundum distinctionem modorum significandi, possunt autem omnes res eodem modo significari, scilicet per modum habitus. Ideo res omnium predicamentorum possunt per nomen significari, ut qualitas, quantitas et sic de aliis. Et hac ratione non sunt decem partes orationis, sicut sunt decem predicamenta rerum."

⁹³ For the secondary grammatical categories, see John Lyons, *Semantics* (Cambridge: 1977), 2:386 and 423–430.

⁹⁴ *CPMi* (Bav, Chigi, L.V. 159), fol. 10va, "duplex est noticia, prima scilicet et secunda. Prima noticia rei fit per qualitatem siue per formam a qua fit uocis impositio. Secunda fit per dispositiones siue per comparationes accidentales ipsius rei per quas ipsa res accipit diuersas consignificationes, scilicet diuersa genera, diuersos numeros et casus et huiusmodi."

⁹⁵ *CPMi* (Bav, Chigi, L.V. 159), fol. 59vb, "Primo igitur queritur ex qua natura uerbum exigit nominatiuum. Aut enim ex natura significationis aut alicuius consignificationis, et comprehendo modum uerbalem significandi sub significatione, quod a natura significationis uidetur sic: Uerbum significat accidens per modum accidentis, quia in concrezione. Quare exigit aliquid in quo sit sicut in subiecto. Hoc autem non est nisi nominatiuum. Quare cum hc exigencia fit ratione significationis, uerbum ratione significationis exigit

and *modus significandi* must be considered principally distinct from each other, for the distinction between the several parts of speech is based on their modes of signifying and not on their respective significations. The general picture of Kilwardby's signification theory is, however, that signification in the strict sense results from imposition and concerns the primary lexical meaning of a word. In fact, it covers the answer to the question "Quid significat A?" Nevertheless, the significative content of a word is not semantically simple, but hierarchically layered by abstraction, so that the specificity of its significative content is inversely proportional to the level of abstraction. In the process of abstraction, the Priscianic semantic *propria* of the eight parts of speech play a central role.⁹⁶ According to Priscian, every noun signifies a substance and its quality, reformulated by Kilwardby into a qualified substance (*substantia qualificata*), whereas the semantic *proprium* of a pronoun is signifying pure substance (*substantia pura*), that is, without any qualification, and the verb signifies action and being acted upon, and so forth.

nominatiuum."; see also Kilwardby's discussion on the construction of the indeclinable parts of speech: *CPMi* (Bav, Chigi, L.V. 159), fol. 26rb, "Et dicendum quod est separare significationem partis indeclinabilis a modo significandi, ut coniunctio copulatiua significat copulationem et disiunctiua disiunctionem et prepositio circumstanciam ipsam, et est considerare significationem [*Om2* uel considerate significatione *Vc*] sub modo, ut coniunctio significat per modum habitudinis et prepositio per modum circumstancie. Et primo modo dicendo significationem raro construitur pars indeclinabilis propter suam significationem; sic tamen construitur hoc aduerbium 'similiter' cum datiuo, scilicet ratione relationis et non ratione modi significandi aduerbialiter. Secundo autem modo dicendo significationem, scilicet comprehendendo modum significandi aduerbialiter et coniunctionaliter et prepositionaliter construuntur partes indeclinabiles penes significationes. Sed sic comprehendendo modos significandi qui alico modo sunt essentielles, dici potest quod constructio aduerbii fit ratione significationis, quamuis illa significatio ponatur accidere nature aduerbiali simpliciter; et quod constructio coniunctionis ratione potestatum diuersarum fit ratione significationis, quia potestas intrat significationem coniunctionis, ut dicit Priscianus [=IG, 17.1, ed. Hertz, 2:93, 9–10, "Accidunt igitur coniunctioni figura et species, quam alii potestatem nominant, quae est in significatione coniunctionum, praeterea ordo"]. Concedendum igitur quod ratione accidentium fit constructio indeclinabilium, ut ratione accidentalium significationis aduerbii et huiusmodi sicut ostendunt rationes ultime. Nichilominus tamen fit earum constructio simpliciter penes significationem ita quod modus essentialis significandi et accidentalium significationis sub significatione contineatur. Hec igitur est ueritas eius quod solet dici partes declinabiles construuntur penes consignificata et indeclinabiles penes signifiata, quia, ut frequentius et precipue construuntur declinabiles partes penes accidentia, aliquando tamen exigitur modus essentialis significandi ut frequentius, aut precipue construuntur indeclinabiles penes significationes—comprehendo sub significatione modum significandi essentialium et significationem que importatur per accidentis. Et sic patet quesitum et responsio ad obiecta et quod uniuersaliter omnis constructio a modo significandi causatur."

⁹⁶ Cf. Prisc., *IG*, 2:18, ed. M. Hertz, 1:55–56.

Moreover, Kilwardby determines the terms *significatio* and *modus significandi* with two sets of interrelated adjectives: *generalis* / *specialis* and *essentialis* / *accidentalis*. The difference between the *significatio generalis* and the *significatio specialis* is a difference in level of semantic abstraction. According to Kilwardby, the adverb and the interjection share the same *significatio generalis*, namely, *significare dispositionem actus*, but they separate on the level of their *significatio specialis*, for the *significatio specialis* of the adverb is to signify the disposition of an act in a common and undefined way, whereas the interjection signifies the disposition of a determined and finite act.⁹⁷

A similar state of affairs is found in the case of the infinite, interrogative, and relative nouns. They meet in their *significatio generalis*, but differ in their *significatio specialis*.⁹⁸ On the other hand, Kilwardby accepted that these nouns of infinite signification as such are used in actual speech.⁹⁹

⁹⁷ *CPMi* (Bav, Chigi, L.V. 159), fol. 8rb, “Hoc tamen sciendum quod in generali significatione conueniunt aduerbium et interiectio, scilicet in hoc quod est significare dispositionem actus. Secundum quam considerantes Greci posuerunt interiectionem sub aduerbio et non dixerunt eas esse partes separatas. In speciali autem discoherent, quia aduerbium significat dispositionem actus communiter et non diffinite intelligitur per ipsum. Interiectio autem significat dispositionem actus determinati et finiti et illum actum dat intelligere finite.”

⁹⁸ *CPMi* (Bav, Chigi, L.V. 159), fol. 13ra, “Et dicendum quod nomen interrogatiuum, relatiuum et infinitum conueniunt in significatione generali, sed differunt in speciali. Conueniunt etiam in uocem inflexionibus secundum quod cadunt sub eodem, ut patet in hac dictione ‘qui’ et ‘qualis’ et huiusmodi. Priscianus autem in *Magno* [2:27] respiciens ad speciales significationes et ad speciales modos significandi, que differunt specie in interrogatiuis, relatiuis et infinitis, posuit in *Magno* species diuersas esse nominis. Idem autem Priscianus respiciens hic modos generales significandi et significationem que reducuntur ad idem sub eodem nomine, respiciens etiam ad idem infinitum, posuit ipsam esse partem eandem. Et quod hoc sit uerum, patet hic per signa que ponit in litera ad hoc ostendendum. Quomodo autem significatio generalis nominis secundum quod est infinitum, interrogatiuum et relatiuum sit eadem, patet. Et quomodo significationes speciales diuersae sunt, sicut hoc nomen “qui” cum possit esse interrogatiuum, relatiuum et infinitum, omnibus modis habet significationem infinita<m> substantie et qualitatis indigens specificatione. Et hoc est significatio una generalis et modus significandi unus. Sed hec significatio infinita est secundum quod respicit antecedens per quod fini<t>atur; est relatiuum secundum quod respicit subsequens in oratione per quod fini<t>atur; sic est interrogatiuum secundum quod respicit id quod simul cum ipso siue post siue sub ipso ut per aliquod suppositum infinite quod nec precedit in oratione nec subsequitur ipsum, sed sub eo siue post sic est infinitum et sic interrogatiuum significationes speciales et modi significandi diuersi istius nominis secundum quod est infinitum et relatiuum et interrogatiuum. Eodem modo dicendum de hac dictione ‘qualis’ et de huiusmodi. Ex hiis manifestum est quomodo idem nomen manens sub eadem uoce interrogatiuum et relatiuum et infinitum debet esse pars una et quomodo non, quia secundum uocem est pars una, secundum significationem est una pars in generali, sed diuersae in speciali. Patet etiam acceptio istarum trium differentiarum circa eandem significationem, scilicet interrogatiui, relatiui et infiniti.”

⁹⁹ *CPMi* [Bav, Chigi, L.V. 159], fol. 16va, “Ad secundum dicendum quod uirtus sui medi non solum consistit in hoc quod sunt nomina significancia generalem substantiam et qua-

We also find the opposition between general and special signification in a discussion of why there does not exist an interrogative verb, although there do exist verbs of a general signification: *agere*, *facere*, and *moveri*. The reason why these verbs are of a general signification is slightly different from the argumentation given in the section on the infinite noun. The latter has one *significatio generalis*, but only appears, under its special signification, as an interrogative, relative, or infinite noun, whereas each of the verbs mentioned is of a general signification, since they merely signify one of the parts that are explicitly mentioned in the definition of the general signification of the verb and, accordingly, are a central part of the meaning of all the other verbs, namely, the Priscianic *agere et pati* to which the *Physics* term *movere/moveri* was applied. A similar argument holds for the substantive verb.¹⁰⁰ Other verbs like *currere*, *legere*, or *scribere* are said to be of a special signification.¹⁰¹ This implies that Kilwardby was not inclined to distinguish between, for example, the “general verb ‘*agere*’” in the definition of the verbal general signification and the meaning of the verb *agere*. A similar remark must be made about the general signification of the noun. Kilwardby equates the general signification of the infinite noun on a metalevel with the actual (special) nonqualified significations of the interrogative, relative, and infinite nouns.

As said above, *the modus significandi* was, for Kilwardby, constitutive of the parts of speech and their subdivisions, but this only holds for the *modus significandi essentialis*. The *modus significandi accidentalis* concerns the grammatical *accidentia*.¹⁰² Kilwardby distinguishes between a

litatem etc., sed in eoquod sunt nomina generalis significacionis et infinite pertinentia ad omnes species sub se positas per modum dubitacionis significancia. Sic autem non est in uerbis sicut patet.”

¹⁰⁰ *CPMi* (Bav, Chigi, L.V. 159), fol. 24va, “Ad primum dicendum, sicut dicit Priscianus de pronomibus, quod quia uerbum substantium generalis significacionis est ad omnia uerba et in omnibus intelligitur, ideo non debuit seruari alicuius uerbi declinationem, ne potius in illo quam in alio uerbo intelligi putatur. Et ideo declinationem diuersam ab omnibus aliis seruat inconsequentem.”

¹⁰¹ *CPMi* (Bav, Chigi, L.V. 159), fol. 10ra, “Consequenter queritur de interrogatione circa uerba que fit per aduerbia, quare scilicet de uerbis non queritur per uerba sicut de nominibus per nomina, cum tamen quedam sint generalis significacionis ut ‘agere’ et ‘moueri’ et huiusmodi et quedam specialis ut ‘scribere’ et ‘currere’ et similia, omnino sicut est in nominibus, cum etiam de actu in ratione qua actus est, contingat dubitare et querere et hoc non uidetur fieri nisi per uerbum.”

¹⁰² *CPMi* (Bav, Chigi, L.V. 159), fol. 19rb, “Et dicendum quod quedam coniunctio fit ratione modi accidentalis significandi tantum sicut constructio nominis cum uerbo substantiuo ex parte appositae. Nichil enim differt apponere adiectiuum uel substantiuum dummodo in casu debito et aliis accidentibus debitis ordinentur sic ‘Sor est albus,’ ‘Sor est animal.’”

modus significandi essentialis generalis and a *modus significandi essentialis specialis*. The *modus significandi essentialis generalis* concerns the essence of the part of speech. It designates the mode of signifying that is constitutive of the part of speech at issue and separates it from all other parts of speech. The *modus significandi essentialis specialis* concerns the distinctions within each part of speech, for example, among nouns the distinction between a substantive and an adjectival noun.¹⁰³ Both categories, the *modus significandi essentialis* and the *modus significandi accidentalis*, can play an important role in accomplishing a congruous sentence.¹⁰⁴

The differences among the three central semantic notions of *significatio*, *modus significandi essentialis*, and *accidental*, and their respective roles in making congruous sentences become perfectly clear in Kilwardby's discussion of possibilities of substituting one part of speech for another in a sentence:

First, it is doubted here in general about the substitution of one part of speech for another, which was here discussed by Priscian. The first question asks whether whatever substitution of a part for a part creates an impropriety. It appears that this is not the case. For a pronoun takes the place of a noun in subject position and a participle is used instead of a verb. And this happens in a correct way. But now the question is raised what kind of substitution of a part for a part creates an impropriety. Having seen this it

¹⁰³ *CPMi* (Bav, Chigi, L.V. 159), fol. 25vb–26ra, “Si autem dicatur quod conuenientia in modo essentiali significandi sit causa, aut igitur est hoc intelligendum de modo essentiali significandi generali aut de speciali. Et dico modum generalem, qui est essentialis parti in genere distinguens ipsam ab aliis partibus secundum quod dicimus nomen significare per modum habitus et uerbum per modum esse et fieri, et sic de aliis. Dico autem modum specialem secundum quod nomen diuiditur per adiectiuum et substantiuum tanquam per essentiales modos significandi et uerbum similiter.”

¹⁰⁴ *CPMi* (Bav, Chigi, L.V. 159), 19rb, “Et dicendum quod quedam coniunctio fit ratione modi accidentalis significandi tantum, sicut constructio nominis cum uerbo substantiuo ex parte appositi. Nichil enim differt apponere adiectiuum uel substantiuum dummodo in casu debito et aliis accidentibus debitis ordinentur sic ‘Sor est albus,’ ‘Sor est animal’. Quedam autem constructio est ratione modi essentialis significandi tantum, sicut prepositio cum nomine construitur ratione circumstantie casualis quam essentialiter designat. Quedam a ratione utriusque ut nominis cum uerbo in supposito. Neque enim ratione accidentium solum, sed ratione utriusque supponit. Oportet enim suppositum substantiue significare. Bene enim dicitur ‘homo currit,’ sed male dicitur ‘albus currit’. Dicendum igitur quod quando pars ponitur pro parte in aliqua ordinatione, ubi suus modus significandi non repugnat illi ordinationi, non est inproprietas, ut quando pronomen supponit pro nomine. Sicut enim bene dicitur ‘Sortes sedet,’ similiter ‘iste sedet’. Quando autem pars ponitur pro parte, ubi suus modus significandi repugnat ordinationi, fit inproprietas, ut si pro nomine constructo cum oblico ponitur pronomen. Bene dicitur ‘asinus Sortis,’ sed non bene dicitur ‘iste Sortis,’ quia constructio que est cum genitiuo, est ratione qualitatis communis, que non est in pronomine.”

is asked what kind of agreement of one part with another would be able to excuse their improper arrangement. For if one part could be substituted for another because of the agreement of that part with the other one, this should happen either because of an agreement on the level of the accidental mode of signifying, or of the essential mode of signifying or of the signification. If because of an agreement on the level of the accidental mode of signifying, then “this of Socrates” would be correct just as “the hood of Socrates.” For the noun and the pronoun have the same grammatical accidents [that is, both these words are in the nominative case singular and of feminine gender]. If because of the essential mode of signifying, then either because of the general mode that separates part from part, or because of the special mode, namely, of signifying in an adjectival way or signifying in a substantive way. If the first way is the case, then “him Socrates sits” and “white is sitting” would be correct just as “Socrates runs.” For one substantial [= essential] and general mode of signifying is operative in all these sentences. For these signify substance with quality in the way of a habitus.¹⁰⁵ If the second way is the case, then “Socrates’s Brown”¹⁰⁶ would be correct just as “Socrates’s donkey.” For “Brown” and “donkey” share the mode of signifying in a substantive way. If a part would be able to be substituted for another one because of agreement in signification, then it would be correct to say “of Socrates runs” just like “Socrates runs”; this is not true. So it appears that no agreement of the parts could be the reason why one part could replace another one.¹⁰⁷

¹⁰⁵ Signifying a *res per modum habitus* is the general essential mode of signifying of the noun and is shared by the substantive and the adjective noun.

¹⁰⁶ For the argument against qualifying a substantive noun with another substantive noun in the genitive, see also (Pseudo-)Kilwardby, *In Barbarismum*, ed. Schmücker, 47, 475–48, 481, and Gosvin de Marbais, *Tractatus de constructione*, ed. Irène Rosier-Catach (Nijmegen: 1998), 21–30, at 23. This construction was already considered elliptic by Alexander de Villa Dei, *Doctrinale*, ed. Reichling, 1192–93.

¹⁰⁷ *CPMi* (Bav, Chigi, L.V. 159), fol. 19ra–b, “Dubitatur hic primo in generali de positione unius partis pro alia quam tetigit hic Priscianus. Et primo queritur an positio quelibet partis pro parte faciat inproprietatem. Et patet quod non. Supponit enim pronomen loco nominis et participium ponitur loco uerbi, sed non inproprie. Sed tunc queritur cuiusmodi positio partis pro parte facit inproprietatem. Quo uiso queritur cuiusmodi conueniencia partium potest excusare inpropriam ordinationem earum. Si enim propter conuenienciam unius partis cum alia possit poni una pro alia, aut ergo propter conuenienciam in modo accidentaliter significandi aut in modo essentiali aut in significatione. Si propter conuenienciam in modo accidentaliter significandi, tunc sicut bene dicitur ‘capa Sortis’ et bene dicitur ‘illa Sortis’. Conueniunt enim nomen et pronomen in accidentibus, scilicet ‘capa’ et ‘illa’. Si propter modum essentialiter significandi, aut propter modum generalem qui distinguit partem a parte, aut propter modum specialem, scilicet significandi adiectiue et significandi substantiue. Si primo modo, tunc sicut bene dicitur ‘Sor currit,’ et bene dicitur ‘Sortem sedet’ et ‘albus sedet’. Omnibus enim hiis conuenit unus modus significandi substantialis et generalis. Significant enim substantiam cum qualitate per modum habitus. Si secundo modo, tunc sicut bene dicitur ‘asinus Sortis,’ et bene diceretur ‘Brunellus Sortis’. Conueniunt enim ‘Brunellus’ et ‘asinus’ in modo significandi substantiue. Si autem possit pars pro parte poni propter conuenienciam in significatione, tunc sicut bene dicitur ‘Sor

From these excerpts, it appears that Kilwardby disposed of a theory of signification based on a well-defined and systematically elaborated notion of *modus significandi*, which he made one of his central linguistic concepts. We must bear in mind, however, that he often used this term in a rather confused or general way, such as in his discussion of the distributive sign. This signifies in a universal way and is able to determine an appellative noun, even if this appellative noun actually designates one thing only, like the famous phoenix, the moon, or the sun, but it should have the intellectual potency to indicate more than one thing, and its mode of signifying ought to be universal and substantive.¹⁰⁸ Furthermore, all possessive nouns and pronouns share the mode of signifying a possession, which transgresses the border between noun and pronoun.¹⁰⁹

The Doctrine of Construction

As is to be expected, the doctrine of construction pervades the whole of Kilwardby's commentary on the *Priscian minor*, and is prominently present in the commentary on the *Barbarismus*. In this section, I focus on the definition of construction, the role of the modes of signifying, and the appearance of the notion of dependency in syntactic thought.¹¹⁰ In the following section, the notions of congruity and incongruity and figurative speech will be dealt with.

currit,' et bene diceretur 'Sortis currit'; quod falsum est. Uidetur igitur quod nulla parcium conueniencia possit esse causa quare una pro alia poni debeat."

¹⁰⁸ *CPMi* (Bav, Chigi, L.V. 159), fol. 19ra, "Et dicendum ad obiectum quod non exigit multa appellata actu esse sub termino signum distributiuum, sed sufficit quod sunt multa potentia uel intellectu et quia modus significandi sit uniuersalis et substantiuus."

¹⁰⁹ *CPMi* (Bav, Chigi, L.V. 159) fol. 44rb, "Et dicendum quod omne possessiuum uniuersaliter siue nomen siue pronomen personam possessionis significat infinite. Et ideo determinat ipsam per modum et formam possessionis, immo ipsam possessionis infinite sine determinatione forme aut qualitatis possessionis secundum quod huiusmodi, in comparatione tamen ad possessorem in obliquitate et ita substantiam possessionis mere significat. Et ita in modo significandi possessionem conueniunt omnia possessiua."

¹¹⁰ For further literature about Kilwardby's thinking about grammatical construction in more detail, I refer to the important studies by Mary Sirridge, "Robert Kilwardby as 'Scientific Grammarian,'" *Histoire Épistémologie Langage* 10 (1988), 728; eadem, "Can 'est' be Used Impersonally: A Clue to the Understanding of the verbum substantiuum," *Histoire Épistémologie Langage* 12 (1990): 121–38; eadem, "Robert Kilwardby: The verbum substantiuum," *Archives et documents de la Société d'histoire et d'épistémologie des sciences du langage* (SHESL). 2nd series, no 4 (1990): 61–64; eadem, "Interest me et imperatoris castam ducere in uxorem: Can 'est' be used impersonally," in *Sophisms in Medieval Logic and Grammar*, ed. St. Read (Dordrecht: 1993), 262–74.

Kilwardby starts his section on the pronominal construction with an exposition of construction in general.¹¹¹ Construction in grammar is a specific application of the notion, which Kilwardby defines as a union of constructibles that the modes of signifying cause to express a complete *affectus*.¹¹² This implies that construction is a *passio* of constructibles; it is not the same as an *oratio constructa*.¹¹³ In this definition, the four Aristotelian causes are present.¹¹⁴ The subject or material cause of a construction in potency (*secundum esse habituale*) may be one constructible, but the subject of an actualized construction (*secundum esse actuale*) consists of more than one constructible.¹¹⁵ The formal cause is the union of the constructibles, and the purpose of construction, its final cause, is the expression of a complete *affectus*. It is important to underline, however, that construction and constructible are analogue notions.¹¹⁶ The construction

¹¹¹ In his comments on *Quemadmodum nomina sic et pronomina* (Prisc., *IG*, 17, 66; ed. Hertz, 2:147, 12), Kilwardby announces a full discussion of construction: *CPMi* (Bav, Chigi, L.V. 159), fol. 25ra, "Quia hic doctrina de constructione inchoatur, non inutile est aliquid de constructione in generali quantum ad eius principia et modos determinare. Et primo queratur propter modum procedendi an possit esse constructio. Apparet enim quod sic, quia cuius passionis cause sufficientes sunt, et ipsa est; sed cause constructionis sunt. Est enim efficiens ut constructor et modus significandi in partibus et formalis ut partium unio et materialis ut partes constructe et finalis ut completi affectus expressio."

¹¹² *CPMi* (Bav, Chigi, L.V. 159), fol. 26rb, "Ex dictis igitur perpendi potest quid sit constructio et diffiniri potest diffinitione sufficienti sic: Constructio est congrua constructibilium unio ex modis significandi causata ad affectum plenum indicandum inuenta."

¹¹³ C.H. Kneepkens, "On Mediaeval Syntactic Thought with Special Reference to the Notion of Construction," *Histoire Épistémologie Langage* 12 (1990): 139–176, esp. 156–59.

¹¹⁴ *CPMi* (Bav, Chigi, L.V. 159), fol. 26rb, "Ex hiis patet subiectum [= causa materialis] et causa efficiens intra constructionis. De fine non oportet dubitare, quia constructio est propter affectum perfectum indicandum. Causa formalis eius non est aliud quam sua diffinitio."; cf. Rosier-Catach, *La parole*, p. 27.

¹¹⁵ *CPMi* (Bav, Chigi, L.V. 159), fol. 25va–b with corr. from Oxford, Merton, 301, "Adhuc. Quamuis constructio secundum esse habituale alico modo possit considerari tanquam in uno ut in uerbo, quod habet primam dependenciam, tamen secundum esse eius actuale in pluribus est adinuicem ordinatis, et non est in uno sicut in subiecto in comparacione ad aliud, ut paternitas, filiatio et huiusmodi. Sed est sicut michi uidetur ad presens in pluribus partibus ordinatis sicut est dicere de compositione et determinacione et consimilibus."; for a similar reasoning, albeit focused on the instruction of logic, cf. Kilwardby, *In Periherm.*, lect. 2, ed. Lewry, 298–12, "Intellige ergo quod in orationibus perfectis aliis ab enuntiatione est compositio solum habitualiter, unde non significant uerum uel falsum; in uerbo uero solum per se dicto solum potentialiter; in enuntiatione uero actualiter, et ob hoc significat uerum uel falsum solum, ita quod nichil aliud logice loquendo." For Kilwardby, the notions of *habituale* and *potentiale* are synonyms in this context, cf. *CPMi* (Bav, Chigi, L.V. 159), fol. 4vb, "Et nota quod accusatiuo coniungitur, quando denotat habitualement siue potentialement continentiam, ut 'uado in domum.' Ablatiuo autem coniungitur, quando denotat actualement continentiam, ut 'uado in domo.'"

¹¹⁶ *CPMi* (Bav, Chigi, L.V. 159), fol. 25va, "Dicendum igitur quod constructio est passio analoga sicut constructibile analogum, et primo inuenitur in partibus declinabilibus,

of a substantive term in the nominative case with a finite verb is only partially similar to the construction of a finite verb and an adverb, since the two principal declinable parts of speech, the noun and the verb, hold a privileged position among the eight parts, for the presence of the construction between a substantive noun in subject position and a finite verb is an inevitable requirement for a congruously construed complete sentence.¹¹⁷ The construction of two constructibles is caused by their modes of signifying, which are the internal efficient cause of construction. For a congruous construction, an agreement (*convenientia*) of a combination of the respective essential and accidental modes of signifying is needed.¹¹⁸

It must be known that some construction is caused only by the essential mode of signifying, as is the case with the construction of a preposition with a word in an oblique case. I argue this as far as the preposition is concerned, since a preposition does not have constructional accidents. Some other construction is caused only by an accidental mode of signifying, as is the case of the construction of a noun in predicate position with the substantive verb. The essential mode of signifying of a noun does not prevent a noun, be it a substantive or an adjectival noun, to be the predicate term, for we find “Socrates is a man” and “Socrates is white.” However, a conformity in case is required at least for a substantive noun, and conformity in every gender and number for an adjectival noun. Yet one must know that not every part of speech is correctly used as a predicate noun to the substantive verb, since a pronoun is not. I will even emphasize that only a part of speech that represents a quality through which the substance that is represented by means of the substantive verb, is able to be a predicate noun. It is in this way that the general essential mode of signifying contributes to that construction. However, some other construction is caused by both kinds of mode of signifying [the essential and accidental modes] as is the case in the construction of the subject term and the verb. For the subject term should be in conformity with the verb in number and person and it should be in the case required by the mode of the verb, and additionally the subject term should signify in a substantive way, as is evident. For “white is running” is not correctly

posterius autem in indeclinabilibus, et inter declinabiles primo est parcium principalium, scilicet nominis et uerbi, et posterius conuenit pronomini et participio.”

¹¹⁷ *CPMi* (Bav, Chigi, L.V. 159), fol. 10rb, “In proemio dat modum procedendi cum sua causa dicens quod determinando de constructione parcium orationis primo determinandum est de constructione partium non principalium, scilicet aliarum a nomine et uerbo et postea de constructione nominis et uerbi. Cuius causa est quod alie partes et constructio illarum finaliter ordinantur ad constructionem nominis et uerbi. Ea autem que sunt ad finem, antecedunt ipsum finem.”; *ibid.*, fol. 60va, “Pars enim casualis supponens est principium orationis primum et incoatiuum, uerbum autem principium secundum.”

¹¹⁸ *CPMi* (Bav, Chigi, L.V. 159), fol. 70rb, “omnis congrua dictionum ordinatio in construendo est per aliquam conuenientiam.”

said, but “a man is running” is. This is why one must say that the cause of a construction is not reduced to signification nor to some mode of signifying, as was brought to the fore in the counterargument, but simply to the mode of signifying comprising the essential and the accidental mode of signifying as well. One must bear in mind, however, that the agreement in mode of signifying necessarily implies that whatever mode of signifying is in one constructible, is also present in another constructible, but that the mode of signifying by means of a word arranges and, so to speak, inclines this word to enter, in potency, in construction with another word so that, from them, one construction is made just as one thing is made from a material and a formal entity, from that which is in potency and from that which is in act.¹¹⁹

Generally, the medieval grammarians relied on the Priscianic concept and term *exigere* to indicate the mutual relations between words and phrases in a sentence: One word or phrase “requires” another one, or “requires” a word in a specific case. Loosely used by Priscian, it became a technical term in grammar that underwent several refinements in definition. Kilwardby’s guidesman to traditional grammar affairs, the author of the *Absoluta cuiuslibet*, defines *dictionem exigere aliam dictionem* as a word taking another word with itself to complete the construction.¹²⁰ About 1100, the government terminology (*regere* / *regimen*) came into use that

¹¹⁹ *CPMi* (Bav, Chigi, L.V. 159), fol. 26ra, “Et sciendum quod aliqua constructio causatur ex modo essentiali significandi tantum sicut constructio prepositionis cum casuali. Et hoc dico ex parte prepositionis, quia ei nichil accidit. Aliqua autem causatur solum ex modo accidentali significandi sicut nominis cum uerbo substantiuo ex parte post. Sub omni enim modo essentiali significandi potest apponere, scilicet ad adiectiuum et substantiuum, sic ‘Sor est albus,’ ‘Sor est homo,’ sed requiritur in casu conformitas adminus, si sit substantiuum, et in omni genere et numero, si sit adiectiuum. Hoc tamen sciendum quod non omnis pars ei conuenienter apponitur, quia non pronomen, immo sola pars que qualitatem designat qua specificetur substantia designata per uerbum substantiuum et ita modus generalis significandi essentialis confert ad illam constructionem. Aliqua autem constructio causatur ex utroque modo significandi, sicut suppositi cum uerbo. Oportet enim suppositum conformari cum uerbo in numero et persona et habere casum modo respondentem et preter hoc oportet ipsum substantiue significare, sicut patet. Non enim bene dicitur ‘albus currit,’ sed ‘homo currit’. Dicendum igitur quod causa constructionis non reducitur ad significationem nec ad aliquem unum modum significandi, sicut obiectum est, sed ad modum significandi simpliciter ita quod comprehendat tam modum essentialem significandi quam accidentalem. Hoc tamen sciendum quod non ita exigitur conuenientia in modo significandi, ut quicumque modus significandi sit in uno constructibilium, sit etiam in alio illorum, sed quod modus significandi per dictionem disponat ipsam et tanquam inclinet, ut sit in potentia ad coniunctionem cum alio, ut ex eis fiat una constructio, sicut ex materiali et formali fit unum ex eo quod est in potentia et ex eo quod est in actu.”

¹²⁰ *Absoluta cuiuslibet*, ed. Kneepkens, 5, “Dicunt quidam quod dictionem exigere aliam est: eam secum trahere ad determinationem sue significationis; quod facile reprehenditur. . . . Dicimus ergo quoniam dictionem aliam exigere nichil aliud est quam eam secum trahere ad perfectionem constructionis.”

is still current nowadays in traditional normative grammar instruction.¹²¹ Kilwardby very frequently used both terms; however, in his reflections on construction, one often encounters, in addition, the dependency notion and terminology that is not found in twelfth-century treatises on syntax.¹²² In his comments on nominal constructions, he regards *exigere* and *regere* as materially equivalent notions, but formally different: they have a different scope. *Exigere* was used to explain the presence of every part of a sentence, because it was required, in some form, by another part; the metaphor of grammatical government focuses on the dominant position of the verb and is restricted to the relationship between the verb and the nominal declinable parts of speech (noun, pronoun, and participle). In his analysis of binary constructions, Kilwardby adduces “dependency” that is a general binary relation notion—it is applied by Kilwardby in his discussion of the subject of a science—as a new semantic-syntactic concept that is not found in twelfth-century grammatical texts.¹²³ This enables him to add a more refined layer to the analysis of the relationships between words in a sentence than the set of quite superficial syntactic notions of “requirement” and “government” thus far made possible. Dependency found in the requiring part of speech (or constructible) becomes the cause of grammatical requirement (*exigentia*) that up to then was defined, it is true, but not explained.¹²⁴ Syntactic dependency always is “dependency on”: *dependentia / dependere ad*. It is a notion indicating the semantic indefiniteness of a term or a

¹²¹ C.H. Kneepkens, “Master Guido and his View on Government: On Twelfth Century Linguistic Thought,” *Vivarium* 16 (1978): 108–41; M.A. Covington, *Syntactic Theory in the High Middle Ages. Modistic Models of Sentence Structure* (Cambridge: 1984), 12–19, 47–48.

¹²² For the history of the concept of grammatical dependency, see W.K. Percival, “Reflections on the History of Dependency Notions in Linguistic,” *Historiographia Linguistica* 17 (1990): 29–47; Covington, *Syntactic Theory*, 48–51; Kneepkens, “On Mediaeval Syntactic Thought,” 159–64; Rosier-Catach, *La parole*, 38; *La Sophistria de Robertus Anglicus*, ed. Grondeux and Rosier-Catach, 67–68.

¹²³ *CPMi* (Bav, Chigi, L.V. 159), fol. 1va, “Adhuc. Subiectum scientie debet esse absolutum et non dependens ad aliud. Sed constructio dependet ad aliud sicut ad constructibile et non econuerso. Quare etc.” It is not my intention to claim that Kilwardby was the “first” grammarian to use the notion of dependency in grammar, but up to now his Priscian minor commentary is the earliest (approximately) datable grammatical text in which this notion has been encountered.

¹²⁴ *CPMi* (Bav, Chigi, L.V. 159), fol. 59vb, “Et nota quod illa dictio aliam regere dicitur, qua exigente alia in oratione ponitur et diffinitur regimen satis bene sic: Regere est conferre dictioni ut stet in tali casualitate uel tali. Nichil enim regitur nisi casuale. Nota etiam quod idem in re est regere et exigere, sed pars dicitur regere transumptiue propter principalitatem quam habet in oratione respectu alterius partis. Sic enim uerbum dicitur regere partes casuales. Exigere autem dicitur pars propter dependentiam repertam in ea propter quam uult alia parte determinari.”; see also above, p. 53.

phrase and therefore its inability to act without any further determination by another term or even a phrase in a sentential context, although Kilwardby even extends this inability to the extra- and supra-sentential domain.¹²⁵ The term or phrase that neutralizes, terminates, or resolves the indefiniteness at issue is the *terminans*. This implies that dependency is a semantic-syntactic notion only regarding binary syntactic relationships. The most prominent dependency relation in medieval grammar is that between the finite verb, the dependent, and the nominative subject term, expressed outside or included in the finite verb,¹²⁶ the *terminans*. The idea of isomorphy between language, thought, and the extra-mental world, which underlies Kilwardby's linguistic thinking, did not admit that a verb acts as a linguistic stand-alone entity expressing a complete sentence or thought, since it has an accidental signification only. Just as in the real world an accident cannot appear without a substance as its bearer, likewise in language the finite verb always needs a substantive term representing the bearer of the accident signified by the verb to terminate the verb's indefiniteness with respect to the bearer of the accident.¹²⁷ This substantive term is not dependent itself, but the first and absolute—in the meaning of independent—constructible of a sentence, whereas the finite verb is the second principle that is dependent on the first one.¹²⁸ If

¹²⁵ *CPMi* (Bav, Chigi, L.V. 159), fol. 21va, “Ad hoc autem quod opponitur de exemplo Prisciani, dicendum quod non premisit ipsum Priscianus, quia tota oratio secundum se ad nichil aliud dependeat, sed quia ibi possunt omnes partes inueniri quarum nomen et uerbum perfectam orationem faciunt reliquis ablatis.”

¹²⁶ *CPMi* (Bav, Chigi, L.V. 159), fol. 6ra, “Et dicendum quod nominatiuus intellectus in uerbo principaliter est nominatiuus nominis, sed aliquando intelligitur in uerbo per se et aliquando in suo uicario.”

¹²⁷ *CPMi* (Bav, Chigi, L.V. 159), fol. 60ra–b, “Relinquitur igitur quod persona disposita debito numero et determinato casu exigitur a uerbo ex parte ante. Sed si hoc adhuc sufficeret, posset indifferenter exigi adiectiuum et substantiuum. In hiis enim accidentibus inuenitur conformitas adiectiui cum uerbo sicut et substantiui. Quare bene dicitur ‘albus sedet,’ sicut ‘homo sedet’; quod falsum est, quia quod debet subsistere actui uerbali tanquam deferens ipsum debet significare substantiam per modum stantis et non per modum adiacentis. Dependencia enim eius quod adiacet non sistur per se ad illud quod adiacens est, sed ad illud quod substanter designat. animi circa rem uerbi ostendens quem circa eam afficitur persona.”; *ibid.*, fol. 60va, “Ad tercium dicendum quod persona uerbi coniuncta est dependencie et persona casualis supponentis non et ideo persona uerbi exigit personam casualis potius quam econuerso.”

¹²⁸ *CPMi* (Bav, Chigi, L.V. 159), fol. 60va, “Quare cum exigencia debeat dici respectu distantis et nondum habiti et non respectu habiti, iam patet quod uerbum debet dici exigere substantiuum sed adiectiuum nominis non. Ad tercium dicendum quod persona uerbi coniuncta est dependencie et persona casualis supponentis non, et ideo persona uerbi exigit personam casualis potius quam econuerso. Pars enim casualis supponens est principium orationis primum et incoatiuum, uerbum autem principium secundum. Sed

the verb is transitive, there is an indefiniteness regarding the receiver of the action or passion expressed by the verb. Accordingly, a transitive verb has a dependency relation with a noun, pronoun, or a part of speech acting as a noun in the accusative case to terminate the dependency that occurs in a sentential position after the verb: *a parte post*. In fact, the same approach holds for the oblique cases, be it in merely nominal or verbal contexts.¹²⁹

Another linguistic domain in which the notion of dependency played an important role was the doctrine of the interrogative and relative nouns and pronouns, the possessive pronouns, and the pronominal adjectives. All these words have a general indefiniteness as the major component of their meaning, and demand another word of a more special meaning to neutralize or terminate their dependency caused by their indefiniteness.¹³⁰

The Oratio Constructa

Besides “construction,” the notions of “congruity” (*congruitas*) and “perfection” (*perfectio*) play an essential role in the medieval doctrine of the *oratio constructa*, which is the principal subject of grammar. The medieval grammarians encountered both notions as central parts of Priscian’s

secundum semper habet respicere ad primum et non econuerso, quia primum est absolutum ad secundum comparatum.”

¹²⁹ *CPMi* (Bav, Chigi, L.V. 159), fol. 62va, “quod omne exigens casum exigit ipsum propter aliquem respectum uel dependenciam in ipso terminandum. Sed nomen proprium complete terminatum est in se et finitum et neque habet dependenciam ex parte substantie neque ex parte qualitatis, quia utraque propria est et indiuidua. Nomen autem commune significat communem qualitatem, que semper respectum habet ad substantiam determinantem ipsam. Et ideo nomen proprium non exigit oblicum sed commune solum.”

¹³⁰ *CPMi* (Bav, Chigi, L.V. 159), fol. 9rb, “Ad prequesita dicendum quod proprietates dictionis interrogatiue est significare aliquid generale infinitum et dependens ad aliquod speciale respectu eius per quod exigit finitari, sicut patet in hiis ‘qualis,’ ‘quantus,’ ‘quando’ et consimilibus.”; *ibid.*, fol. 13vb: Sed quia pronomen significat meram substantiam quantum est de ui uocis, ideo cum sic dicitur ‘ego sum ille,’ nondum qualificata est substantia significata per uerbum substantiuum. Quare adhuc ad subsequens aliquid dependet expectans ipsum tanquam sui determinatiuum. Adhuc. Hoc pronomen ‘ille’ cum sit relatiuum, exigit sibi aliquid subiungi per quod finiatur, quia non finitur per aliquod precedens. Cum igitur sic dicitur ‘ego sum ille qui loquor,’ potest hoc relatiuum ‘qui’ euocari propter duplicem predictam dependenciam, scilicet uerbi et pronominis relatiui ad ipsum.”; *ibid.*, fol. 64ra, “Et dicendum quod possessio naturaliter posterior est possessore. Et ideo ab ipsa est dependencia ad possessorem secundum quod huiusmodi et non econuerso. Et ideo exigit possessio possessorem potius quam econuerso. In omni enim ordine rerum secundum est comparatum secundum quod huiusmodi, et primum est absolutum secundum quod huiusmodi.”

definition of sentence (*oratio*): “A sentence is a congruous ordering of words that presents a complete meaning.”¹³¹ Another remark by Priscian that also focused attention on the relationship between construction and *oratio constructa* occurs in the summarizing section of his discussion of figurative speech: “Every construction, which was called syntaxis by the Greeks, must be referred to the meaning of the expression.”¹³² In his explanation of this phrase that stems from the Greek grammarian Apollonius Dyscolus (ca. 2 A.D.), Priscian used the notions of *sensus* (meaning) and *intellectus* interchangeably, and Kilwardby followed him in this respect.¹³³ In the twelfth century, the distinction between the notion of vocal congruity and congruity of meaning (*secundum sensum*) that regarded interpretability, was introduced by Peter Helias.¹³⁴ In Kilwardby’s *Commentary on the Priscianus minor* one encounters a distinction between two senses: the *sensus exterior* and the *sensus interior* of a sentence.¹³⁵ The *sensus interior* equates to the *sententia* that, as the semantic component, together with the vocal component (*vox*), makes the sentence. In the discussion of the passive impersonal verbs, as, for example, *curritur a me* or *michi*, Kilwardby explains the difference between the *sensus exterior* and the *sensus interior*: the former is the meaning a sentence has “at face value” and particularly as regards the level of grammatical accidents. At this level of meaning, the construction as such has a central position. Since a subject term, indicating the person in which the *actio* or *passio* expressed by the finite verb inheres, is lacking, and an oblique case occurs in the

¹³¹ Prisc., *IG*, 2:15, ed. Hertz, 1:53, 28–29, “Oratio est ordinatio dictionum congrua, sententiam perfectam demonstrans.” Since Kilwardby does not refer to the variant reading *congruam* instead of *congrua*, which is found in some of the Priscian’s manuscripts and in Peter Helias’s *Summa grammatica*, here I do not address this problem; for the far-reaching consequences of the “congruam” reading for the relationship between semantic and grammatical correctness, see Rosier-Catach, *La parole*, 27–28. Incidentally, “congruam” is found in (Pseudo-)Kilwardby’s definition of *oratio* in his *CPMa*.

¹³² Prisc., *IG*, 17, 187, ed. Hertz, 2:201, 11–12, “Omnis enim constructio, quam Graeci sun-taksin vocant, ad intellectum vocis est reddenda.”

¹³³ For the ambiguity of the term “*sensus*”, see Rosier-Catach, “‘O Magister . . .’” 22–24.

¹³⁴ Sten Ebbesen, “The Present King of France Wears Hypothetical Shoes with Categorical Laces: Twelfth-Century Writers on Well-Formedness,” *Medioevo* 7 (1981): 91–113; Kneepkens, “Roger Bacon’s Theory” 116–17.

¹³⁵ *CPMi* (Bav, Chigi, L.V. 159), fol. 2ra, “sensus duplex est secundum gramaticos, scilicet sensus exterior et interior. Quid autem sit sensus exterior, hoc liquet, et quid sit sensus interior patet per plura dicta Prisciani. Dicit enim in hoc exemplo ‘pars in frustra sequant’ [Vergil *Aeneas* 1:212] quod actor reddidit uerbum plurale ad sensum nominatiui, et hoc est ad multitudinem intellectam sub nominatiuo, que dicitur secundus intellectus. Sic igitur patet quod est sensus interior.”

constructional position after the finite verb, the mode of construction is considered transitive. The *sensus interior* concerns the significates of the words and resets the passive surface structure back to the basic meaning, *ego curro* regarding the *res orationis* (*me currere*). Accordingly, at this level, the sentence is not transitive, but intransitive: *res intransitiva est*.¹³⁶

Whereas the grammarians of the second half of the thirteenth century disposed of an elaborate doctrine of linguistic and semantic congruity and completeness of the sentence, Robert Kilwardby's linguistic thinking represents an earlier stage. His theory of the sentence (*oratio*) distinguishes between an *oratio perfecta*, a sentence at least consisting of a subject term and a finite verb, and an *oratio imperfecta*, a phrase, that is, a group of words that may be part of a main clause without a finite verb or a subject term or its substitute, and an *oratio congrua*, a sentence or clause that is well formed according to the *convenientia* and *conformitas* of the modes of signifying and an *oratio incongrua*, a sentence or phrase that is not well formed. Moreover, these four qualifications of the sentence or phrase can occur at two levels: the vocal level, called by Kilwardby *secundum uocem*, and the semantic level, called *secundum sensum* or *intellectum*. These distinctions result in four types of *oratio*:¹³⁷

¹³⁶ *CPMi* (Bav, Chigi, L.V. 159), fol. 35va, "Et dicendum quod modus constructionis transitivus est, res tamen intransitiua. Uel sic: Quantum ad sensum exteriorem et ad accidentia uocis est transitio, quantum autem ad sensum interiorem siue ad ordinationem significatorum est intransitio quia sensus est 'curritur a me uel michi,' idest 'ego curro'. Et hoc significat Priscianus in textu dicens quod intransitiue intelliguntur, quasi diceret: Etsi in uoce est transitio, tamen intellectus est intransitiuus, sicut intransitio est ordinatio suppositi cum uerbo. Res enim significata per ablatiuum est res ipsius suppositi, cum idem sit dictum 'legitur a me' et 'ego lego'. Per hoc patet responsio ad duo prima obiecta."

¹³⁷ *CPMi* (Bav, Chigi, L.V. 159), fol. 56rb, "Consequenter restat querere de distinctione quam assignat Priscianus postea in littera. Intendit enim quod oratio potest esse congrua uel perfecta secundum sensum aut secundum intellectum, incongrua tamen uel imperfecta secundum uocem uel econuerso. Verbi gratia. Quando in accidentibus penes que construuntur dictiones est inconcinnitas, tunc est imperfectio siue incongruitas in uoce, ut hic 'urbem quam statuo, uestra est.' Est tamen congruitas et perfectio quo ad sensum. Econuerso autem contingit, quando oratio non indicat affectum plenum, congrua tamen est, ut hic 'tu qui sedes' uel 'homo albus'. Huiusmodi enim oratio imperfecta est quo ad sensum et tamen congrua. Similiter uidetur posse dici de constructionibus figuratiuis que non habent inoprietatem nisi quo ad intellectum intentum a proferente. Tales enim congrue sunt quo ad uocem, sed aliquo modo incongrue uel imperfecte quo ad sensum uel intellectum. Sic igitur patet intentio distinctionis."

1. congruous secundum vocem and perfect secundum intellectum: "Socrates legit."
2. congruous secundum vocem and imperfect secundum intellectum: "tu qui sedes," "prata rident."
3. incongruous secundum vocem and perfect secundum intellectum: "urbem quam statuo, vestra est."
4. incongruous secundum vocem and imperfect secundum intellectum: "homo alba."

A serious difficulty that Kilwardby had to meet, is the objection how it can be possible that a correct interpretation grows out of an incorrect vocal representation, for the temporal sequence is that the hearer first hears the vocal representation and only after this is able to elicit the true meaning.¹³⁸ To cope with this problem, he introduced a distinction in the *sensus* or *intellectus orationis* between the *perfectio prima* and the *perfectio secunda*.¹³⁹ The first perfection is present in all correct ordinary speech; it is based on the *convenientia* of the modes of signifying of the words involved and is proportionated to vocal congruity as a significate to its sign. It belongs to the level of correct ordinary daily speech as it is used by the average native speaker.¹⁴⁰ The *perfectio secunda* is not based on the modes of signifying and their conformity and proportionality, but on the significations and their significates of the words involved. There is

¹³⁸ *CPMi* (Bav, Chigi, L.V. 159), fol. 56rb, "Uidetur quod deficiente perfectione secundum uocem, deficiat perfectio secundum intellectum: tum quia uox primum est in apprehensione et deinde intellectus, et ita perfectio uocis prima est et precedens ad perfectionem intellectus, sed deficiente primo, deficit et secundum; tum quia perfectio siue congruitas in uoce est finaliter ad perfectionem et congruitatem intellectus representandam, sed deficiente eo quod est ad finem, necesse est non esse finem."

¹³⁹ *CPMi* (Bav, Chigi, L.V. 159), fol. 56rb, "Ad obiecta ergo sciendum quod perfectio siue congruitas uocis est cum accidentia uocis fuerint concinna et debito modo disposita apud uocem. Perfectio autem et congruitas intellectus duplex est: una que consistit penes modos significandi et intelligendi, quando concinne se habent scilicet; alia que consistit penes ipsa significata, que sunt sub modis significandi aut intelligendi significata."

¹⁴⁰ *CPMi* (Bav, Chigi, L.V. 159), fol. 56rb–va, "Prima perfectio siue congruitas intellectus est in sermone omnino congruo. Et ipsa proportionalis est perfectioni siue congruitati que est in uoce, sicut significatum signo. Et illa omnino conuertentiam habet cum perfectione siue congruitate que est ex parte uocis, et ad illam representandam immediate ordinatur et precedit illam in apprehensione. Unde considerando ad hanc perfectionem siue congruitatem intellectus, uerum concludunt omnia obiecta, scilicet quod si est uocis perfectio uel non, est et intellectus et econuerso. Sed hec perfectio siue congruitas non est nisi in sermone simpliciter constructo; . . . Ad intelligendum igitur distinctionem diligenter nota quod primo est uox et deinde intellectus primus contextus ex modis significandi, et ista duo equalia sunt secundum perfectionem et imperfectionem, congruitatem et incongruitatem. Et inter hec non datur hec distinctio."

no direct connection between the congruity and perfection at the vocal level and the second *intellectus*, but the first *intellectus* will act as an intermediary.¹⁴¹

The next problem to solve is the curtailment of usage of incongruous language, for one must bear in mind that incongruous speech is improper language, and accordingly incorrect and wrong; it would seriously hamper the communicative function of language. A theoretical difficulty is the provenance of the *intellectus secundus*. The major part of incongruous language usage that was traditionally accepted, was fixed in figurative speech about which the medieval grammarians found comprehensive information laid down in textbooks on figurative speech as, for example, Donatus's *Barbarismus*, the section on the figures of construction of Priscian's *Institutiones*, and Augustine's *De doctrina christiana*, as well as commentaries on classical and Christian texts. Kilwardby now adduces the person of the authoritative language user, the wise man (*sapiens*), renowned author or poet, who is able to judge whether and how he should use deviant language to express, in the best way, what he intends to communicate to his audience.¹⁴² The intention of the language user (*intentio proferentis*) and the intended contents of his speech (*intellectus intentus*) are the contribution from the part of the speaker to figurative and deviant language to which Kilwardby frequently draws the attention of his readership,¹⁴³ and

¹⁴¹ *CPMi* (Bav, Chigi, L.V. 159), fol. 56rb, "Secunda autem perfectio siue congruitas intellectus, scilicet que pertinet ad significata tantum, pertinet ad sermonem figuratiuum. Et hec perfectio bene potest esse sine perfectione uel congruitate uocis, sicut hic 'pars infra secant.' Et hec non est conproportionalis illi que est ex parte uocis, nec ordinatur congruitas uocis aut perfectio uocis ad hanc representandam nisi per accidens et ex consequenti, quia hec pertinet ad secundum intellectum uocis.

Sed inter secundum intellectum et uocem ipsam cadit primus intellectus medius, cuius perfectio omnino equalis est perfectioni siue congruitati uocis. De hac igitur congruitate siue perfectione que est apud intellectum secundum, non concludunt obiecta. Sed inter hanc et perfectionem siue congruitatem uocis datur distinctio, et bene, ut ostensum est. . . . Tertio est intellectus secundus contextus ex ipsis significationibus. Et iste intellectus dissonat ab hiis qui precesserunt secundum perfectionem et congruitatem, sicut patet in figuratiuis locutionibus. Et inter istum intellectum et uocem distinguitur."

¹⁴² *CPMi* (Bav, Chigi, L.V. 159), fol. 56ra, "Et sic patet responsio ad obiecta. Non enim oportet quod constructio propria sit penes significata neque potior sit figuratiua quam propria. Verumptamen sciendum quod hec conclusio concedi potest uno modo. Est enim quedam constructio potior quo ad plures et hec est propria, quia non est fas loqui communiter nisi proprie; et quedam est potior quo ad sapientes et autentice loquentes et hec est figuratiua, quando intentionem suam complete exprimere nequeunt per sermonem proprium. Sed quamuis huiusmodi constructio sit potior quo ad eos, non tamen sequitur quod sit simpliciter potior."

¹⁴³ E.g. *CPMi* (Bav, Chigi, L.V. 159), fol. 56rb: Ad tertiam dicendum quod magis congrua est oratio que magis congrue representat intentionem proferentis uel simpliciter uel quo

are the reason why deviant language needs to be used (*ratio excusans qua oportet fieri*). On the other hand, language has its own requirements and limits, which one has to observe on penalty of being unintelligible: the reason why deviant language can be used (*ratio qua possit fieri*). This does not exclude the possibility that the author is compelled by the properties of language to drop or adapt part of the *intellectus intentus*.¹⁴⁴ The reason why one needs to use, and the reason why one can use, deviant or figurative language, taken together, are the excusing reason for the acceptance of constructional and semantic deviancy in language.¹⁴⁵

An interesting and peculiar domain of language to which the intentionalistic grammarians also paid attention was the domain of incomplete sentences as in the case of an *actus exercitus* (in opposition to the regular *actus significatus*), question and answer, where one word may function as a complete sentence.¹⁴⁶ An *actus exercitus* is a speech act that usually

ad intentionem proferentis, sed non semper simpliciter magis congrua, sed multotiens minus congrua secundum regulas gramatice.”; *ibid.*, fol. 56ra, “Et dicendum quod oratio figuratiua aut facit inproprietatem quantum ad intellectum significatum aut quantum ad intellectum intentum. Si quantum ad intellectum significatum absolute loquendo, talis est oratio incongrua, quamuis rationem habeat. Et ita secundum quid sit congrua, scilicet secundum intellectum proferentis. Cuiusmodi est hec ‘urbem quem statuo uestra est,’ que quantum ad intellectum significatum est incongrua et quantum ad intellectum intentum congrua.”

¹⁴⁴ *CPMi* (Bav, Chigi, L.V. 159), fol. 54va, “Similiter hec oratio non tamen est propria ‘tu si hic esses’ [Prisc., *IG*, 17: 165] nec etiam omnino est propria quantum ad intellectum intentum, cum intencio proferentis sit ‘si tu esses ego’. Eodem autem modo respondendum si obiciatur circa hoc exemplum ‘Iuno Saturnia pro sanctissima etc.’. Quamuis enim hoc nomen ‘sancta’ de ratione communis qualitatis possit congrue construi cum genitiuo et ita non est inproprietas quantum ad intellectum significatum, tamen est inproprietas quantum ad intellectum intentum, quia intendebat auctor significare quod Iuno fuit sanctissima deorum, sed causa metri dixit positium pro superlatiuo. Eodem modo est de alio ‘una erusque nothusque ruunt’ pro ‘eruunt’. Intendebat autem actor quod ipsi extra ruebant, sed causa metri posuit simplex pro composito et est ibi inproprietas quantum ad intentionem eius, sed non quantum ad intellectum significatum per sermonem.”; for a similar discussion, see also (Pseudo-)Kilwardby’s Commentary on Donatus’ *Barbarismus*, ed. Schmücker, 62, 986–96.

¹⁴⁵ *CPMi* (Bav, Chigi, L.V. 159), fol. 8ra, “Cum sint construens et construenda et debet in construendo fieri inproprietas, oportet inuenire potentiam ad inproprietatem ex parte ipsorum et causam necessariam quare fieri debeat ex parte constructoris, cum constructor huius sapiens sit. Et ita ratio excusans figuram coniuncta est ex duobus quarum una est ex parte dicentis, scilicet ratio qua oportet loqui inproprie et alia ex parte orationis, scilicet ratio qua possit fieri. Et hoc concedendum est.” For a thorough overall discussion of figurative speech and the role of the *ratio excusans* in thirteenth-century grammatical writings, see Rosier-Catach, *La parole*, 34–35.

¹⁴⁶ *CPMi* (Bav, Chigi, L.V. 159), fol. 4va, “Declarat autem que dictiones per se proferende sunt, ut faciant intellectum plene orationis, dicens quod uerba inperatiua, et hic dico, in persona secunda, similiter uocatiui casus nominum et pronominum. Et dicit quod hoc fit sepe quia in uocatiuis substantiuorum nominum hoc accidit et non in uocatiuis adiectiuorum

is incomplete from the point of view of regular grammar. It represents a speech act not signified as in reflection over the act, but as being exercised, as the interjection of surprise “Oh!” signifies my actual feeling of admiration about something that is happening, whereas the sentence “I am surprised that this is happening” is a statement about my feeling of surprise that something happens. The same situation is observed when we call somebody. “O, Peter” is the act of actually calling Peter, whereas the sentence “I call Peter” is the *actus significatus*, a statement about my calling Peter. For Kilwardby, the *actus exercitus* was not only interesting from the point of view of semantics. As a grammarian he also would analyze the constructional aspects of an *actus exercitus* expression and the constructional differences between the *actus exercitus* and *actus significatus* that represent the same event or feeling.¹⁴⁷

cuius causa ultro se offert. Similiter etiam aduerbia si tamen referantur ad actus exercitos. Et quia contingit aduerbium referri ad actum exercitum dupliciter, scilicet ad actum exercitum in loquela uel sine loquela, ideo dicit hoc de aduerbiis que referuntur antecedentibus actionibus uel orationibus. Et nota quod hic aperte dicit Priscianus quod aduerbia non semper referuntur ad actus significatos, sed aliquando ad actus exercitos; ex quo trahitur argumentum quod una negatio potest negare condicionalem uel copulatiuam uel disiunctiuam ita quod negatio referatur ad actum exercitum per coniunctionem.”

¹⁴⁷ *CPMi* (Bav, Chigi, L.V. 159), fol. 60va–b: Et dicendum quod constructio uocatiui cum aduerbio simpliciter est intransitiua, secundum quid autem transitiua, quia non recipit transitionem alicuius actus significati, sed exerciti. Et sciendum quod intransitio dupliciter est: proprie et communiter. Proprie autem est intransitio inter talia duo quorum utrumque est habens rationem persone, quando cedunt in idem scilicet suppositum. Et talis non est nisi in partibus declinabilibus. Communiter autem dicitur intransitio, quando duo adiuicem constructa non sunt diuerse persone nec ut diuerse. Sic autem est intransitio inter rem aduerbii et substantiam uocatiui. Nec enim sunt diuerse persone nec ut diuerse, cum ipsum aduerbium careat omnino persona et ratione persone.

....

Ad oppositum sic. Si uocatiuus exigeretur ab aduerbio uocandi gratia excitationis exercite, tunc cum excitatio transeat quodammodo in rationem uocatiui, exigeretur uocatiuus ab aduerbio transitiue. Sed hoc uidetur falsum, cum uelit Priscianus quod nominatiuus et uocatiuus intransitiue construantur. Adhuc. Priusquam aliquem casum exigit ratione actus exerciti, exigit eundem casum quem et ille actus. Uerbi gratia. Interiectio admirandi, scilicet ‘o,’ cum exigit casum ratione admirationis exercite, exigit accusatiuum sicut iste actus ‘admiror o uirum pudicum,’ idest ‘admiror uirum pudicum’. Si igitur aduerbium uocandi excitationis exercite gratia construat cum casu exigendo ipsum, construet ergo accusatiuum sicut hoc uerbum ‘uoco’ uel ‘excito’. Quare gratia excitationis non exigit uocatiuum.

Adhuc. Aduerbium uocandi designat actum exercitum cum eo quod determinat transitionem eius, sicut patet per expositionem Prisciani ‘O Uirgilio,’ idest uoco te Uirgilio. Habet ergo aduerbium uocandi in se casum quem requirit ipsa uocatio. Ergo non exigit extra se gratia uocationis uocatiuum, quamuis cum eo congrue ordinetur.

Quamuis probabiliter dici posset quod aduerbium exigit uocatiuum, melius tamen uidetur dici quod non eo quod Priscianus magis uidetur consentire dicentibus ipsum exigi a uerbo quam ab aduerbio.

Concluding Remarks

Robert Kilwardby's approach to language and linguistics evidently profited from the circumstance that he could dispose of the almost complete *Corpus Aristotelicum* and related works and commentaries. The university context compelled him not only to present his teaching in a more or less uniform way, but also to use the available doctrinal resources. Although, in his view, the language-oriented disciplines, and in particular grammar, only possessed a derived and therefore lower degree of speculativity, he shows that it is possible to develop a systematic corpus of scientific statements about grammar, which are based on linguistic universals and accordingly universally valid. The unity of grammar as a discipline is guaranteed by the presence of a central subject under which the subjects of the subdisciplines of grammar are subsumed. Aristotle's *Physics* supplied the basic materials for the scientific framework of his linguistic thinking, within which the notions of motion and act and potency played a paramount role.

The mode of signifying (*modus significandi*) loosely used by the grammarians of the twelfth century holds the position of a technical term in his linguistic thought. The distinction between the *modus significandi essentialis*, *specialis* and *accidentalis* is a novelty in the medieval doctrine of the parts of speech and syntax, and supplies the grammarians with a set of analytical tools of great efficiency that will be used to the sixteenth century. At the syntactic level, the priority that already was given to binary constructions in the last decades of the twelfth century intensively favored by the introduction of the fruitful semantic-syntactic notion of dependency enabled him to establish a more systematic and sharper method of analysis for constructional relationships.

Ad rationes obiectas dicendum ad primam quod non est simile de constructione uerbi cum uocatio et cum casibus uere obliquis. Aduerbum enim ordinatur cum obliquis exigendo ipsos propter dependenciam alicuius intellectus, qui cum consimili casu uult ordinari ut 'similiter' cum datiuo construitur ratione huius nominis 'simile' intellecti, quod cum eodem casu exigit ordinari. Sed aduerbum uocandi non potest ratione uocationis uel excitationis uocatum exigere, quia nec talis actus cum uocatio ordinatur ipsum exigendo, sed magis ponitur aduerbum uocandi cum uocatio, ut sit signum uocationis exercite per uocatum secundum quod uocatiuus est.

Ad secundam dicendum quod licet actus significatus exigit casum terminantem eius transitum, non sequitur quod actus exercitus similiter faciat. Oportet enim quod ille casus sit talis casus qualem natus est exigere ille actus, quando actu expressus est. Sed talis non est uocatiuus respectu aduerbii uocandi.

Besides the Aristotelian influence, Augustine's legacy played a prominent role in Kilwardby's linguistic thinking. The serious attention he paid, following Augustine, to the intention of the speaker even if in conflict with the rules of common grammar, led him to introduce the doctrine of the double *intellectus* at word and sentence level respectively. Adducing the combination of both reasons necessary for excusing deviant but figurative speech (*ratio qua oportet* and *qua potest fieri*) and his elaboration of the distinction between *actus significatus* and *exercitus* in grammar enabled him to incorporate deviant but acceptable speech into an overall theory of language.

SEMANTICS AND ONTOLOGY IN ROBERT KILWARDBY'S
COMMENTARIES ON THE *LOGICA VETUS*

Alessandro D. Conti

Robert Kilwardby is one of the most remarkable thinkers of the thirteenth century among the champions of the traditional approach to philosophy and theology. His activity is set in the very crucial period of middle scholasticism, when the diffusion of Aristotle's system in both the Faculties of Arts and Theology caused a sharp conflict between the followers of the old Patristic tradition, such as Kilwardby himself, and the supporters of the new Aristotelian way, such as Thomas Aquinas. Kilwardby used all of his intellectual resources and ecclesiastical authority in fighting against the new Aristotelian trend. All the same, as far as purely logical or philosophical subjects were concerned, he strove to reconcile the teaching of Augustine with his recent extensive reading of Aristotle,¹ trying to save Aristotle's opinion where he judged that he could.

His Parisian course on the *Logica vetus* is a good example of this attitude. We can find in it in germ that Augustinianism that is present and fully developed in his later writings (such as the questions on the *Sentences* and the *Responsio de 43 quaestionibus Iohannis Vercellensis*) together with a close familiarity with the texts of Aristotle. In his commentary on the *Sentences* he maintains—and defends against the attack of the supporters of the Aristotelian way—many theses proper to the Augustinian tradition: for instance, (1) a plurality of substantial forms in composite substances; (2) the presence of seminal reasons in matter; (3) universal hylomorphism; (4) individuation by matter and form; (5) a mere notional distinction between the soul and its faculties; and (6) the necessity of divine illumination in order to grasp the eternal truths. As a matter of fact, the first four of those theses are somehow already present in his commentaries on the *Logica vetus*, where his attempt to show the unity and consistency of Aristotle's thought and to apply to logic and philosophical

¹ On Kilwardby's effort to reconcile Augustine with Aristotle see Patrick Osmund Lewry, OP, "Robert Kilwardby on Imagination: The Reconciliation of Aristotle and Augustine," *Medioevo* 9 (1983): 1–42.

grammar principles and modes of analysis drawn from Aristotle's *Physics* and *Metaphysics* is quite evident as well.²

In what follows, a glimpse into Kilwardby's logico-metaphysical doctrines as they appear from his course on the *Logica vetus* shall be provided.³ The first section of this chapter will contain a short description (main divisions, sources, and literary form) of Kilwardby's Parisian commentaries on the *Logica vetus*, that is, Porphyry's *Isagoge*, Aristotle's *Praedicaementa* and *Perihermeneias*, the anonymous *Liber sex Principiorum*, and Boethius's *Liber Divisionum*. The second section will be dedicated to Kilwardby's theory of meaning and truth. The third section will explore his general ideas about being and categories. The fourth section will expound his conception of universals and singulars. The fifth section will discuss Kilwardby's theory of individuation by matter. The sixth section will deal with his chief theses on the nature and status of the main categories of accidents, those of quantity, quality, and relatives (*ad aliquid*). And finally, in the last section, some conclusions on both the inner consistency and historical value of Kilwardby's semantic and metaphysical doctrines developed in his commentaries on the *Logica vetus* will be drawn.

The Parisian Course of Logica vetus

The precise dating of Kilwardby's Parisian teaching remains a matter for conjecture; however, on the basis of the studies of D.A. Callus and P.O. Lewry, it is commonly assumed that Kilwardby was regent-master at Paris from circa 1235 to circa 1245.⁴ It is known that while he was teaching in the Faculty of Arts in Paris, he wrote, besides his commentaries on the *Logica vetus*, a set of *Sophismata grammaticalia* and *logicalia*; commentaries on *Priscianus minor*, *De accentibus*, *Barbarismus Donati*, and Aristotle's *Prior Analytics* and *Posterior Analytics*, *Topics*, *Sophistical Refutations*, and the first three books of the *Nicomachean Ethics*—an impressive series of writings. The commentaries on the *Logica vetus* appear to be the work of

² Patrick Osmund Lewry, OP, introduction to Robert Kilwardby, OP, *On Time and Imagination*, ed. Lewry (Oxford: 1987), xiii–xvii.

³ On Kilwardby's commentaries on the *Logica vetus* studied with regard to their teaching and method see Patrick O. Lewry, OP, "Robert Kilwardby's Writings on the *Logica vetus*" (D. Phil. thesis, Oxford University, 1978), esp. 204–352.

⁴ D.A. Callus, OP, "The *Tabulae super Originalia Patrum* of Robert Kilwardby, OP," in *Studia Mediaevalia in honorem Adm. R.P. Raymundi Josephi Martin*, OP (Bruges: 1948), 243–70, at 247; Lewry, "Kilwardby's Writings on the *Logica vetus*," 6.

a young master of the first generation to benefit from the new accessibility of the Aristotelian corpus; the form of the course and the sources utilized are consistent with a date between 1235 and 1245,⁵ so it is probable that the commentaries on the *Logica vetus* were composed in the years 1237–40 or thereabouts.

The commentary on the *Isagoge* is a short work of about 24,500 words, extant in three manuscripts: Florence, Biblioteca Medicea Laurenziana, Santa Croce Plut. XVI sin. 8 (ms. F);⁶ Madrid, Biblioteca Universitaria 73 (ms. M); Cambridge, Peterhouse 206 (ms. P). It is divided into a prologue (or introduction) and twelve lectiones. The Latin version of Porphyry's text appears to be that by Boethius. The commentary on the *Categories* is work of about 64,000 words, comprising an introduction and twenty-one lectiones (the last five dedicated to the *Postpraedicamenta*).⁷ It is extant in two manuscripts, M and P. The Latin version of the treatise is the vulgate text, or *editio composita*, contaminated here and there with the *translatio Boethii*. The commentary on the *Perihermeneias* is a work of about 51,000 words divided into a prologue and sixteen lectiones, nine on book 1 (the first nine chapters of our present division of the Aristotelian treatise) and seven on book 2 (the remaining five chapters). It is extant in three manuscripts: M, P, and Venice, Biblioteca Marciana L.VI.66 (=2528) (V). The Latin version of the text is that known as *translatio Boethii*. Kilwardby's commentary on the *Liber sex principiorum*, one of the earliest expositions preserved, is a work of about 43,000 words divided into an introduction and fifteen lectiones. It is extant in two manuscripts: M and V. The commentary on Boethius's *Liber divisionum* is incomplete. It is a fragment of about 6,000 words, comprising an introduction and three lectiones, extant in a sole manuscript V. The last lemma of the text covered in the exposition begins "et fit totius."

All the commentaries open with a prologue of about the same length as a short *lectio* (from ca.1,300 to 2,000 words) where Kilwardby determines

⁵ Lewry, "Kilwardby's Writings on the *Logica vetus*," 441.

⁶ Ms. F is a fragment of about five hundred words, corresponding to the very first part of the prologue. It has been transcribed by Francesco del Punta in *Aegidii Romani opera omnia I: Catalogo dei mss. (96–151)—1/2 *Italia*, ed. Concetta Luna and Francesco del Punta (Florence: 1989), 255–56.

⁷ Lectio 17 deals with the notion of opposition (*oppositio*) and embraces the material of Aristotelian chaps. 10 and 11; lectio 18 deals with the notion of priority (*prius*), and corresponds to chap. 12; lectio 19, with the notion of simultaneity (*simul*; chap. 13); lectio 20 with the notion of motion (*motus*; chap. 14); and finally lectio 21 with the notion of having (*habere*; chap. 15).

the subject matter of the treatise at issue, the mode of procedure, purpose, and authorship of the work, following a scheme based on Aristotle's theory of four causes. The *Isagoge* introduction, briefer than the others, plays the role of general preface to the whole course and the study of logic. Here Kilwardby combines the scheme based on Aristotle's four causes (a regular feature of Kilwardby's introductions to his Aristotelian commentaries, apart from that to the *Ethica*)⁸ with Boethius's introductory scheme divided into *intentio*, *utilitas*, and *ordo*.

Kilwardby's course of *Logica vetus* shows a direct acquaintance with Aristotle's corpus, as, for instance, we can count seventy-eight citations from the *Metaphysica*, forty-one from the *Physica*, twenty-one from the *De anima*, fifteen from the *De generatione et corruptione*, and thirteen from the *De caelo*, even though in many cases the quotations are not literal. Boethius's works are the main source of Kilwardby's commentaries, since the English master explicitly refers to Boethius's expositions of the *Isagoge*, *Categories*, and *De interpretatione* in sixty-eight separate places of his course of *Logica vetus*.⁹ Moreover, Kilwardby's general approach to these texts looks to be the same as that of Boethius, since, like Boethius, Kilwardby (1) puts a linguistic emphasis in the understanding of them, and (2) assumes that there is a close connection between the ordering of reality and that of language, which are not separable—and in fact, in the prologue of his commentary on the *Categories*, Kilwardby describes the subject matter of the book in Boethius's terms as *de decem vocibus decem prima rerum genera significantibus*.¹⁰ And finally, (3) Kilwardby's comments and remarks are aimed at clarifying and dividing Aristotle's text and introducing the reader to it rather than expounding his own doctrines on the topics at issue. By contrast, Kilwardby's knowledge and utilization of Arab commentators is episodic: in the whole course of the *Logica vetus* he quotes only seven times Avicenna's *Metaphysics* and twelve times Averroes's commentaries (ten times that on the *Metaphysics* and once those on the *Physics* and the *De anima*).

⁸ Lewry, "Kilwardby's Writings on the *Logica vetus*," 215–16.

⁹ More particularly, in Kilwardby's whole course of *Logica vetus* there are five references to the *De consolatione*; one to the *Liber divisionum*; three to the *De arithmetica*; twelve to the commentary on the *Isagoge*, 2nd ed.; twenty-three to the commentary on the *Categories*; five references to the first version of the commentary on the *De interpretatione*; and twenty-eight to the second, longer version.

¹⁰ Boethius, *In Categorias Aristotelis libri quatuor*, in *Opera omnia*, ed. J.-P. Migne. Patrologia Latina 64 (Paris: 1847), cols. 159C, 160A; and Kilwardby, *Notulae super librum Praedicatorum* (M 10vb, P 42ra).

Kilwardby's lectiones are divided into two main parts: in the first one the Dominican master explains, often in an unproblematic way, Aristotle's (or Porphyry's or Boethius's) text; in the second one he raises some philosophical questions and solves them. The interpretative tools he utilizes are scanty and not very flexible; as a consequence, from a purely theoretical point of view, the doctrines he develops in his commentaries are less interesting than those of Albert the Great, even though Albert makes extensive use of Kilwardby's expositions in his own paraphrases of the *Isagoge*, *Categories*, and *De Interpretatione*. Similarly, Kilwardby's logico-linguistic theories, albeit among the most important premodistic medieval accomplishments, are defective, especially when compared to fourteenth-century attainments of the terminist logic. What characterizes Kilwardby's position is (1) his sharp awareness of the unity of the arts curriculum; (2) his constant effort to reconcile Priscian's theses and definitions with those of Aristotle in dealing with the problem of the meaning and truth of linguistic expressions; and (3) his use of physical analogies and doctrines in his account of meaning. According to Kilwardby the disciplines of the *trivium* (grammar, logic, and rhetoric) fall outside the Aristotelian division of speculative philosophy into physics, mathematics, and metaphysics. They are concerned with signs rather than realities, and they constitute the most convenient introduction to philosophy, teaching the skills of correct speech, writing, and reasoning. Grammar comes first, since it deals with the understanding and expression of ideas; then logic, which provides all sciences with a method and is corrective of the reasoning of other disciplines; and finally rhetoric, which serves ethics but is not subordinate to it, since rhetoric is a part of civic studies, given that the rhetorician's aim is to devise reasoning appropriate for settling questions arising in civil disputes.¹¹

In the opening lectures of his commentaries on the *Categories* and on the *Perihermeneias*, Kilwardby states that the main difference between grammar and logic consists in the different points of view from which they look at language. The grammarian starts with the utterance and goes on to the thought; the logician starts with the thought and ends with the utterance. So the intentions or concepts that characterize grammar are applied to signs, while those characteristic of logic are applied to the essences of things. As a consequence, logic is concerned not only with speech and

¹¹ *NLPre, prooemium* (M 44ra; P 65vb–66ra; V 1r), and lectio 5 (M 49vb–50va; P 70vb–71rb; V 7r–8r).

reasoning, but also with reality itself. However, the logician's treatment of reality is not that of the metaphysician, since the latter studies the categories as parts of being; the former, on the contrary, studies them in regard to their function as predicates or subjects in sentences. Thus, logic is intended to be the theory of mental discourse concerning being and is therefore ontologically grounded in a correspondence between the structural connections in thought and the framework of reality.¹²

Meaning and Truth

The basic ideas of almost all the medieval realist theories of meaning and truth worked out during the thirteenth century were that (1) semantic classifications derive from ontological differences between the signified objects; and (2) a sentence is true if and only if it describes how things are arranged in the world (in other words, if and only if its own primary *significatum* is an ontological truth). So, according to this approach, the simple expressions of our language (that is, names) are distinct from the complex expressions (that is, sentences) by virtue of their own *significata*—by virtue of the different kinds of objects to which they refer. In fact, a simple object is an item in a category, that is, either a singular substance, or a universal substantial form, or an accidental form; while the objects signified by complex expressions are compounds of at least two of those signified by simple expressions. Furthermore, every simple expression of our language is like a label that names just one object in the world, whereas proper names (such as “Socrates”) and singular expressions (such as ‘*aliquis homo*’) label singulars, general terms (such as ‘*homo*’ and ‘*albedo*’) label common natures (or essences), which are metaphysical constituents of those sets of individuals which instantiate them. For instance, the term *man* labels and can stand for each and every man in virtue of its designating the universal form of humanity considered as the essence present in each and every man.¹³ Kilwardby's semantic theory is inspired by those same principles.¹⁴

¹² Kilwardby, *NLP*, *prooemium* (M 10vb–11rb; P 42ra–va); and (M 44ra–45ra; P 65vb–66va; V 1r–v).

¹³ On the semantic principles proper to medieval realists see Alessandro D. Conti, “Categories and Universals in the Later Middle Ages,” in *Medieval Commentaries on Aristotle's Categories*, ed. Lloyd Newton (Leiden: 2008), 369–409, esp. 370–76.

¹⁴ Kilwardby, *Notulae super librum Porphyri* (hereafter *NLPor*), lectio 5 (M *om.*; P 37ra), “Nota quod hoc nomen, ‘homo,’ sicut quodlibet nomen, primo significat formam, secundo

In the first book of the commentary on the *Perihermeneias* and in the first five chapters of the commentary on the *Categories*, Kilwardby specifies his theory of meaning. Like every other physical entity, a word (*dictio*) is composed of matter (the utterance, *vox*) and form. What gives a word its form is the act of signifying, which makes it a significant utterance, with its meanings as accidental qualifications. Meaning is impressed on the word as a whole. It depends on the mind, which can abstract the common features of individuals and thus produce a conceptual likeness of what is thought about. It is just this conceptual likeness that is conveyed to another person through utterance, while the sign itself is what affects the hearer's perception and evokes thought.¹⁵ According to Kilwardby, there is a difference between *nota* and *signum*: while a *nota* is something-which-refers-to-something-else present in the mouth of the speaker (*in ore proferentis*), a *signum* is something-which-refers-to-something-else present in the ear of the listener (*in aure audientis*).¹⁶ By contrast, there is not any difference between words and terms (*termini*), since a word is an utterance associated with a meaning (*coniuncta significationi*) just as terms are.¹⁷

In commenting on the passage in the first chapter of the *De Interpretatione* (16a 3–8) where Aristotle affirms that

utterances are signs of concepts and written words are signs of utterances. Just as all men have not the same written words, so all men have not the same utterances. Albeit, concepts, that utterances directly signify, are the same for all, since those things of which our concepts are mental images are the same for all.

aggregatum, per Aristotelem in VII *Metaphysicae*. Formam dupliciter: absolute, et sic dicitur 'homo dicitur de multis,' vel secundum quod numeratur per particularia, et sic dicitur 'iste est homo,' 'ille est homo' etc. Aggregatum similiter dupliciter: absolute, et sic dicitur, 'homo diffinitur' (et sic datur haec diffinitio, 'species est quae praedicatur de pluribus' etc.), vel relate, et sic dicitur 'homo currit'. Iuxta ultimum modum primi significati et primum ultimi verificatur haec propositio, 'homo est species'. Et patet quod homo qui praedicatur non est homo." The quotations from Kilwardby's commentaries on the *Isagoge*, *Categories*, and *De interpretatione* are drawn from a provisional edition of these works that I have prepared on the basis of the preliminary studies and researches by Patrick Osmund Lewry, OP.,. The text of the commentary on the *Categories* is available on the web at: http://www-static.cc.univaq.it/diri/lettere/docenti/conti/Allegati/Kilwardby_praedicamenta.pdf.

¹⁵ Kilwardby, *Notule super librum Peryarmenias* (hereafter *NLPer*), lectio 2 (M 45vb–46ra; P 67rb–va; V 3r).

¹⁶ Kilwardby, *NLPer*, lectio 2 (M 46ra; P 67rb; V 3r).

¹⁷ Kilwardby, *NLPer*, lectio 2 (M 46ra; P 67va; V 3r).

Kilwardby deals with the traditional and problematic question of what exactly a spoken (or written) word signifies, whether a thing or a concept (*passio animae*, or *intellectus*, or *species intellecta*).¹⁸ He interprets the *passiones animae* in terms of mental likenesses and somehow identifies them with the things themselves (as they are present in the mind).¹⁹ So his answer is that (1) words primarily signify both the *passiones animae* and the things themselves, but (2) this fact does not imply a multiplicity of significates in words, since concepts imitate the things by which they come to be, taking on their forms.²⁰ On the other hand, in his introduction to the commentary on the *Praedicamenta*, he maintains that the ordering of the world, which is necessary for reducing the infinite manifold of reality into a small number of classes, is not separable from thought and language.²¹ Finally, he assumes that there is a twofold point of view from which to consider terms: the point of view proper to the *Praedicamenta* (which we can define as semantic) and that of the *De Interpretatione* (which we can define as syntactic). According to the former, terms are considered as they name things (*in Praedicamentis est sermo de termino ut est praedicabilis*), and therefore they are resolved into utterances and things; according to the latter, terms are considered as they are said one of another, and therefore they are resolved into utterances and thought (*intellectus*). As a consequence, in the *Praedicamenta* terms are divided according to the genera of things, and so according to the ten categories of reality, while in the *De Interpretatione* terms are divided according to the different formal relations of concepts to one another, and so into names and verbs.²² Hence,

¹⁸ Kilwardby, *NLPer*, lectio 2 (M 46ra; P 67rb–va; V 3r).

¹⁹ Kilwardby, *NLPer*, lectio 2 (M 46ra; P 67va; V 3r), “Si quis subtiliter inspiciat, videbit similitudinem in anima non omnino esse diversam a re ipsa, immo aliquo modo esse rem ipsam.”

²⁰ Kilwardby, *NLPer*, lectio 2 (M 46ra; P 67va; V 3r), “Ex quo patet quod non dicemus ipsam vocem rem et intellectum significantem plura significare” and (M 46rb; P 67va; V 3r), “Intellectus est similitudo rerum; fit enim ad imitationem rei et ex ea generatur.”

²¹ Kilwardby, *NLPre*, *prooemium* (M 10vb; P 42ra).

²² Kilwardby, *NLPer*, lectio 2 (M 46ra–b; P 67va; V 3r), “Item, in *Praedicamentis* est sermo de termino ut est praedicabilis, et sic est res; unde est ibi resolutio termini in vocem et rem. Sed in scientia ista est sermo de termino secundum quod dicitur de altero, sive alterum de ipso, et sic est aliquid secundum intellectum. Accipit enim intellectus quaecumque de altero dicuntur, et ponit sub intentione verbi, et de quo alia, et ponit sub intentione nominis. Et propter hoc in scientia ista resolvitur terminus in vocem et intellectum magis quam in vocem et rem. Unde dicit quod voces sunt notae intellectuum, et sic rerum; in *Praedicamentis* quod sunt notae rerum. Hic etiam stat divisio signi tantum in duabus differentiis, cum hic sit intentio de signo secundum quod dicitur de altero sive alterum de ipso—et sunt nomen et verbum. In *Praedicamentis* stat divisio sua in decem differentiis, quia sic res dividuntur, et consimilis est ibi divisio signi et rerum.”

no matter whether terms are considered from a semantic or a syntactic point of view, we always have to take things into consideration.

The topic of equivocity merits a certain consideration in this context,²³ because it sheds some more light on Kilwardby's theory of meaning. In the opening passages of the *Categories* (chap. 1, 1a 1–6 and 6–12), Aristotle contrasts equivocal with univocal terms. The former are correlated with more than one concept and refer to a multiplicity of things belonging to different genera, whereas the latter are correlated with only one concept and refer to a multiplicity of things belonging to one and the same species or genus. Kilwardby interprets such an account from the standpoint of language;²⁴ but, like Boethius, he understands Aristotle's definitions of *aequivoca* and *univoca* as definitions of realities (the *res aequivocatae* or *univocatae*) and not of terms.²⁵ In discussing this subject, Kilwardby raises the question how the equivocal term can remain one and the same when the correlated definition differs. In fact, it is the definition that gives a term its specific form, since—as already shown—a word is an utterance associated with a meaning that the correlated definition declares. Kilwardby's answer is that every word has a twofold form: (1) the act and form of signifying (*actus et forma significantis*), and (2) the definition, which is a term's ultimate perfection. Even though the definition changes, the form of signifying is one and the same in regard to what is equivocal. This is sufficient for preserving the identity of the word, which remains one and the same in matter and form.²⁶ Furthermore, Kilwardby recognizes three senses of meaning (*significatio*): (1) the act and form of signifying; (2) what is signified; and (3) the connection (*comparatio*), which is a quality, of the sign with what is signified—in other terms, the relation of signification. It is only in the first sense that meaning is the perfection of the word. A term, which is one in its meaningfulness in this primary sense, may have several meanings in the sense of what is signified, or as a connection of sign to signified, but this multiplicity of meanings in the second and third sense does not imply a plurality of perfections.²⁷ Even though an

²³ A detailed analysis of Kilwardby's commentary on the first chapter of the *Categories* is found in Lewry, "Kilwardby's Writings on the *Logica vetus*," 267–73.

²⁴ Kilwardby, *NLPre*, lectio 1 (M 11va; P 42vb), "Patet etiam ratio ordinis, cum haec scientia, secundum Boethium, sit sermocinalis, cum sit de decem vocibus etc.; et ideo recte procedit a sermone ad intellectum, et ab intellectu ad rem."

²⁵ Boethius, *In Categorias*, 164B. Kilwardby, *NLPre*, lectio 1 (M 11va–b; P 42vb).

²⁶ Kilwardby, *NLPre*, lectio 1 (M 11vb; P 43ra).

²⁷ Kilwardby, *NLPre*, lectio 1 (M 11vb; P 43ra), "Significatio dicitur tripliciter: aut actus et forma significantis; aut ipsum significatum; aut comparatio signi ad significatum—

equivocal term may have several meanings in the second or third sense of *significatio*, it cannot be used at one and the same time in different senses, because no one can think of several things at once.²⁸ In fact, in Kilwardby's view, an equivocal word can be considered in two ways: (1) by itself, simply as the union of an utterance with the act of meaning, or (2) according to its concrete contexts, and therefore in relation to a single listener. In the first way, the equivocal word includes all of what it signifies in its various meanings; in the second way, it involves only one of its various meanings—the meaning that the listener attributes to it.²⁹

From this account of equivocity it follows that Kilwardby's equivocal terms are equipollent to the polysemous lexemes and not to the homonymous lexemes of contemporary linguists and lexicographers. It seems that *our* homonymy is impossible within his system, since his reading of equivocity is aimed at preserving the identity of terms notwithstanding the multiplicity of (secondary) meanings—as already seen. What is more, if we describe the sense of a term as the set of essential properties that determines the applicability of the term itself, and its reference as the class of the things to which it is correctly applied, Kilwardby seems unable to sharply and clearly distinguish between sense and reference of words, as he somehow equates the *passiones animae* with the realities themselves as present in our intellects, and so, in a certain way, the sense of a word with its reference. Moreover, he assumes that the most important property of a term (the act or form of signifying, which is what turns a *vox* into a word or term) is independent of both the thing signified and the relation of signification. As a consequence, paradoxically, a term can be classified as meaningful prior to its having a fixed sense (and reference).

Besides the problem of the meaning of simple expressions (words or terms), the other basic question that Kilwardby's semantics tries to solve is that of the meaning and truth of complex expressions (sentences and/

et sic est significatio qualitas. Primo quidem modo est perfectio dictionis, et haec est una in omni dictione. Secundo quidem modo <aut tertio> non est perfectio. Unde nihil prohibet nomen sic unum, scilicet primo modo, habere plures significationes vel comparationes ad plura significata, prout dicitur significatio secundo modo aut tertio; nec erunt propter hoc plures perfectiones (plura perfecta *mss.*) ab illis." See also Albert the Great, *Liber de praedicamentis*, tract. 1, chap. 2, (hereafter cited by tractatus:chapter, and page numbers) in *Opera omnia*, ed. A. Borgnet (Paris: 1890), 1:153–54.

²⁸ Kilwardby, *NLPor*, lectio 11 (M 9vb; P 41rb); and *NLPer*, lectio 9 (M 54rb–va; P 74va–b; V 12r).

²⁹ Kilwardby's *Commentary on the Priscianus minor* (hereafter *CPMi*), bk. 1, lectio 22, ms. Oxford, Corpus Christi College 119, fols. 38vb–39ra; quoted in Lewry, "Kilwardby's Writings on the *Logica vetus*," 271.

or propositions).³⁰ As is well known, in the Middle Ages there were three predominant approaches to the problem of truth: ontological (proper to authors like Augustine, Anselm, and Grosseteste), epistemological (proper to authors like Thomas Aquinas and Giles of Rome), and linguistic (proper to nominalist thinkers like Ockham and Buridan). According to the first theory, the truth is a thing's being in accordance with the idea in the mind of God. According to the second, the true and the false are properly not in things, but are about things, as truth is the result of an act of judgement of the intellect that states the combinations or separations found in things themselves. According to the linguistic approach, defining truth is identical with indicating the rules for establishing the truth of propositions, since only propositions are the bearers of truth-value. Kilwardby's doctrine follows the principles of the ontological approach.³¹

In his view, simple expressions (words) are distinct from complex expressions (sentences) by virtue of their own *significata*, that is, because of the different kinds of realities they refer to. The realities referred to by complex expressions are a sort of molecular realities consisting of (at least) two of those atomic realities signified by simple expressions; while an atomic reality is an item in a category, that is, a primary substance, or a secondary substance, or an accidental form.³² The reality on which complex expressions are grounded is different from that signified by the subject-term of the sentence at issue. It is a whole of which the reality referred to by the subject-term is only a part.³³ This explains why simple

³⁰ Kilwardby does not seem able to distinguish between sentence and proposition (the former considered as a spoken or written declarative statement, and the latter considered as what is expressed by a declarative sentence), and, like almost all medieval authors, he uses the two terms *propositio* and *enuntiatio* interchangeably for designating both the linguistic form by which a propositional content is manifested and the propositional content (*our* proposition) itself.

³¹ Kilwardby, *NLPer*, lectio 9 (M 54va; P 74vb; V 12r-v), "Dubitatur postea de veritate enuntiationum de praesenti et de praeterito. Si enim veritas est indivisio esse, ut dicit Avicenna; et in negativis de praesenti, et similiter in his de praeterito, non sit esse indivisum, sed magis divisum; non erit aliqua veritas talium. Intellige quod veritas dicitur aequivoce: est enim in incomplexis entitas rei (et hoc est quod dicit Avicenna "indivisio esse," id est: indivisa rei entitas), et est veritas in complexis (et sic dicitur adaequatio rei et intellectus). Et hoc est in enuntiationibus, et in negativis de praesenti, et etiam in his de praeterito. Et ex his patet quid sit veritas."

³² Kilwardby, *NLPre*, lectio 2 (M 12vb; P 43vb), and lectio 5 (M 14rb; P 45ra).

³³ Kilwardby, *NLPer*, lectio 9 (M 54va; P 74vb; V 12v), "Sed intellige quod veritas et falsitas est in oratione eo quod res est vel non est. Sed non dico hoc rem subiecti termini, sed magis illud quod significatur per orationem—secundum quod dicimus Sortem currere significari per hanc enuntiationem 'Sortes currit'."

expressions properly are not true or false, but complex expressions are so.³⁴ Furthermore, neither complex expressions nor simple expressions are true (or false) in the strictest sense of the term, since truth is not inherent in linguistic expressions, but in the realities they refer to. Hence, a sentence (utilized to make a statement) that was first false (or true) may later become true (or false) without itself changing. In fact, truth is in the reality as a subject and cause, in linguistic expressions as signs, and in our intellects as what is grasped is in what is grasping it (*apprehensum in apprehendente*).³⁵

The principle that a sentence is true if it is the sign of a real truth, that is, if it describes how things are in the world, seems to raise the following paradox, that sentences about past things that no longer exist cannot be either true or false. Kilwardby solves this problem, resolving, like Augustine, the sentences about the past into statements about the present. He declares that any sentence about someone's (or something's) past existence, such as '*Caesar fuit*', is equivalent to a sentence about the reality in the present of a past truth, in our example '*praeteritio Caesaris sive memoria est*'.³⁶

The main result of Kilwardby's theory of truth seems to be his identification of both the truth-bearer and the truth-maker of a complex expression with an objective and mind-independent molecular entity existing *in re*, which is precisely what is signified by the expression at issue. According to him, this reality, a real truth, is something (1) complex but unitary, which is different from the things that the subject and/or the predicate of the sentence refer to; (2) real but distinct from extramental categorial items as well as from their corresponding mental signs; and (3) the proper and adequate object of a possible act of complex signification. Unfortunately Kilwardby fails to provide this reality with a suitable ontological status. It is clear that, in Kilwardby's view, what is signified by a sentence

³⁴ Kilwardby, *NLP*, lectio 5 (M 13ra; P 45rb), "Nota etiam ad ultimum quod singula incomplexa dicuntur sine vero et sine falso, ut dicitur in littera. Sed dicitur verum et falsum in complexis, non autem in incomplexis; verum enim dicitur per prius et posterius de vero sic et sic, et similiter falsum."

³⁵ Kilwardby, *NLP*, lectio 9 (M 54va; P 74vb; V 12v), "Propria habitudo veritatis ad enuntiationem est ut sit in ea tamquam in signo; est enim oratio enuntiativa significativa veri vel falsi. Igitur non est in ea ut accidens in subiecto. Sed est in re tamquam in subiecto, et in oratione tamquam in signo; et est etiam in re tamquam effectus in sua causa, et in intellectu tamquam in virtute compositiva vel divisiva, tamquam scilicet apprehensum in apprehendente."

³⁶ Kilwardby, *NLP*, lectio 9 (M 54va; P 74vb; V 12v); see also lectio 3 (M 48rb; P 69rb-va; V 5v).

is not one item (or atomic object) in the world; it rather is an arrangement of atomic objects. Yet, as a matter of fact, in order for there to be such a reality it is sufficient that there is one thing in the world, since the existence of that thing gives rise to the situation that that thing is, but (1) the situation differs from that thing, though it is not another entity; and (2) it can be signified only by a complex expression. Furthermore, he is not aware of the crucial importance for a theory of meaning and truth of the following two questions, which he omits raising and answering in his course of the *Logica vetus*: (1) what is the relationship that holds between what is signified by the subject-term and the true situation signified by a true negative sentence? And (2) what (if anything is) is the significate of a false sentence? Insofar as Kilwardby's description of the nature of such situations is inadequate so is his treatment of the problems of the meaning and of the truth and falsity of a sentence. He does not seem to be really interested in these questions. His chief concern appears to be (1) to clarify the Aristotelian text, and (2) to show that Aristotle's affirmations concerning the truth-conditions for sentences about the future and his theory of future contingents are compatible with the Christian doctrine on human freedom and God's providence and foreknowledge—as the very long treatment of these subjects in lectio 9 of his commentary on the *De Interpretatione* testifies.³⁷

Being and Categories

Kilwardby's metaphysical doctrines are quite different from those that many other authors of his time drew from Aristotle's philosophical system. He is faithful to Augustine's thought, even if some understanding of the Aristotelian metaphysics of being is reflected in his theory when, for example, he distinguishes (1) between *ens* (being) and *esse* (existing), and considers *esse* as the act of *ens* (2) between *ens in actu* and *ens in potentia* (3) between essence and being. Furthermore, he maintains that from a metaphysical point of view the term *being* is analogically predicated of everything. Therefore he can regard the ten Aristotelian categories also as classes of beings, so excluding a narrowly linguistic study of them.

As is well known, in the fourth chapter of the *Categories*, Aristotle lists ten items (substance, quantity, quality, relation, action, affection, where,

³⁷ On this topic see Lewry, "Kilwardby's Writings on the *Logica vetus*," 302–8.

when, position, possession) that he describes as what is signified by simple expressions considered *qua* opposed to complex expressions. Since late Antiquity such a list of categories (or supreme genera) was considered as both a classification of things and a classification of the signs signifying those things. As a consequence, during the Middle Ages many disputes took place about them. Depending on the general evaluation of the division into categories, whether it primarily concerns things in the world or their signs, it is customary to classify medieval authors as being realists or nominalists. Furthermore, Nominalists maintained that the division into ten categories is a partition of terms on the basis of semantic criteria, and that there are only two (or three) real categories of things: substance, quality (and quantity). On the contrary, realists (1) considered the categorial table to be first of all a division of beings and only derivatively a homologous division of terms, and (2) held that the ten Aristotelian categories are the supreme genera of beings, irreducible to one another—even though there were some significant differences among them in establishing their nature and ontological status.

Following Boethius,³⁸ Kilwardby supports a sort of conciliatory solution according to which the partition into ten categories is a division of signs signifying a division of things existing outside the mind *qua* significant by linguistic expressions, and things belonging to one categorial field are distinct from those belonging to another—for instance, substances are distinct from quantities, qualities, and relations; quantities are really distinct from substances, qualities, and relations, and so on. For this reason, disagreeing with his predecessors at Paris (such as Johannes Pagus, Nicholas of Paris, and Gerard of Nogent),³⁹ he asserts that the Aristotelian *Categories* deals with *voces* precisely as they are significant.⁴⁰ This does

³⁸ Boethius, *In Categoriais*, 159C–60A, 161A, 162B, and 169C–D. On Boethius's evaluation of the Aristotelian treatise on the categories and his attitude towards the Aristotelian philosophy in general, see James Shiel, "Boethius' Commentaries on Aristotle," *Mediaeval and Renaissance Studies* 4 (1958): 217–44; Sten Ebbesen, "Boethius as an Aristotelian Commentator," in *Aristoteles: Werk und Wirkung*, 2 vols., ed. J. Wiesner (Berlin: 1987), 286–311; Alessandro D. Conti, "Boezio commentatore e interprete delle *Categorie* di Aristotele," in *Scritti in onore di Girolamo Arnaldi offerti dalla Scuola Nazionale di Studi Medievali*, ed. A. Degrandi et al. (Rome: 2001), 77–102.

³⁹ Lewry, "Kilwardby's Writings on the *Logica vetus*," 91.

⁴⁰ Kilwardby, *NLPre, prooemium* (M 10vb; P 42ra), "Cum sit necessarium ad eam quae est apud Aristotelem praedicamentorum doctrinam nosse quid sit genus et quid species, quid differentia etc., et cum iam determinatum sit de his, consequenter descendendum est ad ipsa praedicamenta et determinandum est de ipsis. Est igitur, ut dicit Boethius, scientia *Praedicamentorum* de decem vocibus decem prima rerum genera significantibus. Non enim est de vocibus penes diversasfigurationes vocum, quae sunt inflexio casuum

not mean, however, that the book does not deal with things in any sense. Since it is concerned with the utterances *qua* significant, it is impossible to treat them without at the same time taking into consideration the things signified themselves. So, in his commentary on the *Categories* many times Kilwardby assumes that the particular passage (or the theory) at issue at that moment concerns things and not utterances—for instance, when he speaks of the table of categories and of substance, quantity, relatives, and quality.

In the thirteenth century almost all realist authors (1) regarded categorical items as composed of two main aspects: the inner nature or essence, and their peculiar mode of being or of being predicated (*modi essendi vel praedicandi*); and (2) maintained that the ten categories divide those categorical items according to their modes of being (or of being predicated) and not according to their inner natures (or essences). For example, Albert the Great based his method of finding the categories on the differences of modes of being, and admitted two fundamental modes of being: being by itself, proper to substance; and being in something else, proper to the nine genera of accidents—the latter subdivided into being in something else absolutely, proper to quantities and qualities, and being in something else in virtue of a relation to a third *res* (*esse ad aliud*), proper to the remaining seven categories.⁴¹ Thomas Aquinas based his method for finding the ten Aristotelian categories on the differences of modes of being predicated, and recognized three fundamental modes of being predicated: essentially,

aut temporum, sed de vocibus in quantum significativae sunt, quae quidem significatio non absolvitur ab ordine, secundum quod dicit Boethius quod infinitam multitudinem rerum comprehendit Aristoteles in paucitate decem generum. Et quia haec ordinatio non absolvitur a sermone, ideo dicit 'de decem vocibus,' et iterum quia haec ordinatio non est separata a rebus, nec speculatio de ordinabilibus erit separata a speculatione rerum, sed coniuncta, unde nec est inconveniens, ut quidam obiciunt, demonstrare quasdam passionem de ordinabili in quantum est res." On this particular topic, Albert the Great does not follow Kilwardby's reading, but the rival interpretation; see *Liber de praedicamentis*, 1.1.150 and 1.7.163.

⁴¹ Albert the Great, *Liber de praedicamentis*, 1.7.164–65. Today's scholars unanimously attribute to Albert the idea that categories are divided according to their modes of being predicated, since he himself affirms that his own method of deducing the ten Aristotelian categories is based on their modes of being predicated (*nos, quantum possumus, studebimus ex propriis horum generum modis praedicandi ostendere huius numeri rationem*); but, in point of fact, he does not utilize modes of being predicated in drawing the ten categories from being. On the contrary, he constantly employs modes of being, as he speaks of *ens per se*, *ens in alio*, *ad aliud se habere*, *absolute inesse secundum materiam* and *secundum potentiam formae* and so on.

proper to substances; accidentally, proper to quantities, qualities, and *ad aliquid*; and externally, proper to the remaining seven categories.⁴²

Kilwardby does not distinguish in a category its essences from its mode of being (or of being predicated), but his way of deducing the ten categories is somehow based on differences in the form of existence. In his opinion, there are two fundamental forms of existence proper to things: subsistence (*quod subsistit*), which characterizes substances, and contingency (*quod contingit*), which characterizes accidents. The latter is subdivided into three less general modes, which all have an essential dependence from the existence of the substance: from inside (*intra*), from outside (*extra*), and partially from inside and partially from outside (*medio modo*). Each of these three modes is subdivided into three other ways: being in the substance in virtue of its matter (*ex parte materiae*); being in the substance in virtue of its form (*ex parte formae*); and being in the substance in virtue of the whole composite of matter and form (*ex parte coniuncti*). If something from inside is in the substance in virtue of its matter, then it is a quantity; if in virtue of its form, then is quality; if in virtue of the whole composite, then it is a relation (*relatio*). If something from outside is in the substance in virtue of its matter, then it is a where (*ubi*); if in virtue of its form, then it is a when (*quando*); if in virtue of the whole composite, then it is a possession (*habitus*). If something partially from inside and partially from outside is in the substance in virtue of its matter, then it is an affection (*passio*); if in virtue of its form, then it is an action (*actio*); if in virtue of the whole composite, then it is a position (*positio*).⁴³ Kilwardby's

⁴² Thomas Aquinas, *Sententia super Metaphysicam*, bk. 5, lectio 9, ed. M.R. Cathala and R.M. Spiazzi (Turin: 1950), nn889–91. On Aquinas's derivation of the categories, see John F. Wippel, "Thomas Aquinas's Derivation of the Aristotelian Categories (Predicaments)," *Journal of the History of Philosophy* 25 (1987): 13–34.

⁴³ Kilwardby, *NLPre*, lectio 5 (M 14ra; P 44vb), "Primum dubitabile <est> de numero dividendium in ipsa divisione decem membra habente, sive de numero praedicamentorum, qui potest sic accipi: incomplexum aut significat substantiam aut accidens, quia aut quod subsistit aut quod contingit. Quod autem contingit substantiae hoc non potest esse nisi tripliciter, scilicet aut intra, aut extra, aut medio modo; et quocumque istorum modorum contingat, semper necesse est habere essentialem respectum ad id cui contingit, scilicet ad substantiam. Contingit autem ex parte substantiae materiae, aut substantiae formae, aut substantiae coniuncti. Quod contingit igitur intra ex parte materiae quantitas est (materia enim omnino numerabilis est), ex parte formae qualitas, ex parte coniuncti relatio—haec enim sunt quae intrinsece substantiae adveniunt. Quod autem contingit extra ex parte materiae ubi, ex parte formae quando, ex parte coniuncti habitus. Quod autem contingit medio modo ex parte materiae passio, ex parte formae actio, ex parte coniuncti positio. His igitur modis se habet quod contingit. Quod subsistit est substantia. Substantia autem, quia est per se ens et principium aliorum, est dispositio ceterorum ad causalitatem;

method of finding the ten categories implies an antireductionist approach to the matter, which was partially dropped in his *De ortu scientiarum* later on, where he seems to consider only substances, quantities, qualities, and perhaps actions and affections to be fully things, and all the other categories to be real aspects (*habitudines*) of the former.⁴⁴

Another important question closely connected with the division into categories is that of which sort of entities fall within the categorial fields: whether simple accidental forms alone (such as *albedo*) or also the concrete accidents to which the abstract accidents give rise when they inhere in substances (such as *album*). Kilwardby, like any other commentator of the thirteenth century, does not directly discuss this problem, but throughout his treatises on the *Logica vetus*, especially in speaking of quantity, quality, and relatives, he seems to admit that both kinds of accidents, abstract forms and concrete entities, fall in the same way into the various categorial fields.⁴⁵ Such a position raises a serious difficulty for the doctrine of the categories (which, regrettably, the Dominican master does not deal with), as it seems to reduce the distinction among the categories, since concrete accidents are entities less distinct one from the other than the abstract accidents (or simple accidental forms), because of the common presence of a substance as substrate of inherence of the forms.

Finally, as far as the relation between being (*ens*) and the ten categories is concerned, Kilwardby argues that, from a metaphysical point of view, being is not a metagenus in relation to the categories, since it does not manifest their essence, nor is it predicated univocally of them. Being is analogous in relation to them. It is a sort of basic metaphysical constituent of everything which is, since it is shared by the items belonging to the ten categories according to different degrees (*secundum prius et posterius*). This fact differentiates analogy from univocity, as univocal things share a certain nature or essences all in the same manner and to the same degree. From a logical point of view, on the contrary, being is equivocal in relation to the ten categories, since logicians do not consider it as common in relation to the categories, because of their differences in participating it.⁴⁶

et ideo remanet indivisa. Sic igitur in universo sunt decem praedicamenta: substantia, quantitas etc. Et patet sufficientia dividendium ex praedicta divisione.”

⁴⁴ Robert Kilwardby, OP, *De ortu scientiarum*, ed. Albert G. Judy, OP (Toronto: 1976), 118–22.

⁴⁵ See, for instance, Kilwardby, *NLPor*, lectio 1 (M 12va; P 43va–b), and lectio 13 (M 32vb; P 59ra).

⁴⁶ Kilwardby, *NLPor*, lectio 5 (M 5rb; P 36vb), “Ad haec ergo dicendum primo quod ens est aequiuocum quantum ad logicum, multipliciter dictum quantum ad primum

Fundamental to Kilwardby's doctrine of the categories seems to be a form of isomorphism among language, thought, and the world. Like many other medieval authors of his times, he appears to be convinced that (1) our thought is directly modeled on reality itself, so that it is able to reproduce reality in its elements, levels, and relations; and (2) by means of its connection to thought, ensured by the act of signifying that turns utterances into a words, the (spoken and written) language is firmly linked to reality, in spite of the conventional nature of its signs.

Universals and Singulars

Among the many kinds of *entia* that Kilwardby admits, perhaps the most important one is that consisting of universal essences.⁴⁷ The topic of universals is among the most disputed in medieval philosophical literature. Textually, any medieval discussion on the problem of universals derives from the well-known passage in the *Isagoge* (1.13–16) where Porphyry raises his famous series of questions, about the ontological status of universals and their relation to individuals: (1) whether genera and species exist in themselves or are nothing but mere concepts; (2) whether, if they have an extramental form of existence, they are corporeal or incorporeal; and (3) whether they exist apart from perceptible objects or in and by virtue of them. On the other hand, from a purely philosophical point of view, all Scholastic theories of universals respond to an implicit semantic question: is there something in the world that corresponds to the common nouns of our language in the same way as individuals correspond to proper names? The answer of realists was affirmative, negative was that of Nominalists; while, within each group, authors disagreed about the peculiar modes of being of universals and the nature of their relation to individuals.

Kilwardby was a moderate realist, and the semantic origin of his view on universals is quite evident. In the second *lectio* of his commentary on the *Isagoge* he states that (1) there are universals in the extramental world (*dicimus quod universalia sunt*) and in the mind as well; (2) they

philosophum. Logicus enim non videt istam unam naturam participatam ab omnibus, secundum tamen prius et posterius, quam videt primus philosophus. Et hoc est eo quod non habet substantialem pertractationem de huiusmodi sicut primus philosophus. Unde ponit ens aequivocum; non sic autem metaphysicus, sed multipliciter dictum, scilicet secundum prius et posterius, quia per prius de substantia, per posterius de aliis. Unde ponit huiusmodi esse medium inter univocum et aequivocum.”

⁴⁷ Kilwardby, *NLP*, lectio 3 (M 13ra; P 44ra–b).

are not corporeal (*corporea*), even though some of them (such as man or animal) are apt to be related to bodies (*corporalia*); and (3) they exist in singulars. According to him, universals (or common natures, or common essences) are the real *significata* of general nouns, such as “man” and “animal.” He conceived of universals as metaphysical entities, somehow existing independently of our minds, which are necessary conditions for our language to be significant. Common nouns would be meaningless if they did not signify something existing in the world and having the peculiar feature of being somehow present in many individual items. In Kilwardby’s view, a general noun gives a name to a certain set of individual items only by way of the essence that it directly signifies, and is common to a certain group of singulars as their own nature. In *Categories* 5, 3b 10–15, the Stagirite claims that primary-substance terms signify a single item (*hoc aliquid* in Latin), whereas secondary-substance terms signify a qualifying (and therefore common or universal) item (*quale quid* in Latin)—even if they seem to signify a single item. In commenting on this passage, Kilwardby identified the secondary substance with the *quale quid* and the primary substance with the *hoc aliquid*, and therefore secondary substances (namely, the universals of the category of substance) with the *significata* of general nouns of that category (such as “man”) and primary substances (namely, the individuals of the category of substance) with the *significata* of individual expressions of that category (such as “this man,” which refers to a single human individual only).⁴⁸ Furthermore, he thought that common nouns of the category of substance, when used predicatively, specified which kind of substance a certain individual substance is.⁴⁹ As a consequence, in his opinion universals and singulars are linked together by a sort of relation of instantiation. In fact, according to him (1) individual substances are unique physical entities, located at a particular place in space and time, and universal substances are their specific or generic forms—that is, their intelligible natures, immanent in

⁴⁸ Kilwardby, *NLPre* lectio 7 (M 17ra and 18rb–va; P 47ra–b and 48ra–b). See also Albert the Great, *Liber de praedicamentis*, 2.8.181–83.

⁴⁹ Kilwardby, *NLPre*, lectio 6 (M 15va; P 46ra), “Substantiae secundae non recipiunt intentionem substantiae nisi quia declarant quidditates et essentias primarum;” and lectio 7 (M 17ra; P 47rb), “Posset enim aliquis credere ex his secundam substantiam significare tale quale quale significat accidens. Hoc ergo removet distinguendo hoc ipsum quale qualiter conveniet secundis substantiis et qualiter accidentibus, innuendo genera et species significare quale substantiale et qualitates quae sunt formae substantiae (quae sunt quidditates et essentiae primarum), tamen differenter, per hoc quod genus est forma communior, species vero specialior. Et hoc est quod dicit: *Plus autem in genere etc.*”

them, and apt to be common to many different singulars at the same time; and (2) any individual substance can be recognized as a member of a certain natural species by virtue of its conformity to the secondary substance that it instantiates.

With regard to the question whether there are universals in the world or not, the main argument that Kilwardby produces for proving their real existence is that there are universals because knowledge is of universals, and if universals were not real (*in re*), our knowledge of the world would be empty.⁵⁰ To the counterarguments that whatever is is singular or in singulars, and whatever is in singulars is itself singular, he replies that universals are not present in singulars as inhering forms (*formae impressionis*), but as purely related forms (*per relationem tantum*), since those forms which are universal are connected to the matter of the singulars to which they are ascribed as their filling-up principles.⁵¹ To a second possible argument that whatever exists (*omne quod est*) is individual (*unum numero*), Kilwardby, utilizing Boethian terminology, answers that this rule does not apply to universals, as they are not that which is (*id quod est*) but rather that by which something is (*quo est*). For this reason, according to him, no universal *in re* is numerically one in each of its singulars, as the followers of Adam of Balsham thought,⁵² or numerically one in all its individuals. Instead, he thinks of a universal as a pure form having a modal unity based on an agreement in essence for all individuals of the same type.⁵³ This agreement in essence can be considered either according to its concreteness (the existence the universal has in many individual things

⁵⁰ Kilwardby, *NLPor*, lectio 2 (M 2va; P 34rb), "Dubitatur tertio an sint universalia vel non. Quod sint probatur: omnis scientia est de universalibus; nulla scientia est de non ente; igitur universalia sunt."

⁵¹ Kilwardby, *NLPor*, lectio 2 (M 2va; P 34va), "Ad haec igitur dicimus quod universalia sunt. Et ad primum contra obiectum dicendum quod omne ens in singulari tamquam forma impressionis est singulare; et dico formam impressionis quae recipit distensionem secundum distensionem materiae. Universale autem non est per hunc modum in singulari, sed est per relationem tantum, quia forma cui accidit universalitas (universale *mss.*) est relata ad multas materias quas nata est replere, sicut vir unus multas potest replere mulieres."

⁵² On the opinion of the followers of Adam of Balsham see Lorenzo Minio Paluella, "The *Ars disserendi* of Adam of Balsham *Parvipontanus*," *Medieval and Renaissance Studies*, 3 (1954), p. 165.

⁵³ Kilwardby, *NLPor*, lectio 2 (M 2va; P 34va), "Ad aliud dicendum quod minor est falsa, si recte sumatur. Suberit enim haec assumptio: universale est id quod est—et haec est falsa; est enim quo est, et quidditas et essentia et forma individui. Nec est unum numero in quolibet singulari, ut posuerunt Adamitae, sed est unum per modum secundum quem forma per se considerata dicitur una, scilicet per convenientiam vel per simplicitatem suae essentiae."

at once) or according to its abstract being (as a construct of our mind). Taken in the first way, the universal form, despite its essential unity, has an existence that differs according to the different matter of the numerically distinct individuals, like the many images of one thing in the fragments of a splintered mirror.⁵⁴ Taken in the second way, the form most properly has the status of a universal, that is, something common shared as a whole by a multiplicity of singular items.⁵⁵ Therefore, Kilwardby's position on universals is substantially the same as that of the thirteenth-century moderate realists, such as Albert the Great, Thomas Aquinas, and Giles of Rome. They claimed that universals are threefold: (1) *ante rem*, or ideal universals, that is the ideas in God, archetypes of all that there is; (2) *in re*, or formal universals, that is the common natures shared by individual things; and (3) *post rem*, or intentional universals, that is mental signs by which we refer to the universals *in re*. Moreover, they were convinced that common natures really have the property of being universal by themselves. More precisely, like Avicenna, they believed that, properly speaking, common natures *qua* such are prior, and so "indifferent," to any division into universals and individuals. However, universality is as it were their inseparable characteristic.⁵⁶ Kilwardby recognizes that common essences have a threefold manner of existence (in the mind of God, in singular items, and in our minds), but he does not seem to take into consideration Avicenna's suggestion about the indifference to universality and particularity proper to the common nature (or essence). He thinks that the universals *in re* are material forms which need the matter proper to singulars for existing, while the universals *in intellectu* are abstract forms which totally depend on our mind for their being. He denies that universals exist in our minds only, since the essences of singular substances are substances, and if they exist in our minds only, they would be accidents of our minds, and so some substances would be accidents in relation to something else—a conclusion clearly unacceptable.⁵⁷

⁵⁴ Kilwardby, *NLPor*, lectio 5 (M 5rb; P 37ra), "Et exemplariter potest videri qualiter ipsa species numeratur in ipsis individuis: sicut enim videtur obiectum in speculo integro unam facere formam vel similitudinem, si autem frangatur speculum multiplicatur illa forma in alias formas per multiplicationem fractionis, sic et de ipsa specie videmus quod, cum sit una forma et essentia completa in se, numeratur tamen in materialibus sive in particularibus."

⁵⁵ Kilwardby, *NLPor*, lectio 5 (M 5rb; P 37ra).

⁵⁶ On medieval Realism see Alessandro D. Conti, "Realism," in *The Cambridge History of Medieval Philosophy*, ed. Robert C. Pasnau (Cambridge: 2010), 2:647–60.

⁵⁷ Kilwardby, *NLPor*, lectio 2 (M 2vb; P 34va), "Universale in substantiis est substantia; in genere accidentis accidens. Et est universale ens per se, non tamen terminatum locis

From what Kilwardby says on these topics it emerges that the crucial question of his approach to the problem of universals was not the first one listed by Porphyry (that of the status of the universals), as it was for Boethius, but the question of their relation with singulars. Agreeing with Aristotle (*Categories* 5, 2a35–2b6), Kilwardby assumes that, if primary substances did not exist, it would be impossible for anything else to exist, as everything else depends on them for its own being.⁵⁸ As a consequence, within his own philosophical system the question of the status of universals became the question of their relation to individual substances. In fact, according to Kilwardby, universals are not self-subsistent entities, but exist only because of their relation to individual items, as universals have no being outside the being of their instantiations. Hence, Kilwardby maintains that universals could be said to be everlasting because of the succession of their individuals, not because of a peculiar kind of being of their own.⁵⁹ Thus, following what Aristotle affirms in the third (1b10–15)

et superficiebus propriis, ut singulare, et etiam est ens in aliquo, sed non ut ens in aliquo erat ratio accidentis. Intelligendum etiam quod universale consideratum secundum sui naturam et sui essentiam est substantia et quidditas individui, ut ostenditur in VII *Philosophiae Primae*; consideratum quidem secundum esse et modum qui sequitur ipsum ex esse suo in intellectu, sic non est substantia, ut similiter ostenditur in septimo. Et sunt hi duo modi considerationis oppositi: forma enim, hoc quod est in sua natura vel essentia, materialis est, et ex actu materiae consistit, ut dicit Aristoteles et Averroes quod quidditates rerum non sunt sine individuis. Forma vero in modo abstractionis esse et actum sumit ab intellectu; hic autem modus est formae non ut est in materia. Dubitatur quarto: supposito quod universalis sint, quaeritur utrum sint res an non sint res, sed solum in intellectu, ut posuit Plato. . . . Ad haec igitur notandum quod universale duplex habet esse, esse in anima et esse in rebus extra. Universalis igitur sunt res (sunt enim quidditates et essentiae rerum, ut patet in VII *Metaphysicae*), nec sunt universalis ideae solum in mente divina, ut posuit Plato, quamvis sint cause formales et exemplaria universalium. Nec probant prius positae rationes quod universalis sint *solum* in intellectu, sed quod sint in intellectu. Et hoc verum est secundum esse quod habent in anima, scilicet secundum quod habent esse per abstractionem a singularibus, et sunt in modo abstractionis, et sumunt esse et actum ab intellectu. Et quod non habeant esse solum in anima accipitur ex hoc quod, si universale, id quod esset, esset in anima; universale autem, id quod est, est substantia; in aliquibus accideret substantiam secundum veritatem esse in anima; et cum non posset esse in ipsa sicut potentia aut habitus, ut patet per rationes potentiae et habitus in II *Ethicorum*, accideret quod esset in ipsa sicut passio et accidens; et ita accideret quod substantia secundum veritatem esset accidens respectu alicuius—quod est impossibile.” See also Albert the Great, *De quinque universalibus*, tract. *de universalibus in communi*, chaps. 3 and 5, ed. Col., 1.1A:24–25 and 31–32.

⁵⁸ Kilwardby, *NLP*, lectio 6 (M 14vb; P 45va). See also Albert the Great, *Liber de predicationibus*, 2.4.172–74.

⁵⁹ Kilwardby, *NLP*, lectio 5 (M 5ra; P 36va); and esp. *NLP*, lectio 18 (M 41ra; P 63vb), “Sed intellige quod universale est prius secundum naturam intendentem et operantem uno modo, quia non solum intendit natura ut fit universale, sed ut salvetur in esse in continua existente generatione in singularibus; et propter hoc non quiescit natura a motu

and fifth (2b2–3) chapters of the *Categories*, Kilwardby holds that (1) universals can directly receive only the predications of those categorial items more common than themselves (that is, those items put on a higher level in the *linea praedicamentalis*); and (2) accidents that inhere in a primary substance can be predicated of the secondary substances that the primary substance instantiates only indirectly, through and in virtue of that primary substance.⁶⁰

His position on the question of the relationship between universals and individuals would demand a soft attitude towards the problem of defining and classifying the types of identity and distinction. As is evident, within his system, universals *in re* have to be seen at the same time as partially identical—to and partially different—from their own singulars. Kilwardby is not aware of this consequence entailed by his approach, and therefore he fails to develop a suitable theory on this topic. In dealing with the relationship between species and *proprium*, however, he implicitly revises the common notions of identity and distinction, since he describes species and *proprium* as two items that share the same reality and differ because of their essences⁶¹—but this was not specifically intended to offer an answer to the problem of the relationship between universals and individuals. Neither does he consider the question of the origin of universals, nor does he expand on their relation to language, although (1) he distinguishes a logical consideration of universals, treating them in their connection with language as *communes rationes* or *intentiones* of what exists, from a metaphysical consideration, abstracting from language and treating them in their relation to being itself; and (2) he finds the unity of this study in the intentional rather than in the real order.⁶²

Individuation

Regarding universals and individuals, Kilwardby adopts a moderate Realism in which the Platonist view proper to Augustine is preserved for the

existente universali, sed est ei motus continuus ut salvetur universale. Sic igitur est prius universale secundum naturam intendentem.”

⁶⁰ Kilwardby, *NLPor*, lectio 4 (M 13va–b; P 44va). See also Albert the Great, *Liber de praedicamentis*, 1.6.161–62; 2.4.172–73.

⁶¹ Kilwardby, *NLPor*, lectio 9 (M 8rb; P 39va), “Ad primum dicendum quod est universale, quia convenit ei ratio universalis, scilicet praedicari de pluribus. Et dicimus quod licet species et proprium sint idem secundum numerum, illa identitas tamen non est propter convenientiam speciei cum proprio in quantum species et in quantum proprium, sed propter convenientiam speciei cum subiecto deferente proprietatem illam a qua dicitur proprium; et sic patet quod alia est essentia speciei et proprii.”

⁶² Kilwardby, *NLPor*, *prooemium* (M 1rb–va; P 33rb–va).

divine ideas (exemplars of universals in the created order) and individuals are conceived of as their instantiations. This reconciliation of Augustine (as the father of the theory of the divine ideas) and Aristotle includes a continuing existence of the likeness of the universal in the divine mind even when all the instantiating individuals have perished. However, in addition to this primary existence in the divine mind, universals have a substantial reality in their individuals, and an abstract kind of existence as mental images of the common essences in our intellects. Since real universals rather than singulars properly correspond to the ideas in the divine mind, how can individuals be obtained from such forms? Kilwardby answers this question in the fullest treatment of individuation given in his course on the *Logica vetus*, which is set in the sixth lectio of the *Notulae super librum Porphyrii*, in commenting on Porphyry's claim (*Isagoge*, 7.22–24) that an individual is properly constituted by its unique collection of accidents. For Kilwardby it is the material aspect of substance that is the cause of individuation, so that the individual is constituted by its substantial components—form and matter—rather than by its accidental properties, as Porphyry had maintained. As for Boethius's assemblage of seven accidents (country, kinship, form, figure, place, time, and naming) as the cause of individuation, Kilwardby argues that it is connected with naming by proper names, and not with the individuality of substance. Individuals evolve from common forms, and thus they are connected with naming by means of common nouns instead of proper names. Therefore, he thinks that Boethius's affirmations cannot be utilized by the supporters of the thesis of individuation by accidents. As a matter of fact, accidents cannot in any way be the cause of individuation, because in this case primary substances would derive their own being from accidents—an absurd consequence. Nor can the form alone be the cause of individuation, since it is what is shared by many substances of the same type.⁶³

⁶³ Kilwardby, *NLPor*, lectio 6 (M 5vb; P 37rb–va), “Sequitur quaerere si individuum constat ex proprietatibus, quia, si hoc, erit substantia ex non substantiis—quod est impossibile. Quaeritur etiam quae sit causa individuationis. Ad quod dicendum quod materia est causa individuationis, nec potest accidens esse causa. Accidens enim per se non, cum sit adaequatum universali in quantum est huiusmodi, et nihil tale est a quo particulare est particulare. Nec accidens non per se, cum sit posterius individuo, consequens ipsum; et illud quod est posterius non est causa prioris. Neque potest substantiae forma esse huiusmodi causa; forma enim quaelibet de se nata est esse in multis et de multis, et sic non erit a quo particulare est particulare. Solum igitur substantiae materia erit huiusmodi causa—quod patet sic: abstractis omnibus causis communitatis et convenientiae, quod solum remanet est causa individuationis; sed sic omnibus abstractis, quod solum remanet est materia; igitur materia est causa individuationis. Facit enim formam esse hic et nunc,

The English master seems to assume that the process of individuation operates at two different levels by means of the same principle: it multiplies a universal form and constitutes individuals by means of the matter. In fact, matter is what gives rise to singular substances and differentiates them from secondary substances (or common essences).⁶⁴

In his later questions on the *Sentences*, Kilwardby claims that the intrinsic causes of individuation are form and matter. Form plays the active role in designating matter as that of this or that individual and consequently designating itself as the form of the individual; matter plays the passive role of being designated as the individual's matter by receiving the form.⁶⁵ Between the *Isagoge* commentary and the questions on the *Sentences*, Kilwardby's thought underwent a development in which more stress is placed on the role of form in individuation, and in which the aspects under which matter and form are to be considered as belonging to a particular individual are specified more exactly. Even in Kilwardby's later treatment of individuation, however, there is still no preoccupation

et sic ipsam individuat. Si loquamur igitur de individuatione secundum quod aggregatio formae cum materia facit individuum, et hoc aliquid, et primam substantiam, sic non constat ex proprietatibus; immo est substantia ex substantiis. Isto tamen modo loquendo non absolvitur a proprietatibus secundum actum subsistendi, sed consequuntur septem accidentia, secundum Boethium: patria, parentela, forma, figura, locus, tempus et propria nominatio. Nec sufficeret unum accidentium, eo quod accidens, in quocumque genere fuerit, est commune multis substantiis; et ideo necesse fuit accidentium collectio. Et sic habet individuum nomen, scilicet nomen proprium, a quo nominationem habet, et non esse. Non enim habet nomen quod nomet suam substantiam individualiter; tale enim nomen esset commune, cum omnis huiusmodi nominatio sit a forma, et quaelibet forma sit communis. Ex hoc etiam est quod individuum non praedicatur de aliquo; quia enim est particulare, addit materiam supra universale, et materia de nullo praedicatur, nec est nominata, secundum Aristotelem. Ideo etiam particulare nec nominatur nec praedicatur."

⁶⁴ Kilwardby, *NLPor*, lectio 9 (M 8rb; P 39va), "Quaeritur consequenter quare non est aliqua natura propria consequens genus, aut differentiam, aut individuum, sicut speciem. Et solvitur quia genus et differentia non habent esse completum, sed species. Individuum etiam nihil addit supra speciem nisi materiam; materiam autem non consequitur aliqua natura propria; quare etc.;" and *Notulae super librum Praedicamentorum*, lectio 7 (M 18rb; P 48ra), "Possumus etiam dicere quod, si loquamur de individuo quantum ad hoc quod materia est principium individuationis quae facit formam esse hic et nunc, sic nullo modo praedicatur; sic enim non habet nomen. Et est eius essentia et essentia cuiuslibet praedicabilis alia et alia, ut <patet> in VII *Metaphysicae*. Si autem loquamur quantum ad consequentia (*lectio dubia*) individuationem, ut sint septem accidentia de quibus loquitur Boethius, sic habet nomen, a quo nominationem habet, et non esse. Et sic aliquo modo praedicatur. Et hoc vult Porphyrius."

⁶⁵ Robert Kilwardby, *Quaestiones in librum I Sententiarum*, q.33, "de personis in deitate primo quaeritur an ibi sit persona," and q.35, "an in divinis sit personarum Trinitas," ed. Johannes Schneider (Munich: 1986), 74–76 and 86–88; *Quaestiones in librum II Sententiarum*, q.17, "primo quaeritur de causa individuationis et quae est proprietas personalis discretionis," ed. Gerhard Leibold (Munich: 1992), 61–73.

with quantity and dimensions, which already feature in Thomas Aquinas's *Sentences* commentary. Nor is this the only important difference between Kilwardby's ontology of substance and that of Aquinas. It is clear even from an early work such as the commentary on the *Isagoge* that he holds that there is some kind of materiality in angelic intelligences, thus adopting the doctrine of universal hylomorphism that he defends in his *Epistulae*. In speaking of the *proprium* of angelic intelligences he affirms that, because of the very small difference of their matter, their *proprium* is the same as that of substance, that is, being capable of admitting contrary properties while remaining (numerically one and) the same.⁶⁶ Another important difference lies in the notion of matter. According to Aquinas, who follows Aristotle, prime matter is pure potentiality; Kilwardby, following Augustine, claims on the contrary that there are active powers in matter. Matter "strives" for form, and such a powerful appetite is an action, and there is no action without a form performing it. Therefore, active powers, or seminal reasons, must be present in matter as a kind of germinal existence of fully actualized creatures, containing the principles of their subsequent development. As a further consequence of the principle that there is no action without a form that performs it, there must be a plurality of substantial forms in a composite substance. Thus Kilwardby denies the unity of the substantial form and admits that even the human soul is not simple but is compounded of essentially different parts. On the other hand, he recognizes only a conceptual distinction between the rational soul and its faculties.

The Main Accidental Forms: Quantity, Quality, and Relation

Following Aristotle, Kilwardby conceives primary substance as the ultimate substrate of existence in relation to anything else. Therefore, in order to safeguard the reality of accidents as well as their distinction from substance and from each other, and to restate their dependence on sub-

⁶⁶ Kilwardby, *NLPor*, lectio 9 (M 8rb–va; P 39vb), "Ex iam dictis patet quod solummodo habentium esse in materia erit proprium, unde intrinsecae species, quae solum habebunt materiam intelligibilem, non habebunt proprium. Patet etiam quod plura possunt esse propria unius speciei, et non nisi unica diffinitio. Diffinitio enim est per formam ultimam, quae unius rei unica est. Et quanto rei materia plures habet diuersitates, tanto plura propria habebit: unde homo plura propria habebit, brutum pauciora, supracaelestia adhuc pauciora. Intelligentiae vero propter minimam diuersitatem suae materiae unicum habebunt proprium, scilicet esse susceptibile contrariorum. Sunt enim passibilia et ad bonum et ad malum, quantum in ipsis est; sunt tamen propter voluntatem Creatoris in bono confirmatae."

stance, he had to think of them in terms of forms of the substance itself, and so as something existentially incomplete. Yet, Kilwardby shows a two-fold consideration of accidents as abstract forms and as concrete entities, and thinks of some accidents, such as quantity, in terms of a composition of matter and form when considered by themselves. In general, he assumes that concrete accidents are aggregates made up by a substance and an inhering accidental form, the former being the substrate of existence for the latter,⁶⁷ but this does not seem to entail any remarkable difference between abstract and concrete accidents in relation to their nature and categorial status.

The main category after substance is that of quantity, since it orders the material parts of primary substances. Kilwardby deals with quantity in lectiones 8 and 9 of his commentary on the *Praedicamenta*. In his opinion, among the nine genera of accidents, quantity comes first, but not because it is the basis of all further accidents, with quantity ordering material substances for receiving quality and the other accidental forms (as the realists of the second half of the thirteenth century were to think). Kilwardby acknowledges that the existence of quantity always implies that of substance, but he also believes that the actual existence of extended parts in a substance necessarily implies the presence of the general form of quantity in it.⁶⁸ According to him, quantity comes first because the principle of discrete quantity, that is number, can be applied to anything in the world: to universal and singular categorial items, to substances and accidents, to spiritual and corporeal substances.⁶⁹ As a consequence, he supports the

⁶⁷ Kilwardby, *NLPre*, lectio 1 (M 12va; P 43va), “Sequitur quaestio utrum possibilis sit denominatio in genere substantiae sicut in genere accidentis. Et apparet quod sic, per hoc quod denominativum significat aggregatum ex materia et forma, principale formam solam; istud autem possibile est in substantiae genere (verbi gratia, ‘homo,’ ‘humanitas’); possibilis igitur erit ibi denominatio. Contra hoc est quod denominativum significat formam ut est ens in alio, principale autem ut est per se ens; et istud solum est possibile in accidentibus; non erit igitur possibilis denominatio in substantiis. Quod concedimus. Solum enim est possibilis differentia denominativa in accidentibus, et forma principalis a qua denominatur subiectum. Et causa est quia talis forma est forma consequens subiectum constitutum in esse; forma autem substantialis non sic consequitur, sed est in constitutione substantiae; sed accidentalis solummodo consequitur;” and lectio 7 (M 18va; P 48rb).

⁶⁸ Kilwardby, *NLPre*, lectio 8 (M 22rb; P 51ra).

⁶⁹ Kilwardby, *NLPre*, lectio 8 (M 20rb; P 49va), “Sed adhuc arguunt quidam qualitatem esse priorem quantitate, tum quia differentiae substantiales sunt priores quantitate, cum sint de essentia substantiae, differentia autem erat qualitas; tum quia qualitas est dispositio universalior—quod arguunt ex hoc quod quantitas reperitur solum in substantiis corporeis, qualitas autem in substantiis quae sunt corporeae et non sunt corporeae. Et primum solvitur per hoc quod differentia est qualitas secundum modum, substantia

thesis of the priority of discrete (numbers and speech) over continuous quantities (lines, surfaces, solids, time, and place).⁷⁰

The highest genus of the category of quantity is a form, but the seven species that Aristotle lists clearly are not. Kilwardby tries to meet this difficulty by analyzing the seven species of quantity in terms of a union of matter and form. For instance, in the case of continuous quantities he distinguishes between a formal principle—the common boundary at which the parts of the continuous quantity join, and a material substrate, that is, the parts themselves of the continuous quantity at issue. In the case of the line, this common boundary is the point; in the case of the plane, it is the line; in the case of a solid, either a line or a plane.⁷¹

Immediately after quantity, comes quality. In the first lines of the eighth chapter of the *Categories* (8a25–26) Aristotle observes that quality is among those things that are spoken of in many ways—an affirmation that seems to imply that quality is not a *summum genus*, as, according to Aristotle himself, what is spoken of in many ways always gathers in several different natures. Furthermore, he defines quality as that in virtue of which substances are said to be qualified (8a25). Finally, the Stagirite speaks of four kinds of quality (habits and dispositions, natural capacities or incapacities to do or suffer something, affective qualities and affections, figures and shapes), without explaining how they are related to one another and to the highest genus of the category. So Aristotle's treatment of the quality raises the problem of the internal structure of the category.

As to this question, Kilwardby thinks that quality is not spoken of in many ways purely equivocally, nor that the term “quality” could have several different (but connected) meanings.⁷² On the contrary, he takes for granted that it has a unique primary form (*forma una prima*), common to all the items and species belonging to the category, and therefore that

autem secundum veritatem et esse—ut supra docuimus. Secundum autem solvitur per interemptionem huiusmodi, scilicet quantitas reperitur solum in substantiis corporeis, quia quantitas non determinatur ad substantias quae sunt corporea nisi ratione continui; ratione autem discreti reperitur universaliter in substantiis quae sunt corporea et non corporea, et omnino quodlibet genus rerum est materia respectu numeri, et non sic est de qualitate. Remanet igitur quantitas universalior dispositio, et sic natura prior, secundum quod asserit Boethius quod quaecumque a primaeva rerum natura sunt constituta ratione numerorum videntur esse formata.”

⁷⁰ Kilwardby, *NLPre*, lectio 8 (M 20va; P 49vb).

⁷¹ Kilwardby, *NLPre*, lectio 8 (M 21vb; P 50vb).

⁷² Kilwardby, *NLPre*, lectio 13 (M 30va; P 57rb).

quality is a unitary genus.⁷³ Moreover, in order to explain how the four kinds of qualities stem from the supreme genus of the category, following Averroes,⁷⁴ he inserts some intermediates between the highest genus and some of the four species, claiming that quality is first of all divided into quality that concerns change (*circa motum*) and affects a mobile reality (*in re mobili*) and quality that does not concern change and affects immobile realities (*in rebus quae praecedunt natura et motum*). Qualities that do not concern change are figures and shapes, that is, those qualities that inhere in substances because of the mutual position of their quantitative parts. In turn, qualities that concern change are divided into qualities that are a principle of change (*principium motus*) and qualities that are the final term of a change (*terminus motus*). The qualities that are the final term of a change are affective qualities and affections. In turn, qualities that are principles of change are divided into qualities which are principles (of change) rooted in the substance itself, such as natural capacities and incapacities to do or suffer something, which are inborn qualities; and qualities that are principles (of change) deriving from the activity, both physical and, if it is the case, intellectual, of the substance in which they inhere, such as habits and dispositions.⁷⁵

Aristotle's treatment of relatives in the *Categories* (and in the *Metaphysics*) is opaque and incomplete.⁷⁶ Because of this, in Late Antiquity

⁷³ Kilwardby, *NLPre*, lectio 13 (M 30va–b; P 57rb), “Sequitur si possit esse unum genus. Et quia unius generis est una causa; qualitatis autem non est una causa; ergo non erit qualitas genus unum. Cuiusdam enim principium est natura, cuiusdam autem voluntas; haec autem sunt esse differentes, nec reductae ad aliquam causam unam. Sed istud solvitur per hoc quod differentia in causa efficiente non est causa differentiae in genere. Quod autem diximus: ‘naturam et voluntatem’ etc., sic determinamus differentia in causa efficiente tantum. Primum patet ex his quae dicit Aristoteles in VII *Metaphysicae*; possibile enim est unum et idem esse ex diversis principiis efficientibus, videlicet arte et natura, sicut se habet sanitas, quae exit in esse secundum artem et naturam, et non sufficit natura per se, et ideo additur ars naturam adiuvens, utens ea tamquam principio. Diversitas autem in forma prima est causa diversitatis in genere; et ideo, quia qualitates, habentes naturam <qua> principium primum et voluntatem <qua> principium coadiuvans, communicant in forma una prima, et communicant in genere uno. Et sic manet qualitas genus unum.”

⁷⁴ Averroes, In Aristotelis *Metaphysicorum libros commentarius*, bk. 5, chap. 14, t.c. 19, in *Aristotelis opera omnia cum Averrois Cordubensis commentariis* (Venice: 1550–53), 8:126v G–127r E.

⁷⁵ Kilwardby, *NLPre*, lectio 13 (M 32rb–va; P 58va–b).

⁷⁶ For example, (1) Aristotle does not have any notion of relation, as he speaks of relatives and conceives them as those entities which nonabsolute terms of our language refer to; (2) he does not discuss the question of the reality of relatives; (3) he does not clarify the connection between the two definitions of relatives he proposes in the seventh chapter of the *Categories*; (4) he does not give any effective criterion for distinguishing relatives from some items belonging to other categories; see John L. Ackrill, *Aristotle's Categories*

and in the Middle Ages many authors tried to reformulate the doctrine of relatives.⁷⁷ Kilwardby's attempt (in lectiones 10–12 of his commentary on the *Categories*) is noteworthy, as he does seem to be one of the first medieval authors able to work out a concept of relation (*relatio*) conceived of as that accidental form which is the very cause of the existence and nature of relatives (*relativa* or *ad aliqui*). In Kilwardby's view, relatives are the aggregates formed by a substance and a relation. Accordingly, the relationship between relation and relatives is, for him, similar to the ones between quantity and what is quantified (*quantum*), and quality and what is qualified (*quale*). Unlike modern logicians, however, Kilwardby does not seem to think of a relation as a two-place predicate. Like Boethius, he seems rather to consider it as a sort of monadic function. He claims that, like the other accidental forms, relation inheres in a single individual substance only and entails a reference to another one without inhering in it.⁷⁸ Furthermore, he distinguishes between real and linguistic relatives

and De interpretation (Oxford: 1963), 98–103; Julia Annas, *Aristotle's Metaphysics: Books M and N* (Oxford: 1976), 198.

⁷⁷ The most successful and interesting attempt was that of the Neoplatonic commentators of the sixth century, such as Olympiodorus and Simplicius. Unlike Aristotle, they were able to elaborate a notion of relation (*schesis*) almost equivalent to our modern notion of two-place predicates, as they conceived of relations as abstract forms whose distinctive feature was the property of being present-in and joining two different substances at once; on the Neoplatonic theory of relation see Françoise Caujolle-Zaslavsky, "Les relatifs dans les *Categories*," in *Concepts et catégories dans la pensée antique*, ed. Pierre Aubenque (Paris: 1980), 167–95; Alessandro D. Conti, "La teoria della relazione nei commentatori neoplatonici delle *Categorie* di Aristotele," *Rivista critica di storia della filosofia* 38 (1983): 259–83. This view was rejected by Latin authors since Boethius, who thought that relation (*respectus* or *habitus*) is an accidental form which is-in a substance (its substrate of inherence) and simply entails a reference to another, without inhering in it. For a short analysis of Boethius's theory of *ad aliquid*, see Alessandro D. Conti, "La teoria degli *ad aliquid* di Boezio: Osservazioni sulla terminologia," in *Atti del Congresso Internazionale di Storia della Logica: San Gimignano, 4–8 dicembre 1982*, ed. V.M. Abrusci, Ettore Casari, and Massimo Mugnai (Bologna: 1983), 247–62.

⁷⁸ Kilwardby, *NLP*, lectio 10 (M 26ra–b; P 53vb–54ra), "Postea quaeritur propter quid datur diffinitio per modum multitudinis et non unius. Et causa huius est quia intendit significare duplicem esse habitudinem quorumlibet dicibilium ad aliquid et multiplicem divisionem. Verbi gratia, pater dicitur ad filium et filius ad patrem. Et ut hoc significet, dicitur *dicuntur* et non dicit 'sunt'; diffinit enim quae sunt ad aliquid, sive sint ad aliquid secundum dictionem, sive secundum id quod sunt. Dicit autem convenienter *talia* et non 'ea,' quia substantia non dicitur ad aliquid nec etiam accidens, sed subiectum sub accidente. Et hoc intendens, dicit *talia*; tale enim significat aggregatum ex subiecto et accidente quod est relatio. Bene etiam dicit *quaecumque* et non 'qualiacumque,' ut sic significet quod non solum referatur qualitas sed etiam res sub qualitate existens. Dicit etiam *hoc ipsum quod sunt* et non 'ea ipsa quae sunt,' ut sic significet divisim de utraque extremitate ea dici ad aliquid, ut dominus ad servum et servus ad dominum. Quod ergo dicit *hoc* respicit subiectum cui accidit relatio. Quod addit *ipsum* respicit relationem quae subiecto accidit

(*ad aliquid dividitur per dici ad aliquid et esse ad aliquid*). Real relatives are those that fulfil the second definition given by Aristotle in the *Categories* (8a 31–32); while linguistic relatives are those items which satisfy the first definition (6a 36–37), and so they are connected only by a mutual reference of the nouns which signify them.⁷⁹ Finally, even though he does not openly speak of a *fundamentum relationis*, nor discuss the problem of the distinction between the *fundamentum relationis* and the reality of the *ad aliquid*, he somehow admits that not all relations directly inhere in primary substances, since he affirms that some relations are grounded on quantity and some others on quality.⁸⁰

Concluding Remarks

If the foregoing analyses are correct, then Robert Kilwardby's world, as it appears to be from his course of the *Logica vetus*, is not an Aristotelian world, nor an Augustinian world, but something in between, like Boethius's world. It consists of *things*, such as men, horses, and stones (which are aggregates made up of a primary substance, a common essence, and a host of accidental forms existing in the primary substance and by it), and of situations (that something of a certain nature exists, or that something, which exists, is such and such).⁸¹ Universality is the main characteristic of each kind of form—substantial essences and accidents. It is an aspect of common natures completely independent of our mind, and dependent on the existence of individual substances. According to this interpretative scheme, the relationship between common natures and singulars is ultimately grounded on individuation, since no instantiation is possible without individuation. Individuation is fundamental to both universals and singulars, and to both substances and accidents. Universals and singulars are distinct on the level of form, but they are linked together on

secundum quam dicitur ad aliquid. Bene etiam dicit *aliorum vel quomodolibet aliter*, sic innuens divisionem relativorum, et quae magis vere dicuntur ad aliquid et quae minus. Ordinatur etiam haec diffinitio hoc modo, *talia dicuntur ad aliquid quaecumque hoc ipsum quod sunt*, id est: secundum esse, *dicuntur aliorum vel quaecumque dicuntur quomodolibet aliter*; et sic significat quod secundum differentem habitudinem casualem differt modus dicendi in eis quae dicuntur ad aliquid."

⁷⁹ Kilwardby, *NLPre*, lectio 10 (M 26rb–va; P 54va).

⁸⁰ Kilwardby, *NLPre*, lectio 10 (M 25va and 26va; P 53va and 54va).

⁸¹ I do not mention here negative situations (which, within his system, should be those real truths that make negative sentences true) since there is some doubt as to whether Kilwardby admits something like a (true) negative situation.

the level of being and full existence simply by individuation. Accidental forms, which are universal by themselves, become singular by their inhering in primary substances. And inhering is the only possible mode of being for them. So the incomplete kind of being peculiar to any type of form presupposes individual substances. In their turn, individuals can exist as (meta-)physical entities, located at a particular place in space and time, and can be identified as tokens of a given type by virtue of their conformity to the common nature only by means of the process of individuation through which common natures produce them. Individuation is therefore the main ontological process within Kilwardby's system, the cornerstone of his ontology, since primary substances, which are the "products" of the process of individuation, are the substrate of existence of any other kinds of categorial being. So it is obvious that Kilwardby holds that primary substances are the necessary condition of existence for any other items of the world. Nothing could exist if primary substances stopped existing. From the viewpoint of being and full existence, accidents and secondary substances always presuppose primary substances. However, it is not possible to find in the world a primary substance that does not belong to a certain species, and without any accident inhering in it. To be a primary substance is to be an independent singular existing item, whereas to be a secondary substance is to be the essence (or common form, or common nature) of a primary substance, and to be an accident is to be a formal aspect or property of a primary substance. Therefore, the distinction between substantial and accidental forms derives from their different relations to primary substances: substantial, universal forms disclose the natures of primary substances; by contrast, those forms that simply affect primary substances without being actually joined to their natures are accidental forms.⁸² This means that matter, which is the cause of individuation, is, within Kilwardby's system, the main principle for the existence of anything, as no form could pass from a state of potential being (proper to what is common) to a state of actual being (proper to what is singular) without matter:⁸³

⁸² Kilwardby, *NLPre*, lectio 6 (M 16rb; P 46vb), "Intelligendum quod secundae substantiae indicant primas indicatione essentiali faciente scientiam; accidentia non sic, sed indicatione accidentali faciente opinionem."

⁸³ Kilwardby, *NLPre*, lectio 8 (M 20rb; P 49va), "Accidens non fit particulare, aut primum, per aliquid quod est de ipso, sed per illud quod est extra, scilicet subiectum. Substantia autem fit particularis per aliquid quod est de sua essentia, id est per materiam."

An accident does not become singular, or primary, because of something coming from inside, but in virtue of something from outside, that is, a <substantial> subject. In turn, a substance becomes singular because of something which belongs to its essence, that is, matter.

APPENDIX I

Commentary on Porphyry's *Isagoge*: List of *dubitationes* and *quaestiones* Present in the Text

Prooemium

- Dubitatur hic in primis an possit esse scientia de universalibus
- Dubitatur secundo an doctrina hic tradita possit esse de integritate logices
- Dubitatur hic tertio an doctrina hic tradita possit esse de consideratione logici
- Dubitatur hic quarto cuius est considerare istas intentiones, nomen, pronomen, participium etc.
- Dubitatur quinto de numero universalium, quare tot et non plura
- Dubitatur sexto et ultimo de unitate huius scientiae

Lectio 1

- Dubitatur hic primo propter quid iste liber habet prooemium et non epilogum
- Dubitatur secundo qualiter sit haec doctrina ad totam logicam necessaria
- Quaeritur tertio qualiter haec doctrina est necessaria ad doctrinam *Praedicamentorum* et ad diffinitionem et ad divisionem et demonstrationem
- Dubitatur quarto postea, cum methodus dialectica stet super haec, genus, proprium etc., et haec methodus traditur in *Topicis*, quare non dat cognitionem horum ad scienciam *Topicorum* sicut ad scienciam *Praedicamentorum*
- Dubitatur quinto qualiter differat consideratio horum in hoc libro et in libro *Topicorum*, et quare non respondet numerus numero, quia hic quinque et ibi quattuor
- Dubitatur sexto, cum subtilis pertractatio magis faciat videre verum quam considerare secundum coniecturas, quare non dat subtilem pertractationem

Lectio 2

- Primum dubitabile est ad quid enumerat hic has quaestiones, cum non vellet eas determinare
- Dubitatur secundo propter quid tantum movet has quaestiones de generibus et speciebus, cum universaliter sint hae quaestiones de omnibus universalibus
- Dubitatur tertio an sint universalia vel non
- Dubitatur quarto: supposito quod universalia sint, quaeritur utrum sint res an non sint res, sed solum in intellectu, ut posuit Plato
- Dubitatur quinto quare in quaerendo tertiam quaestionem non supponit alteram partem secundae quaestionis, sicut inquirendo secundam supponit alteram partem primae
- Dubitatur sexto utrum universalia sint in singularibus vel non

Lectio 3

- Primum dubitabile est, cum differentia, proprium et accidens dicantur multipliciter, propter quid dicit tantummodo quod neque genus neque species dicuntur simpliciter
- Dubitatur secundo propter quid genus quod est principium multitudinis dicitur duobus modis, genus autem quod est multitudo relata non
- Dubitatur tertio qualiter locus possit dici principium generationis, cum non sit materia, nec forma, ut probatur in IV *Pyisicorum*, nec efficiens, cum sit immobilis, nec causa finalis essendi, sed movendi tantum
- Quaeritur autem quare locus dicitur principium generationis et non tempus
- Dubitatur quarto de hac significatione, genus est *cui supponitur species* <2.11>; differentia enim est cui supponitur species; ergo differentia est genus
- Quaeritur quare genus ponitur in obliquitate et species in rectitudine

Lectio 4

- Dubitatur primo, cum essentia uniuscuiusque sit sola, et diffinitio indicat quod quid est per essentiam, erit ergo unius una diffinitio; ergo et generis etc.

- Dubitatur secundo super hoc quod dicit quod genus de specie praedicatur, quia pars non praedicatur de suo toto; genus autem est in ratione partis
- Dubitatur tertio quare dicit *de pluribus differentibus specie* et non “de pluribus speciebus”
- Dubitatur quarto, cum dicat Aristoteles in VII *Topicorum* quod nihil ponitur in diffinitione nisi quod praedicatur in quid; sed differentia ponitur in diffinitione; ergo praedicatur in quid

Lectio 5

- Dubitatur primo sic: species est quae praedicatur de pluribus differentibus numero; et genus est quod sic praedicatur; ergo genus est species
- Dubitatur consequenter, cum accidens non habeat positionem in diffinitione, et hoc ipsum praedicari accidit generi et speciei, qualiter igitur ponitur in earum diffinitione
- Dubitatur consequenter qualiter species praedicetur de pluribus differentibus numero, cum sint species quae salvantur in unico individuo numero, ut phoenix, sol, luna, caelum
- Item, quae differunt, differentia differunt; numerus non est differentia; ergo nulla differunt numero. Quid est igitur dicere individua differre solo numero?
- Item, quaeritur hic propter quid in quolibet genere est unum solum genus primum et plures species
- Dubitatur consequenter super hoc quod dicit: *In unoquoque* etc. <4.15>. Sic enim viginti ad minus genera generalissima apparent esse
- Solet etiam quaerere, cum diffinitur genus vel species, aut diffinitur res aut intentio
- Dubitatur consequenter de hoc ipso ens, et videtur quod sit genus
- Dubitatur etiam consequenter, cum individua sint in praedicamento, quare dicit Plato ea esse relinquenda
- Quaeritur ultimo qualiter *participatione speciei plures* etc. <6.21>

Lectio 6

- Dubitatur primo an possit praedicari maius de minori
- Sequitur quaerere utrum minus praedicatur de maiori
- Sequitur quaerere si par praedicatur de pari
- Sequitur quaerere si idem possit praedicari de eodem

- Sequitur quaerere, si individuum constat ex proprietatibus, quia si hoc, erit substantia ex non substantiis—quod est impossibile. Quaeritur etiam quae sit causa individuationis
- Quaeritur hic ultimo quare dicit speciem non esse “totum individui” sed magis “individui,” scilicet dative et pluraliter et non genitive et singulariter

Lectio 7

- Primum dubitabile: cum sit differentia minus propria sicut magis propria, quare non dicit aliam esse minus propriam.
- Item, cum sit differentia minus communis et magis communis, quare non dat istam divisionem
- Item, quaeritur quare non est differentia ultra magis propria
- Item, dubitatur de differentia propria, cum dicat “huiusmodi accidens esse inseparabile”; accidens autem et differentia se habent secundum oppositionem
- Item, quaeritur hic quare non dividit differentiam separabilem sicut inseparabilem
- Item, quaeritur qualiter potest accidens inseparabile esse differentia per accidens, quia quod inest per accidens contingit inesse rei et non inesse, sed sic non se habet accidens inseparabile
- Quaeritur autem consequenter de prima divisione cuius fuerit
- Item, quaeritur hic propter quid quale correspondens generi sit magis substantia quam quale correspondens speciei et individuo
- Item, quaeritur hic in quo genere sit differentia
- Quaeritur consequenter quare convenientia non est unum universale sicut differentia
- Quaeritur etiam hic qualiter differt Socrates a Platone alteritate, cum differant numero et substantia.
- Quaeritur consequenter utrum non ens differat ab ente

Lectio 8

- Primum dubitabile: quare non nominat has differentias, corporeum, incorporeum, inter per se differentias
- Dubitatur consequenter super hoc quod dicit quod animal est substantia animata sensibilis
- Quaeritur consequenter qualiter species differentia habundat a genere

- Sequitur quaerere quare dicit *potestate* <11.4>, et non “potentia” vel “possibilitate”
- Quaeritur hic quare unius differentiae sunt plures species, sicut irrationalis et rationalis
- Sed est quaestio, si ultima differentia sit tota forma, qualiter ergo erit ipsa pars formae
- Sed iam est quaestio quare differentia tunc non sufficit per se ad diffiniendum speciem
- Sed adhuc est quaestio, cum ultima differentia sit convertibilis cum diffinito et tota substantia illius, qualiter ergo dicit Aristoteles in II *Posteriorum* quod quaelibet pars est in plus et totum in aequae
- Dubitatur tamen super hoc quod praedixit animal rationale esse genus hominis
- Quaeritur hic consequenter sic: differentia est quod praedicatur de pluribus etc.; et accidens est tale; ergo accidens est differentia
- Quaeritur consequenter qualiter genus dicat quid, cum sit hic incompleta essentia

Lectio 9

- Primum dubitabile: propter quid sint tantum quattuor acceptiones proprii et non plures; et propter quid sic ordinantur
- Sequitur quaerere utrum proprium sit universale aliud a specie
- Sequitur quaerere utrum proprium primo consequatur individuum aut speciem
- Quaeritur consequenter quare non est aliqua natura propria consequens genus, aut differentia, aut individuum, sicut speciem
- Quaeritur consequenter cuius fuerit divisio proprii
- Sequitur quaerere quare non diffinivit proprium

Lectio 10

- Primum dubitabile: utrum accidens sit universale
- Quaeritur consequenter qualiter sumatur hic accidens, utrum eo modo quo sumitur in divisione entis cum dicitur: “ens aliud substantia, aliud accidens”
- Quaeritur consequenter de diffinitione accidentis
- Sed iam quaeritur qualiter potest aliquod accidens esse separabile, cum dicat Aristoteles passiones non esse separabiles

- Solet etiam quaeri hic quid sit genus et quid differentia in ultima definitione accidentis data ab Aristotele

Lectio 11

- Primum dubitabile: dicit quod species praedicatur de solis individuis; contra: praedicatur de proprio; non ergo de solis individuis
- Quaeritur deinde quare dicatur accidens per se et primo de individuis et per posterius de speciebus
- Quaeritur consequenter qualiter differentia possit continere speciem, cum species sit quid et differentia quale
- Quaeritur consequenter super hoc quod dicit: “differentia praedicatur ut differentia de differentia”
- Quaeritur consequenter qualiter interemptis omnibus differentiis non interimitur genus, cum illis interemptis interimantur omnia prima; et destructis primis etc.
- Quaeritur consequenter qualiter genera et species dicuntur esse priora his de quibus praedicantur
- Quaeritur consequenter qualiter proprium praedicatur univoce, cum sit accidens, et accidens non praedicatur secundum rationem et nomen, quod est univoce praedicari

Lectio 12

- Primum dubitabile est super hoc quod dicit quod Socrates semper est homo
- Dubitatur hic secundo super hoc quod dicit quod species non coniungitur speciei ut generet novam speciem, cum individuum adiungatur individuo, quod similiter est ens completum in genere entis, sicut species est essentia completa
- Quaeritur consequenter qualiter dicit quod differentia continet et non continetur
- Sequitur quaerere qualiter differentiae sint impermixtae, accidentia tamen permixta
- Consequenter quaeritur propter quid datur differentia speciei et proprii per suas definitiones magis quam aliorum

APPENDIX 2

Commentary on Aristotle's *Categories*: List of *dubitationes* and *quaestiones* Present in the Text

Prooemium

- Dubitatur hic primo an sit scientia de generibus primis
- Cum hoc simul quaeratur hic qualiter intentio primi philosophi stat super haec et qualiter intentio logici
- Quaeritur consequenter utrum haec doctrina tradatur per modum artis vel scientiae, et utrum per modum inventionis vel iudicii

Lectio 1

- Dubitatur quare solum determinat de aequivocis et univocis et denominativis, et non de multivocis aut diversivocis.
- Ad hoc autem habendum <quaeritur> utrum diffiniantur hic nomina aequivoca aut res aequivocatae
- Dubitatur hic consequenter qualiter possit nomen manere unum cum sit ratio differens
- Sed tunc est dubitatio de denominativis, cum sit unum quod subiectum denominet
- Sequitur quaestio de univocis: quaeritur primo qualiter sit nomen unum speciebus oppositis.
- Sequitur quaerere qualiter una natura generis possit salvari in oppositis speciebus
- Sequitur quaerere, cum univocatio in materia sit differens ab univocatione generis et speciei, propter quid hic nihil de univocatione ex parte materiae
- Sequitur quaestio de denominativis. Et quaeritur primo qualiter differunt solo casu
- Quaeritur consequenter cum denominativum fiat principali per mutationem quamdam, utrum fiat per mutationem quae est generatio aut per mutationem quae est motus
- Post haec quaeritur quare logicus aliter appellat denominativa quam grammaticus et opposito modo
- Sequitur quaestio utrum possibilis sit denominatio in genere substantiae sicut in genere accidentis

- Quaeritur etiam hic, cum omne nomen imponitur a forma, quam contingit significare absolute (ut hoc nomen, “album,” imponitur a forma absoluta quam contingit significare per hoc nomen, “albedo”), si hoc nomen etiam, “albedo,” imponatur a forma quam contingit iterum significare absolute; quoniam si sic, erit processus in infinitum—quod est inconueniens

Lectio 2

- Ex praedictis autem pateant solutiones harum quaestionum quae solent hic quaeri: propter quid divisio hic data non ponitur in principio istius libri, cum tria praedeterminata contineantur sub altero dividendum; et etiam propter quid dat hic hanc divisionem, cum magis congruit libro *Perihermeneias*

Lectio 3

- Dubitatur primo de sufficientia huius divisionis hic datae: *Eorum quae sunt* etc. <2.1a20>, ad quam habendam quaeritur a quo sumitur divisio haec
- Sed adhuc dubitatur, cum sint aliae divisiones entis (verbi gratia, in ens potentia et actu, unum, multa etc.), propter quid non tangit de his
- Sed adhuc quaeritur quare non dat has divisiones entis in substantiam et accidens et universale et particulare, sed per harum circumlocutiones, per has differentias, dici-de et esse-in
- Sequitur quaerere quantum ad diffinitionem eius quod est esse in subiecto hic datam. Et primo propter quid determinat per definitionem esse in subiecto, non autem alias differentias
- Deinde quaeritur quare magis separat istum modum ab illo modo essendi-in secundum quem dicitur pars esse in toto quam ab aliis modis essendi-in
- Sequitur quaerere de hoc quod dicit: *impossibile* etc. <2.1a25>
- Item, quaeritur hic qualiter est hoc quod accidens non permutat suum subiectum, cum videmus pomum diu in manu retentum remittere odorem suum, et sic permutare suum subiectum

Lectio 4

- Primum dubitabile de primo principio: cum istud principium secundum substantiam: *Quando alterum* etc. <3.1b10>, determinatur in principio

Priorum, cum dicit Aristoteles: “Quando primum de medio et medium de postremo, necesse est primum dici de postremo,” et similiter est hic, quae ergo est differentia?

- Consequenter quaeritur sic: si *Quando alterum de altero etc.*, ergo, si homo est animal, et animal genus, ergo et homo erit genus; et sic videntur confirmare paralogrammas accidentis
- Quaeritur etiam cum per hoc principium contingit inferre per modum affirmationis de inferiori quod dicitur de superiori, contingit ergo procedere a superiori ad inferius affirmando. Istud ergo principium ponit locum a genere constructivum—quod est inconueniens
- Sequitur quaerere de secundo principio, et sunt multae instantiae apparentes contra huiusmodi: prima de corpore, quod ponitur species substantiae et quantitatis; secunda de scientia, quae ponitur species relationis et qualitatis; tertia de quadrato, quod ponitur differentia numeri et figurae; quarta de rectangulo, quod ponitur differentia trianguli e quadranguli
- Sed adhuc remanet instantia difficilis de hac differentia, rationale, quae est differentia in corporea substantia et incorporea, quae sunt diversa genera et non subalternatim posita
- Ultimo quaeritur qualiter arguit quod quaecumque erunt differentiae praedicati erunt et subiecti.

Lectio 5

- Primum dubitabile est de numero diuidentium in ipsa divisione decem membra habente, sive de numero praedicamentorum
- Sed adhuc remanet dubitatio de huiusmodi divisione, scilicet quare non dividit primo incomplexum in substantiam et accidens, et tunc accidens in quantitatem et qualitatem etc.
- Sed adhuc remanet difficilis quaestio quare plura sunt genera ex parte accidentis et non sic ex parte substantiae
- Sed adhuc remanet dubitatio, cum natura accidentis egrediatur a principiis substantiae, non erit essentia accidentis per se ens praeter essentiam substantiae; nec erit igitur divisio conueniens quae separat esse quantitatis et aliorum ab esse substantiae, quasi unumquodque esset per se ens
- Sed adhuc remanet dubitatio, cuius fuerit haec divisio: *singulum incomplexorum*

Lectio 6

- Primum dubitabile est, cum dicatur substantia multipliciter, scilicet materia et forma, compositum et essentia, quo istorum modorum sumatur hic substantia quae est genus primum
- Dubitatur secundo utrum per prius et magis fuerit substantia substantia quae est prima aut secunda
- Dubitatur tertio quare non determinat substantiam quae est communis ad primam et secundam diffiniendo eam et dividendo in suas species
- Sed hoc consequitur dubitatio: videtur enim quod debuit diffinire tertiam substantiam, quia quae est comparatio speciei ad individua eadem est generis ad species; et talis est comparatio speciei ad individua quod species dicitur secunda substantia in comparatione ad individua; ergo etc.
- Sed dubitatur de sufficientia huius divisionis <in primam et secundam substantiam>
- Dubitatur consequenter cuius fuerit haec divisio: substantia alia prima, alia secunda
- Dubitatur hic consequenter qualiter potest hic esse intentio de substantiis primis, cum statim post species specialissimas occurrat infinitum
- Dubitatur consequenter de diffinitione primae substantiae, quia cum nihil ponat, poterit convenire chimaerae
- Dubitatur consequenter quare non dicat quod primae substantiae sunt ut Socrates et Plato, sed magis sic: *aliquis homo* etc.
- Dubitatur consequenter qualiter secundae substantiae praedicantur nomine et ratione; non enim videtur istud convenire generalissimo, cum non habeat diffinitionem
- Sed iam sequitur quaestio qualiter accidens non praedicatur ratione
- Sequitur ergo quaestio an <accidens> habeat <rationem> an non
- Consequenter quaeritur de secundis substantiis, utrum secunda substantia quae est species per prius recipiat esse substantiae quam illa quae est genus, vel e converso
- Sequitur quaestio an cognoscens speciem de prima substantia magis et verius cognoscat, an cognoscens genus

Lectio 7

- Primum dubitabile est super hoc quod dicit quod nulla substantia est in subiecto

- Dubitatur consequenter super hoc quod ipse attribuit hanc passionem, non esse in subiecto, alteri quam substantiae, ut differentiae; per hoc enim apparet quod differentia non est substantia
- Sequitur dubitatio de partibus substantiae, utrum sint substantiae vel non
- Dubitatur consequenter qualiter univoce praedicari possit esse proprietas substantiae, cum praedicari sit ipsis generibus et speciebus essentielle et non accidentale
- Quaeritur consequenter qualiter a prima substantia nulla fit praedicatio
- Sequitur dubitatio super hoc quod dicit quod substantia prima significat hoc aliquid; substantia autem secunda quale quid
- Sequitur dubitatio propter quid in hoc genere et in quolibet alio determinat Aristoteles de oppositione magis quam de aliqua alia condicione entis, et magis de illa oppositione quae est contrarietas quam de aliis
- Dubitatur igitur super hoc quod dicit quod substantiae nihil est contrarium
- Sequitur quaerere utrum magis et minus sit possibile in substantiis
- Sequitur quaerere de proprio substantiae, quod est *quod cum sit unum et idem* etc. <5,4a10–11>
- Sequitur quaerere an insit soli
- Sequitur quaerere an insit omni
- Sed adhuc est dubitatio an conveniat primae omni; non enim convenit corporibus supracaelestibus
- Sed adhuc dubitatur: ignis enim, cum sit calidus, non est susceptivus frigiditatis, nec corvus albedinis, nec nix nigredinis; qualiter ergo convenit omni?
- Sed dubitatur adhuc de substantiis separatis

Lectio 8

- Primum dubitabile est de ordine: cum quantitas non assistat substantiae nisi positione mediante, quapropter prius de positione
- Sequitur quaerere quare non diffinit quantitatem, cum sic detur cognitio rei in se
- Sed tunc quaeritur propter quid non dividitur per primam et secundam sicut substantia
- Postea quaeritur quare non dividitur quantitas per continuationem et discretionem, cum haec nominent species, sed per continuum et discretum

- Sed adhuc dubitatur de forma divisionis, scilicet quare non dividitur in continuam et discretam, sed hoc modo: *aliud continuum, aliud discretum* <6.4b20>
- Sed adhuc quaeritur, cum substantia, cuius quantitas est mensura, quaedam sit similis naturae in toto et in partibus, quaedam dissimilis (continuum autem est mensura substantiae existentis naturae similis in toto et in partibus), propter quid non est alia differentia quantitatis quae sit mensura substantiae existentis dissimilis naturae in toto et in partibus
- Sequitur quaerere utrum quantitas continua sit natura prior discreta vel e converso
- Sequitur propter quid prius de numero
- Sequitur quaerere in quo genere sit unitas
- Sequitur de numero: cum autem sit determinatus in multitudine magis quam in unitate, quodlibet autem genus rerum est pars entis et unius simpliciter, dubitatur qualiter remanet pars generis
- Postea sequitur de multiplicatione numeri secundum species
- Sequitur de oratione. Et est quaestio utrum sit quantitas vel non
- Sequitur quaerere de quantitativis continuis. Et primo de linea
- Dubitatur postea sic: quantitas erat ut esset mensura substantiae; quod ergo non est mensura substantiae secundum se, nec est habens esse ultimum quantitatis; et haec est linea. Non enim erat aliqua substantia cum dimensione una tantum, quae est longitudo
- Postea sequitur quaerere quid remanet lineae pro materia et quid pro forma
- Sed hic consequitur dubitatio, quia non contingit intelligere aggregatum ex materia et forma sine forma; contingit autem intelligere lineam sine puncto, cum punctus sit privatio lineae; punctus ergo non remanet pro forma respectu ipsius
- Postea quaeritur utrum linea fuerit continuorum vel non
- Sequitur quaerere utrum possit linea fieri ex punctis vel non
- Sed tunc quaeritur propter quid fit numerus ex unitatibus, et non linea ex punctis
- Et sequitur de superficie, utrum sit superficies ex lineis vel non
- Sequitur postea quaerere utrum linea, superficies et corpus simul reperiantur in subiecto uno vel non
- Quaerunt autem aliqui propter quid non est aliqua latitudo sine longitudo et profunditas sine longitudo et latitudine, sicut accidit e converso

- Postea remanet quaerere propter quid ultra dimensiones tres non est dimensio alia
- Sequitur quaerere utrum quantitas habeat causam ex parte materiae vel formae vel substantiae compositae
- Sequitur de tempore. Et dubitatur qualiter remanet pars alicuius generis, cum quodlibet genus sit pars entis et unius simpliciter; tempus autem non est ens simpliciter
- Sequitur quaerere qualiter sit continua quantitas, cum sit numerus motus
- Sequitur postea de hoc quod dicit quod praesens copulatur ad praeteritum et ad futurum
- Sequitur de loco. Et quia locus dicitur esse terminus ultimus continentis immobilis, terminus autem ultimus est superficies, non videbitur locus differre a superficie
- Et praeter hoc quaeritur qualiter particulae loci copulantur ad unum terminum ad quem particulae corporis
- Plura quidem sunt dubitabilia de loco et tempore, sed sunt alterius negotii
- Sed dubitatur, quia positio inest illis quibus et locus inest, et non aliis; partes autem lineae et superficiei non habent locum, quia solum corpus est in loco: non igitur positionem
- Sed dubitatur adhuc de loco, quia si partes eius habent situm, et locum; est enim situm esse in loco esse, ut videtur; igitur erit loci locus, et sic in infinitum
- Sequitur quaerere de quantitibus per accidens
- Sequitur postea quaerere si per se et per accidens accidant in substantiis
- Sequitur postea utrum substantia possit dici quantitas per accidens
- Quaeritur consequenter quare in *V Metaphysicae* ponitur tempus quantitas intentione secunda, hic autem intentione prima
- Sed adhuc quaeritur quare in *V Metaphysicae* ponitur motus esse in genere quantitatis, hic autem non

Lectio 9

- Primum dubitabile: quoniam sic se habet esse in subiecto ad accidentia sicut non esse in subiecto ad substantias, quaeratur propter quid non declaratur esse in subiecto de quantitate tamquam passio vel proprietas sicut non esse in subiecto de substantia
- Sed quaeritur adhuc quare non declaratur aliqua passio de quantitate ut est praedicabilis sicut de substantia prius

- Quaeritur consequenter an quantitati sit aliquid contrarium
- Sed adhuc dubitatur, quia quod corrumpitur, a contrario corrumpitur; et quantitas corrumpitur; igitur a contrario
- Sequitur dubitatio super hoc quod dicit quod magnum et parvum non sunt quantitates sed ad aliquid
- Sequitur quaerere an contrarietas quantitatis sit circa locum
- Sequitur quaerere an habeat magis et minus
- Sequitur quaerere de proprie proprio quantitatis
- Sed quaeritur propter quid non dat passionem aliquam quantitatis respectu contrarietatis quae est circa ipsam quemadmodum de substantia prius
- Postea quaeritur quare non dat passionem unam quantitati quod sit simplex et una, sed duplex, scilicet dici secundum eam aequale vel inaequale
- Sed tunc quaeritur quare magis assignat pro proprio quantitati aequale et inaequale quam proportionale, cum testatur Aristoteles quod melius est assignare pro proprio unum quam duo
- Sed adhuc remanet quaestio quare proportionale quod est genus ad aequale et ad inaequale magis determinatur circa quantitatem quam circa alia genera

Lectio 10

- Primum dubitabile est de ordinatione: quoniam autem qualitas remanet causa eius quod est ad aliquid sicut quantitas (quod patet ex proprietate qualitatis quae est facere simile et dissimile), remanebit qualitas prior relationi sicut causa est prior suo effectui
- Sequitur quaerere an <relatio> sit genus unum
- Postea quaeritur quare non determinat de relatione sed de relativo vel de eo quod est ad aliquid
- Et tunc remanet propter quid dat intentionem unius extremorum, scilicet tantum existentis ex parte finis et non ex parte principii
- Postea quaeritur propter quid datur diffinitio per modum multitudinis et non unius

Lectio 11

- Primum dubitabile est quare oppositio relative non est oppositio quae est contrarietas
- Sequitur de magis et minus: et quia plus et minus dico in quo est plus et minus de contrario; in relativis secundum quod huiusmodi non est possibilis contrarietas; igitur nec plus et minus

- Sed tunc dubitatur qualiter aequale et inaequale recipit magis et minus, cum sit ad aliquid in quantitatem, quae non recipit magis et minus
- Sed adhuc quaeritur quare dicit magis et minus esse in eo quod est inaequale secundum genus et non secundum speciem
- Sed adhuc quaeritur propter quid attribuitur magis et minus eis quae sunt relativa secundum veritatem; contrarietas autem non nisi eis quae sunt relativa secundum modum
- Sequitur de proprie propriis. Et est prima quaestio quare assignat plura proprie propria relativorum
- Dubitatur ergo super primo proprio, quoniam conversio ista non est nisi secundum casualem habitudinem; habitudo autem casualis remanet passio in grammaticis; non erit ergo sermo super hoc in logicis
- Et praeter hoc remanet quare dicitur relativum ad correlativum, ita quod dicitur semper rectus ad obliquum et nunquam rectus ad rectum vel obliquus ad obliquum
- Sequitur postea quare in quibusdam est conversio secundum casum similem, in quibusdam secundum dissimilem
- Sed adhuc quaeritur qualiter omnia relativa dicuntur ad convertentiam, cum imago non videatur dici ad aliquid; licet enim dicatur: “imago Achillis,” non tamen dicitur: “Achilles imaginis”
- Sequitur quaerere de secundo proprio. Et in primis quaeratur quare non dat passionem aliquam in his quae dicuntur ad aliquid in comparisonem ad essentiam
- Quaeritur postea de differentia horum priorum, cum sint coniuncta simul esse et se habere secundum convertentiam
- Sequitur postea qualiter relativa sunt simul natura
- Sequitur postea de scientia et scibile. Et quia scibile determinat potentiam passivam respectu alicuius actus; omnino a potentia ad actum dicitur secundum viam relationis, ut habetur in IX *Metaphysicae*; videtur scibile omnino ad aliquid se habere

Lectio 12

- Primum dubitabile est propter quid dubitat de eo quod non est ad aliquid utrum sit ad aliquid et non dubitavit prius de eo quod non est substantia utrum sit substantia, et de eo quod non est quantitas utrum sit quantitas

- Et sequitur propter quid magis dubitat de substantiis utrum sint ad aliquid quam de quantitativibus vel de qualitativibus, quae magis appropinquant naturae relationis
- Postea sequitur propter quid nullo modo substantia prima dicitur ad aliquid, scilicet neque ista quae significat de toto, neque de parte
- Sequitur postea propter quid substantia secunda quae significat de toto nullo modo dicitur ad aliquid sicut quae significat de parte
- Sequitur <quaerere> an substantia quae est pars sit ad aliquid secundum veritatem
- Sequitur quaerere qualiter diffinitio unius relativorum significat de altero

Lectio 13

- Primum dubitabile est an qualitas sit genus
- Sequitur an possit esse unum genus
- Sequitur de diffinitione qualitatis, et videtur increpanda, quia diffinitur per posterius, quia per quale
- Sequitur de prima specie qualitatis, quae est habitus dispositioque
- Quaeratur ergo de dispositione et habitu qualiter sint una species et qualiter non dicantur per intentionem simplicem sed complexam, cum unius una sit intentio et nomen unum
- Sequitur postea de divisione habitus in scientiam et virtutem; quoniam autem quattuor sunt habitus, scilicet sensus, intellectus, scientia, opinio, quaeritur propter quid ponitur scientia esse species habitus, non autem aliquod aliorum
- Quaeritur postea, cum scientiae opponatur ignorantia et virtuti vitium, propter quid non dicit ignorantiam esse speciem habitus vel vitium
- Et praeter hoc quaeritur, cum cuilibet habitui debeatur aliqua dispositio, propter quid non dat dispositiones quae debentur scientiae et virtuti
- Sequitur de secunda specie qualitatis. Quoniam autem potentia est prius eo quod est ens actu; species autem cuiuslibet generis est pars entis actu; dubitatur qualiter potentia remanet species alicuius generis. Et est amplior dubitatio de impotentia, cum determinet privationem; privationes autem non sunt in genere, vel si sint in genere, secundum Aristotelem non sunt in eodem genere cum habitibus, vel non in eodem genere proximo

- Sed adhuc dubitatur: cum potentia et actus ad aliquid se habeant, ut patet in IX *Metaphysicae*, qualiter ergo est potentia in hoc genere
- Sed adhuc quaeritur quare non dicit potentiam artis esse in genere qualitatis sicut potentiam naturae
- Sequitur postea, cum quaedam potentia sit materiae, quaedam efficientis, quaedam formae, ut forma est efficiens, quaeritur utrum dicatur hic potentia quae est materiae vel efficientis vel formae
- Sequitur postea quare dicit: *Aliud genus* <8.9a14>, et non “Alia species,” et: *Naturalis potentia vel impotentia* <8.9a16>, disiungendo et non copulando
- Postea sequitur de comparatione naturalis potentiae ad habitum et dispositionem
- Sed adhuc dubitatur qualiter molle dicitur in potentia magis quam durum, cum habeat potentiam citius secari, durum eiusdem impotentiam
- Sed tunc quaeritur quare nulla sit mentio in V *Metaphysicae* de naturali potentia vel impotentia quod sit in genere qualitatis
- Sequitur de tertia specie qualitatis. Quoniam autem nihil quod est genus primum est species alterius generis; et passio remanet genus primum; non ergo erit species qualitatis
- Sed adhuc quaeritur quare passibiles qualitates, quaedam inferuntur a passionibus, quaedam inferunt passiones
- Sed adhuc dubitatur: qualitatum enim passibilium, quaedam sunt activae, quaedam passivae (activae, calidum, frigidum; passivae, humidum, siccum); activum autem et passivum non communicant in genere
- Sequitur postea: cum sint contrarietates aliae praeter calidum et frigidum, scilicet humidum, siccum, et praeter haec, grave et leve, rarum et densum, asperum et lene, molle et durum, lubricum et aridum, quare non enumerat ista inter qualitates passibiles, cum inferunt passiones sensui tactus
- Sequitur postea de eo quod dicit quasdam qualitates passibiles inferri a passionibus, quasdam inferre passiones sensui; omnia enim passibilia, secundum Aristotelem, inferant passionem sensui
- Sequitur de quarta specie. Et primo dubitatur super hoc quod dicit: *Quartum genus* <8.10a11>, cum prius dixerit primam “speciem” et tertiam similiter
- Consequenter quaeratur quae sit differentia inter formam et figuram, rectitudinem et curvitatem
- Sequitur postea de aspero et leni, an sint qualitates
- Sequitur quaerere de numero et ordine specierum qualitatis

- Sequitur de quali. Et est prima dubitatio propter quid in parte ista de quali, et in parte de quantitate non de quanto
- Sed adhuc quaeritur quare multiplicatio qualitatis in substantia erit multiplicatio secundum materiam
- Sequitur postea quare non dat species eius quod est quale sicut prius qualitatis
- Sequitur utrum quale addat aliquam essentiam novam super qualitatem
- Sed adhuc dubitatur, quia qualitas dicit quid et significat qualitatem; quale autem neque dicit quid neque significat quale; relinquatur ergo quod non erit essentia eadem qualitatis et qualis
- Sequitur quaerere quare non sunt nomina posita naturalibus potentiis vel impotentiis sicut sunt imposita habitibus et passionibus
- Sequitur quaerere quare a "virtute" non dicitur denominative "virtuosus"
- Sequitur <quaerere> utrum in aliis generibus a qualitate posset esse denominatio
- Sequitur <quaerere> an denominativa sint in genere

Lectio 14

- Primum dubitabile: utrum in qualitate sit contrarietas
- Sequitur quaerere utrum in qualitatibus primis sit contrarietas prima
- Sequitur <quaerere> utrum calidum, frigidum, humidum, siccum, rarum, densum sunt priora quam grave, leve
- Sequitur dubitatio de hoc quod dicit, scilicet quod rubeo et pallido et huiusmodi coloribus nihil est contrarium. Et potest quaerere utrum medii ad extrema possit esse contrarietas aliqua
- Sed adhuc dubitatur: si mediis nihil sit contrarium; et virtus est medietas duarum malitiarum; igitur virtuti nihil erit contrarium
- Sequitur de magis et minus. Et apparet quod nulla qualitas suscipit magis et minus
- Dubitatur tamen de curvo, qualiter non suscipiat magis et minus
- Sequitur de proprie proprio qualitatis. Et est prima quaestio utrum omnis similitudo sit secundum qualitatem
- Sed iam quaeritur, cum similitudo sit unitas in qualitate, est autem qualitas una numero, una specie, una genere, an sit similitudo secundum qualitatem quae est numero una et secundum qualitatem quae est genere una sicut est secundum qualitatem quae est species una

- Sequitur postea quaestio: cum aliqua sint aequalia secundum duas quantitates, videmus quod istae quantitates inter se sunt aequales, quare non dicuntur qualitates inter se similes secundum quas aliqua dicuntur similia

Lectio 15

- Primum dubitabile: apparet inconueniens esse quod genus ponatur in aliquo genere et species non in eodem
- Sed iam dubitatur quare species non dicatur ad aliquid sicut genus in talibus; non enim dicitur grammatica ad aliquid nisi per scientiam, sed scientia
- Sequitur qualiter idem possit esse in diversis generibus secundum esse differens

Lectio 16

- Primum dubitabile: quare sermone aggregato de his sex agit, et non determinat naturam essentialem istorum separatim sicut aliorum
- Sed quaeritur quare magis determinat de agere et pati quam de reliquis; dat enim proprietates horum, et non aliorum
- Sed quaereret adhuc aliquis propter quid non agitur de his, scilicet agere et pati, in separatis partibus, sed coniunctim
- Sed iam est quaestio utrum actio et passio possunt esse genera prima
- Sequitur quaerere utrum facere et pati recipiant contrarietatem

Lectio 17

- Primum dubitabile est utrum oppositio sit forma entis
- Sequitur utrum oppositio sit forma unius, aut multorum, aut unius relati ad alterum
- Sequitur de sufficientia et numero specierum oppositionis
- Dubitatur consequenter de relativis, quid habeant de natura oppositionis
- Quaeritur consequenter quare istae differentiae, mediatum et immediatum, non sunt possibles in oppositis relative sicut in oppositis contrarie
- Sequitur quaerere de contrarie oppositis. Et primo dubitatur super hoc quod dicit contraria non esse ad aliquid

- Consequenter dubitatur de hac divisione contrariorum, quaedam sunt mediata, quaedam immediata
- Sed tunc quaeritur de bono et malo, in quibus est medium secundum Aristotelem, licet indeterminatum; et tamen determinatur per aequalitatem et inaequalitatem; et reducuntur ad privationem et habitum
- Quaeritur quare non diffinit contraria
- Sed dubitatur de diffinitione contrariorum mediatorum; non enim videtur convenire omnibus
- Sequitur propter quid quorundam contrariorum medium est nominatum, quorundam non
- Sequitur de privative oppositis. Et primo dubitatur de diffinitione privative oppositorum. Videtur enim convenire contradictioni, quia affirmatio et negatio sunt nata fieri circa idem ordine; nam affirmatio est prior negatione
- Quaeritur postea quare non dicitur aliquid privari nisi in tempore aut post tempus in quo natum fuit habere habitum
- Sequitur postea de contradictorie oppositis. Et primo quaeritur quare non diffinit contradictorie opposita ut prius privative opposita
- Sed dubitatur de contradictione, an sit oppositio sive relatio
- Sequitur de oppositionibus in suis differentiis. Et primo quaeritur quare hoc ipsum, caecitas, in genere dicatur ad aliquid
- Sed iam quaeritur quare visus secundum genus non dicatur ad aliquid, ut dicatur habitus privationis habitus, neque secundum speciem, ut dicatur visus caecitatis visus
- Postea dubitatur utrum oppositio privativa sit eadem cum oppositione quae est contrarietas
- Postea quaeritur utrum in illis in quibus unum naturaliter inest contrariorum possit esse mutatio in alterum
- Sed adhuc quaeritur an non possit esse alteratio circa ignem, cum terminus alterationis sit generatio, non poterit ex igne generari aliud. Et scimus quod hoc falsum est
- Quaeritur ergo quare ignis non potest frigerieri, sicut aqua potest calefieri
- Post haec dubitatur propter quid non est mutatio a privatione in habitum sicut econverso
- Sed adhuc remanet quaestio quare a privatione eius quod est tantum a natura non fit mutatio
- Quaeritur postea an oppositio privativa sit eadem cum oppositione quae est affirmatio et negatio

- Quaeritur postea utrum inter affirmationem et negationem sit medium
- Quaeritur postea quare oppositio quae est contradictio in omnibus est in complexis, et oppositio quae est secundum privationem et habitum in aliquibus est in simplicibus et in aliquibus in complexis, et similiter oppositio quae est secundum contrarietatem et oppositio relativa in omnibus est in simplicibus
- Et in primis potest quaeri quare magis facit specialem sermonem de contrarie oppositis quam de aliis oppositis
- Sequitur dubitatio de prima conclusione, sic: quod dicitur de quolibet non habet contrarium; bonum dicitur de quolibet; ergo non habet contrarium
- Sed quaeritur adhuc quantum ad primam conclusionem quare bonum non est contrarium bono sicut malum malo
- Sed adhuc quaeritur qualiter bonum et malum sunt contraria, cum bonum sit medium, malum autem extremitas; medietas autem extremitati non opponitur completa oppositione aut completa distantia
- Sed adhuc quaeritur propter quid medium in habitibus opponitur extremitati contrariae, in coloribus autem non
- Post haec dubitatur de secunda conclusione sic: album non est contrarium albo, nec nigrum nigro; igitur sic nec bonum bono, nec malum malo
- Post haec dubitatur de tertia conclusione sic: contrarietas est oppositio, ergo est relatio; sed relatio est duorum actu existentium; ergo contrarietas erit eorum quae actu sunt; posito ergo uno, ponitur alterum—quod est contra tertiam conclusionem
- Postea dubitatur de quarta conclusione: videtur enim quod contrarietas sit nata fieri circa idem numero, cum substantia una et eadem numero sit susceptibilis contrariorum
- Postea dubitatur de quinta conclusione. Adhuc super hoc quod dicit contraria esse in contrariis generibus; contraria enim sunt quae posita sunt sub eodem genere e maxime distant
- Post has conclusiones manifestas, quaeratur si possit esse summe malum sicut summe bonum

Lectio 18

- Primum dubitabile est de ordine et numero modorum prius
- Sed adhuc dubitatur: cum non sit continuitas in tempore nisi a continuitate in motu; et in hoc non est continuitas nisi a continuitate in loco;

prius et posterius in tempore erit a priori et posteriori in motu; et prius et posterius in motu a priori et posteriori in loco; quare ergo non dat in parte ista modum prioritatis secundum quem dicitur prius et posterius in loco vel in motu, cum in *Metaphysicis* de his facit mentionem

- Sed adhuc dubitatur: cum in *Posterioribus* sint duo modi prioritatis, unus secundum quem dicitur aliquid prius quo ad nos, alius secundum quem dicitur aliquid prius quo ad naturam, quare non dat in parte ista istum modum prioritatis secundum quem dicitur aliquid prius altero quo ad nos sicut dat alium modum
- Sed tunc quaeritur quare in *Posterioribus* non dat nisi duos modos prioritatis, scilicet prius quo ad nos et prius quo ad naturam, cum tamen multo plures sint modi
- Sed adhuc est quaestio, cum universale prius sit particulari tamquam illud a quo non convertitur consequentia, utrum sit prius quo ad nos vel prius natura
- Sit ergo quaestio utrum sit prius secundum naturam intendentem vel secundum naturam operantem
- Similiter quaeritur quare non diffinit prius
- Quaeritur consequenter, cum prius et posterius sint differentiae ordinis, quare magis appropriat ordinem tertio modo prioritatis

Lectio 19

- Primum dubitabile de numero et ordine modorum simul
- Consequenter quaeritur de primo modo dicendi simul. Videtur enim quaedam simul esse tempore quamvis generatio eorum non sit in eodem tempore
- Item, dubitatur de perpetuis quae dicuntur simul esse, non tamen sunt in tempore
- Item, dubitatur hic qualiter sunt simul quae e diverso dividunt idem genus

Lectio 20

- Primum dubitabile est an sit motus
- Sequitur quaerere quid sit motus
- Quaeritur consequenter qualiter generatio et corruptio nominentur hic motus, cum V *Physicorum* dicantur mutationes et non motus
- Post haec dubitatur de alteratione sic: ad omnem mutationem requiritur loci mutatio, ut ostendit Aristoteles in VIII *Physicorum*, ergo ad

alterationem; ergo quod alteratur alio motu movetur, cuius oppositum dicitur in littera

- Post haec dubitatur de hoc quod dicit quod illud quod augetur non oportet alterari, cum dicit Aristoteles quod impossibile est augmentationem esse non existente alteratione
- Quaeritur postea, cum dicat Aristoteles in *V Physicorum* quod quies est privatio motus, quare ponitur hic contrarium motus
- Quaeritur consequenter quare non sunt duo motus contrarii in qualitate et ubi, sicut in substantia, scilicet generatio et corruptio, et in quantitate, <scilicet> augmentum et diminutio
- Quaeritur consequenter, cum generatio sit motus in substantiam, augmentatio in quantitatem, quare generatio est a non substantia in substantiam, et augmentatio non est a non quanto in quantum
- Quaeritur consequenter, cum motus sit in tempore sicut in loco, quare non dicitur “motus temporalis” sicut “motus localis”
- Sequitur de speciebus motus. Et quia, secundum Aristotelem, tot sunt species motus quot entis, non erunt tantum sex species motus

Lectio 21

- Primum dubitabile <est> de numero et ordine modorum habendi
- Sed dubitatur de primo modo et secundo sic: nihil est in ratione habentis nisi habens esse completum; substantia autem non habet esse completum antequam sit quanta et qualis; nullus ergo est modus habendi secundum quem habetur quantitas et qualitas
- Sequitur postea propter quid habere ad aliquid, aut agere, aut pati, aut quando, aut ubi etc. non sunt modi distincti sicut habere quantitatem et qualitatem
- Post haec dubitatur, cum modi habendi sint consimiles modis essendi, per Aristotelem in *Metaphysica*, propter quid non habemus modum respondentem ei qui est esse-in sicut totum-in-partibus, aut genus-in-specie

APPENDIX 3

Commentary on Aristotle's *De Interpretatione*: List of *dubitationes* and *quaestiones* Present in the Text

Prooemium

- Sed quaeritur utrum de enuntiatione possit esse scientia tamquam de subiecto
- Sed dubitatur utrum aliqua ars separata debuit tradi de enuntiatione ab arte tradita de syllogismo in libro *Priorum*.
- Sequitur quaerere si ars separata tradi debeat in terminis concernentibus res determinati generis vel non
- Sequitur quaerere an scientia hic tradita de enuntiatione debeat multiplicari penes multiplicationem ipsorum generum

*Liber 1**Lectio 1*

- Primum dubitabile de primo verbo sic: nullus supponens de aliquo quoniam est et quid est constituit illud; omnis sciens supponit de subiecto et partibus eius quoniam sunt et quid sunt; ergo nullus sciens constituit suum subiectum vel partes eius
- Sed nunc quaeritur quare non supponit nomen et verbum, cum possent supponi a grammatico
- Sed tunc dubitatur: quia subicibilia et praedicabilia supponi possent, ex libro *Predicamentorum*, quid est de ordinabili, quare non ?
- Consequenter quaeritur hic quare non dat hic intentionem suam sicut in *Prioribus*
- Dubitatur postea, cum prius determinet de voce quam de nomine, quare dicit: *Primum oportet constituere quid nomen* etc. <1.16a1>
- Dubitatur consequenter de numero et sufficientia eorum quae enumerantur in hoc prooemio
- Dubitatur consequenter de huiusmodi enumeratione in prooemio, an sit secundum viam generationis an secundum viam resolutionis
- Sed tunc sequitur quaestio quare non est utraque secundum viam unam, et quare magis secundum viam resolutionis quam prima
- Ultimo dubitatur hic de ordinatione affirmationis ad negationem

Lectio 2

- Primum dubitabile: utrum aliqua vox sit quae non significet, ut supponit prima divisio
- Postea quaeritur propter quid dicitur: *Ea quae sunt in voce sunt notae* <1.16a4>, et non “signa”
- Quaeritur postea super hoc quod dicit quod voces non sunt eadem nec litterae apud omnes
- Quaeritur postea propter quid passio sive intellectus significatur per obiectum auditus, sicut per vocem, et per obiectum visus, sicut per litteram, et non per obiectum aliorum sensuum; et propter quid per quaedam eorum obiecta et non per obiecta simpliciter
- Dubitatur postea super hoc quod dicitur quod intellectus est aliquando cum vero et falso, aliquando sine vero et falso
- Post hoc dubitatur de hac propositione: *Circa compositionem et divisionem* etc. <1.16a12–13>
- Dubitatur postea an primo sit compositio in intellectu an in rebus
- Dubitatur consequenter super hoc quod dicit quod si dicatur verbum per se, non significat verum neque falsum

Lectio 3

- Primum dubitabile est propter quid diffinitur hic aliter nomen quam a Prisciano, cum essentia uniuscuiusque sit semel
- Sed hic consequitur dubitatio, quia nulla materia recipit diuisionem per differentias ita quod differentiis aggregatis ad materiam fiat aliquid; vox autem sic <se> habet; ergo vox non erit materia, sed magis genus
- Si quaeratur hic quare non diffinit subiectum et predicatum, dicimus quod . . .
- Sequitur de hac particula *sine tempore* <2.16a20>. Et quia aliquid nomen non significat sine tempore, ut “dies,” “annus” et similia, apparet quod non conveniat omni nomini significare sine tempore
- Et etiam quaeratur quare magis diffinitur nomen per privationem huius accidentis quod est tempus quam per privationem modi vel alicuius alterius
- Sequitur de hac particula *cuius nulla pars* etc. <2.16a20>. Et quaeratur cum quaelibet pars ignis sit ignis, quare quaelibet pars <dictionis> significativae non sit significativa

- Sequitur de dictionibus compositis, an complexa sint quantum ad intellectum
- Sequitur de nomine infinito. Et dubitatur per quam naturam nominis coniungit se negatio cum nomine ad faciendum nomen infinitum
- Item, dubitatur quid differt nomen infinitum hic et in grammatica
- Item, dubitatur de nomine infinito quid habeat pro substantia, quid pro qualitate
- Quaeritur ergo de nomine infinito, utrum aliquid ponat vel non
- Solet etiam quaeri propter quid ex nomine et casu verbi fit oratio; non sic autem ex verbo et casu nominis
- Item, dubitatur super hoc quod dicit quod cum “est” vel “fuit” vel “erit” addatur obliquis, quia non significant verum vel falsum, ideo non sunt nomina. Eadem enim ratione apparet de adiectivis, ut cum dicitur “Album est”

Lectio 4

- Primum dubitabile est propter quid sunt tantum duae partes enuntiationis, scilicet nomen et verbum, cum tamen soleat dici communiter quod tres sunt partes, scilicet subiectum, praedicatum et copula. Et quaeratur cum hoc quare magis se teneat compositio ex parte praedicati quam subiecti
- Possunt etiam hic quaeri de verbo omnia quae in primis quaeruntur de nomine, et eodem modo solvi; et ob hoc supersedendum est hic
- Dubitatur postea quare magis diffinitur per tempus quam per aliud accidens, cum modus sit essentialior verbo
- Sequitur de verbo infinito, et in primis quaeritur qualiter differat a verbo negato
- Sequitur postea, an sit verbum infinitum in oratione
- Item, dubitatur sic: huiusmodi verba, “opinatur,” “potest” etc., similiter sunt in quolibet quod est et quod non est; et tamen non dicuntur verba infinita
- Sequitur de casu verbi. Et dubitatur propter quid casus verbi non dicuntur esse ex parte modorum sed temporum
- Sed tunc dubitabit aliquis de persona et numero, utrum penes haec accidentia possint distingui casus verbi
- Sequitur propter quid nomina per se dicta non sunt verba sicut e converso

- Si autem quaeratur quare non habemus unum verbum quod significet divisionem sicut habemus unum quod significat compositionem, sicut hoc verbum “est,” solve per hoc...

Lectio 5

- Primum dubitabile: utrum communiter diffinitur hic oratio perfecta et imperfecta
- Consequenter dubitatur de diversitate diffinitionis orationis apud logicum et grammaticum, cum essentia uniuscuiusque sit semel
- Quaeritur consequenter propter quid in hac diffinitione non ponitur “ad placitum”; et propter quid postea verificatur, et in principio non ponitur
- Consequenter dubitatur propter quid haec particula “cum tempore” vel “sine” non ponitur in hac diffinitione
- Consequenter dubitatur propter hoc quod apparet quod diffinitio non sit convertibilis
- Consequenter dubitatur propter hoc quod haec diffinitio non convenit omni orationi
- Consequenter dubitatur quia diffinitur oratio per affirmationem et affirmatio per orationem; ergo idem per se; et ideo erit circulus in illa diffinitione
- Consequenter dubitatur super hoc quod dicit quod oratio est vox significatiua non sicut instrumentum <4.17a1>
- Consequenter dubitatur super hoc quod dicit: *Sed quemadmodum dictum est secundum placitum* <4.17a1–2>; nunquam enim dictum est quod oratio significet ad placitum
- Consequenter dubitatur de diffinitione enuntiationis, quia non est convertibilis
- Ultimo dubitatur super hoc quod vult quod deprecativa et ceterae ab indicativa sint rhetoricae et poeticae considerationis

Lectio 6

- Primum dubitabile: propter quid cum intendat dare istam divisionem enuntiationum, alia una, alia plures, loco eius quod est plures dicat: “alia coniunctione una”
- Consequenter dubitatur de ordine quem facit inter affirmationem et negationem per has dictiones, “prima,” “deinde,” quia si sunt species enuntiationis, sunt coaequevae et non ordinatae

- Dubitatur postea de hac conclusione: “nulla enuntiatio sine nomine et verbo, vel casu verbi,” quia nomen infinitum non est nomen et tamen ex nomine infinito et verbo, vel casu <verbi>, fit enuntiatio
- Item, quaeritur utrum istarum sit verior una “homo est ens” vel “homo est animal”
- Item, quaeritur hic an haec sit una “homo albus currit”
- Quaeritur ultimo quae dicatur simplex et quae composita

Lectio 7

- Primum dubitabile est quam necessitatem habeat haec pars, cum iam determinavit omnia quae in prooemio enumeravit
- Dubitatur postea de hoc quod solet opponi hic sic: omnis enuntiatio est alicuius de aliquo; et ens et aliquid convertuntur; ergo omnis enuntiatio est de ente; ergo non est enuntiare de eo quod non est
- Dubitatur consequenter, cum conversio sit passio consequens enuntiationem multiplicatam per differentias qualitatis et quantitatis, sicut oppositio, quare non determinat de conversione sicut de oppositione
- Quaeritur postea supra quod idem fundatur oppositio
- Quaeritur postea si oppositio fundatur supra idem numero
- Dubitatur super hoc quod dicit: *et quaecumque cetera talium determinamus* <6.17a35–36>. Ex hoc enim apparet librum *Elenchorum* precedere istum
- Quaeritur postea de hoc quod diffinitur contradictio differenter in libro *Posteriorum* et hic
- Dubitatur postea: si universale est quod est aptum natum dici etc.; et ens est huiusmodi; ergo ens est universale
- Quaeritur postea de expositione huius: *Quae autem significantur est esse contraria* <7.17b8>
- Dubitatur super hoc quod dicit: “‘omnis’ non significat <idem quod> ‘universale,’ sed ‘quoniam universaliter,’” quia cum sit nomen appellativum, secundum Priscianum, convenit multis per appellationem; ergo est universale
- Dubitatur postea super hoc quod dicit quod “omne” non additur ad praedicatum
- Dubitatur postea de hoc quod dicit quod nulla est affirmatio, ut cum dico: “omnis homo est omne animal”; est enim oratio indicativa; ergo enuntiatio; et non negatio; ergo affirmatio
- Dubitatur postea utrum hoc quod dico “nullum” possit addi praedicato

Lectio 8

- Primum dubitabile: qualiter universalis affirmativa et universalis negativa dicantur contraria, universalis affirmativa et particularis negativa contradictoria
- Dubitatur postea super hoc quod dicit quod in universalibus non universaliter non necesse est alteram esse veram et alteram falsam
- Dubitatur postea propter hoc quod una affirmatio, sicut haec “omnis homo est albus,” habet unam contrarie oppositam et alteram contradictorie, vel duas, scilicet “non omnis” et “quidam non”; et sic habet plures negationes oppositas
- Si quaeratur hic propter quid sunt tot differentiae et non plures diversificantes quantitatem enuntiationis, scilicet universale, particulare, indefinitum, singulare, dicendum quod...
- Si quaeratur etiam hic propter quid in parte ista est sermo de oppositione quae est contrarietas et contradictio tantum, cum tamen in *Praedicamentis* determinatae sint aliae oppositiones, scilicet privativa et relativa, quae sunt oppositiones secundum rem, dicendum quod...

Lectio 9

- Primum dubitabile, propter quid non est contradictio in aequivocis sicut in univocis
- Quaeritur postea de hoc quod dicit quod haec est plures, “tunica est alba,” cum valeat has, “homo est albus,” “equus est albus”
- Dubitatur postea qualiter “tunica” si imponatur homini et equo possit esse terminus aequivocus
- Dubitatur postea de veritate enuntiationum de praesenti et de praeterito
- Sequitur quaerere in quo est <veritas> sicut in subiecto, an in re an in oratione
- Sed tunc quaeritur, cum eo quod res est vel non est, oratio est vera vel falsa, cum praeterita non sunt, qualiter est veritas in his de praeterito
- Dubitatur postea an ante exitum rerum in esse fuerunt illae diuisiones verae illarum compositionum quae modo sunt verae, vel nulla fuit in his veritas, cuiusmodi sunt hae: “mundus non est” et huiusmodi
- Quaeritur postea utrum ante exitum rerum in esse veritas negativarum de praesenti fuerit eadem cum veritate futurarum compositionum, an alia

- Dubitatur postea utrum sint aliqua futura contingentia
- Dubitatur consequenter an aliqua si veritas futurorum
- Dubitatur postea quid est subiectum huius necessitatis: “Antichristum fore vel non fore est necesse,” quia neutra pars est necessaria

Liber 2

Lectio 1

- Primum dubitabile: in quo distinguatur secundus liber a primo
- Dubitatur hic postea propter quid non fit hic sermo quantum ad has differentias nominis, collectivum, divisivum et huiusmodi, sicut quantum ad has, finitum, infinitum
- Dubitatur postea propter quid dicatur nomen infinitum innominabile, et qualiter significet unum
- Dubitatur postea propter quid non dicat enuntiationem fieri ex nomine vel innominabili et verbo vel verbo infinito
- Dubitatur postea propter quid non fit mentio in littera de casu nominis quantum ad constitutionem enuntiationis sicut de casu verbi

Lectio 2

- Primum dubitabile: cum consequentia et oppositio sint opposita vel ut opposita, et unum oppositorum non est alterius causa, qualiter est hic sermo de consequentia secundum quod provenit ex multiplicatione oppositionis
- Dubitatur postea utrum eodem modo sumatur ipsum “est” cum praedicatur secundum adiacens et cum praedicatur tertium
- Dubitatur postea: si praedicetur tertium adiacens propter hoc quod in omni enuntiatione est medium hoc verbum “est,” et subiectum et praedicatum extrema; cum praedicatur “est” tertium adiacens, et nihil unum et idem potest esse medium et extremum; ex quo sequitur quod non praedicabitur tertium
- Dubitatur postea propter quid illae enuntiationes quae sunt de subiecto infinito non habent convenientiam neque oppositionem cum illis quae sunt de subiecto finito, sicut illae de praedicato infinito ad illas quae sunt de praedicato finito

Lectio 3

- Primum dubitabile <est> super hoc quod dicit et ostendit quod idem est modus opponendi in his in quibus hoc verbum, “est,” sumitur et in quibus non sumitur
- Dubitatur postea propter quid signum non possit infinitari
- Dubitatur postea super hoc quod dicit quod affirmativam de praedicato infinito sequitur negativam de praedicato finito
- Dubitatur postea propter quid non differt praeponere et postponere negationem in singularibus sicut in universalibus
- Sed post haec dubitatur quid est in causa quod negatio praeposita signo universali negat particulariter, postposita, universaliter
- Dubitatur postea super hoc quod dicit: *Transposita nomina et uerba* etc. <10.20b1>, quia videtur contradicere omni syllogismo ex obliquis; aliud enim significat “omnium oppositorum eadem est disciplina” et “eadem est disciplina omnium oppositorum”

Lectio 4

- Solet hic quaeri cum prius fuit sermo de enuntiatione quantum ad has differentias, una, plures, ad quid iterum est hic sermo quantum ad has
- Sed dubitatur hic an haec sit una an plures: “homo albus currit”
- Dubitatur postea, cum haec sit plures: “homo albus musicus currit,” si imponatur huic totali: “homo albus musicus,” hoc nomen “a,” utrum haec sit plures: “a currit”
- Dubitatur postea super hoc quod ostendit, scilicet quod quaestio “quid est?” non est quaestio dialectica
- Dubitatur postea super hoc quod dicitur, si *a* et *b* dicantur de tertio secundum accidens, quod haec non inferunt coniunctum
- Dubitatur super hoc quod dicit: *vel alterum de altero* <11.21a9>. Per hoc enim videtur quod ex homine et albo non possit fieri unum praedicatum coniunctum; “album” enim dicitur de homine secundum accidens
- Dubitatur postea de oppositione in adiecto. Apparet enim omnis talis sermo, ut “homo mortuus,” significare ut “album nigrum” vel “ens non ens”—quod patet si ponamus rationes pro nominibus
- Quaeritur postea de hoc quod est “est homo mortuus,” cum hoc praedicatum, “homo mortuus” sit in ratione totius
- Item, quaeritur de huiusmodi toto an habeat partes transeuntes an permanentes

Lectio 5

- Primum dubitabile est an enuntiatio de modo sit alia species enuntiationis ab illa de inesse
- Dubitatur postea quid sit modus hic et an omnis modus faciat propositionem modalem
- Dubitatur postea si verum vel falsum sint modi, et faciant propositiones modales
- Sed adhuc dubitatur: hic determinat de enuntiatione simpliciter, non contracta ad materiam; sed istae differentiae, contingens, necessarium, contrahunt enuntiationem ad materiam; et de huiusmodi hic; et est quaedam quae est ipsius rei; et haec contrahit; et de hac non hic

Lectio 6

- Primum dubitabile est, cum propositiones de modo habeant consequentiam ad illas de inesse, propter quid illam consequentiam non determinat, sed tantum illarum ad invicem quae sunt de modo
- Quaeritur consequenter, cum in *Prioribus* non solum dicat sequi ex illa de contingenti unam de necessario, sed duas, sic: “Si contingat omne *b* esse *a*; non necesse est omne *b* esse *a*; vel necesse est aliquod *b* non esse *a*,” quare non similiter dicit hic
- Sed tunc quaeritur propter quid non docetur hic de consequentia contingentis simpliciter sumpti, cuius est contingens natum vel infinitum
- Dubitatur consequenter si possibile sequatur ad necesse. Et apparet quod non, propter hoc quod unum oppositorum non consequitur ad reliquum; sed omnia dividenda e diverso sunt opposita; sed possibile et necessarium dividunt ens e diverso; ergo etc.
- Dubitatur postea super hoc quod dicit quod potentia activa quae est a natura non valet ad opposita, sicut potentia ignis; videmus enim quod coagulat lutum et dissolvit glaciem
- Sequitur propter quid potentia activa quae est a natura non valet ad opposita
- Solet quaeri hic quare possibile ad utrumlibet habere potest contradictoriam, non autem contrariam, sicut impossibile et necesse
- Dubitatur postea super hoc quod dicit quod quaedam sunt actu et potestate quae sunt natura priora et tempore posteriora
- Solet hic esse quaestio de hoc quod dicit quaedam esse potestate tantum ita quod non actu, quia sic videtur aliqua potentia esse frustra

Lectio 7

- Dubitatur hic primo an illa sit contraria quae est contrarii an illa quae contrario modo enuntiat
- Sed dubitatur adhuc si enuntiatio enuntiationi sit contraria quae contrario modo enuntiat
- Dubitatur postea de hac consequentia: sunt simul verae, ergo sunt eadem
- Dubitatur postea super hoc quod dicit: *sed in quibus est prima fallacia* etc. <14.23b₁₃>
- Dubitatur postea de hoc quod dicit quod haec est vera per accidens: “bonum non est malum”
- Dubitatur postea ex parte cuius sumi debeat contrarietas primo, utrum ex parte vocis, aut rei, aut intellectus
- Dubitatur postea: cum enim haec sit vera per se: “Substantia non est quantitas” (est enim propositio immediata), et haec est falsa per se: “Substantia est quantitas”; ergo, cum similiter est in genere moris et in aliis generibus, erit haec vera per se: “Bonum non est malum,” et haec falsa per se: “Bonum est malum”
- Dubitatur postea: cum magis sint manifestae istae propositiones, “bonum est bonum,” “bonum non est bonum,” et harum contrarietas quam contrarietas harum, “non bonum non est bonum,” “non bonum est bonum,” magis debuit ostendere contrarietatem in his per hoc quod est contrarietas in aliis quam e converso; et ipse facit e converso

ROBERT KILWARDBY ON SYLLOGISTIC FORM

Paul Thom

The theory of the syllogism is expounded in Kilwardby's *Notule libri Priorum*.¹ These notes are in fact a substantial question-commentary on the two books of the *Prior Analytics* dating from his Parisian period years.² The commentary was edited at Venice in 1499, 1500, 1502, 1504, 1516, 1522, and 1598, attributed to Giles of Rome.³ Sixteen manuscripts are known to contain the text, either in full or in large part.⁴ Besides these, there are some manuscripts that contain only part of the prologue.⁵ Many of the manuscripts omit large parts of the work—a whole chapter or more—and there are numerous minor omissions.⁶ It is a long work (approximately

¹ This chapter builds on the pioneering work of Henrik Lagerlund, *Modal Syllogistics in the Middle Ages* (Leiden: 2000), chap. 3, and on the more technical presentation in Paul Thom, *Logic and Ontology in the Syllogistic of Robert Kilwardby* (Leiden: 2007).

² Patrick Osmund Lewry, OP, "Robert Kilwardby's Writings on the *Logica vetus* Studied with Regard to Their Teaching and Method" (DPhil thesis, Oxford University, 1978).

³ Patrick Osmund Lewry, OP, "Robertus Anglicus and the Italian Kilwardby," in *English Logic in Italy in the Fourteenth and Fifteenth Centuries: Acts of the 5th European Symposium on Medieval Logic and Semantics, Rome 10–14 November 1980* (Naples: 1982), 33–52, at 37.

⁴ Assisi Biblioteca Comunale 322, fols. 41r–62r; Bologna Biblioteca Universitaria, Ms 1626 (Fratri 846), fols. 1–55; Bruxelles Bibliothèque Royale Albert 1er MS 1797–8 (Cat 2907), fols. 1r–24v; Cambridge, Library of Peterhouse, MS 205 (2.0.8), fols. 85ra–135rb; Carpentras BV 281 (L278) xiv 48ff., anon. expl. mut, 48 fols.; Erfurt Bibliotheca Amploniana MS Cod. Quar. 276, fols. 63r–97v; Erfurt Bibliotheca Amploniana MS Cod. Quar. 328, fols. 94ra–161vb; Firenze Biblioteca nazionale Centrale Conv. Soppr. MS J.10.48, fols. 21ra to end; Firenze Biblioteca Laurenziana MS Lat. Plut. 71, 29, fols. 1–54; Firenze Biblioteca nazionale Centrale Conv. Soppr. MS G.3.1720, 75 fols.; Klosterneuburg Stiftsbibliothek, MS 847, fols. 1r–70v; Oxford Bodleian Library MS Canon Misc 403, fols. 134ra–181ra; Oxford Merton College MS 289, fols. 33r–100v; Oxford, Merton College MS 280, fols. 38r–99v; Paris Bibliothèque Nationale MS 16620, fols. 2ra–51vb; Venezia B Marc. Lat. VI.220 (X40), 55 fols. In this chapter my references to the *Notule* will be to manuscript Firenze Biblioteca Nazionale Centrale Conv. Soppr. MS J.10.48.

⁵ Assisi Biblioteca Comunale 322, fols. 1ra–rb; København KB, Fragm. 1724 fol. 1r–v; Paris Bibliothèque Nationale MS 15661, fols. 97r–98v; Universidad de Salamanca 2002. MS 2078, 8 fols. 126va–b; Vatican lat. 2115, fols. 51r; Vatican lat. 4883, fols. 56ra–rb. In three of these cases (the Assisi and Vatican manuscripts) part of Kilwardby's prologue has been used to introduce a *Topics* commentary. See Niels Jørgen Green-Pedersen, *The Tradition of the Topics in the Middle Ages: The Commentaries on Aristotle's and Boethius' 'Topics'* (Munich: 1984), 389.

⁶ The most significant of these is a passage in 1.13 dubium 7 where the author engages in a polemic against those who believe that a proposition's truth requires the actual existence of something under its subject term. (Kilwardby's view is that no actual existence is

300,000 words), divided into a prologue and seventy-six lectiones. The commentary includes about five hundred *dubitationes* that discuss in some cases very sophisticated theoretical questions arising from Aristotle's text.

As the number of surviving manuscripts indicates, Kilwardby's *Prior Analytics* commentary had a wide diffusion in manuscript form—so wide that it is said to have achieved the status of a classic.⁷ A large number of the *dubitationes* raised in the commentary continue to be discussed in later thirteenth-century commentaries.⁸ Kilwardby is being referred to by name (“Culverbinus”) as late as the *Prior Analytics* commentary of the Renaissance Aristotelian Agostino Nifo.⁹

Kilwardby's ideas received a different sort of dissemination via Albert the Great's treatises on the syllogism, which attempted to turn his commentary on Aristotle's text into a systematic treatise on the syllogism.¹⁰ Subsequent commentaries on Albert's syllogistic theory, such as Arnold de Turingis's *Reparationes* (1507),¹¹ preserved Kilwardby's ideas—under Albert's name, and in a debased form.

*The Nature and Scope of Logic*¹²

In his lengthy prologue Kilwardby states that it falls to logic to determine a method of inquiring into the truth in the other sciences.¹³ This statement, of course, implies that logic is one of the sciences. If it is to determine the

entailed by propositions that assert a merely “habitual” predication, i.e., one concerning the relations between *intentiones*.)

⁷ Ebbesen, 102.

⁸ Ebbesen, 109–33 lists the questions contained in six commentaries.

⁹ E. Jennifer Ashworth, “Developments in the Fifteenth and Sixteenth Centuries.” in *Handbook of the History of Logic*, vol. 2, *Mediaeval and Renaissance Logic*, ed. Dov M. Gabbay and John Woods (Amsterdam: 2008), 609–44, at 615.

¹⁰ See Lagerlund, *Modal Syllogistics*, 19–53.

¹¹ Arnold de Turingis, *Reparationes lectionum et exercitiorum nove logice Aristotelis* (Agrippine: 1507).

¹² For an English translation of Kilwardby's treatment of this topic in Robert Kilwardby, *De ortu scientiarum*, ed. Albert G. Judy (London: 1976); hereafter *DOS*, followed in this chapter by paragraph number(s) (e.g., para. 11, paras. 36–37), see Robert Kilwardby, *The Nature of Logic*, in *Cambridge Translations of Medieval Philosophical Texts*, vol. 1, *Logic and the Philosophy of Language*, ed. Norman Kretzmann and Eleonore Stump (Cambridge: 1988), 264–77.

¹³ Robert Kilwardby, *Notule libri Priorum*, Florence: Biblioteca nazionale Centrale Firenze J.10.48, fol. 22ra, Prologus, “logica autem habeat modum inquirendi ueritatem in aliis scientiis determinare” (hereafter *NLPri* BnCF J.10.48, followed by folio numbers).

method of inquiring into the truth in other sciences, Kilwardby believes, logic must determine both a theory and a method of discoursing.¹⁴ Insofar as this statement assigns to logic the task of determining a theory, it confirms that logic is a science; but insofar as the statement assigns to logic the task of determining a method of discoursing, it treats logic as an art. Thus logic, according to Kilwardby, is both a science and an art.

The art of discoursing, which logic is, can be divided into parts in several ways: in one way its parts are the art of discovery and the art of judgement, in another way they are the arts of dividing and defining along with the art of inferring, and in a third way they are given by the various books of the *Organon*.¹⁵ But the arts of discovery and judgement are brought to their completion in the syllogism; definition and division are studied in logic because of their bearing on the study of the syllogism; and the books of the *Organon* other than the *Prior Analytics* investigate either the material constituents of the syllogism (terms and propositions) or else the several varieties of syllogism (demonstrative, dialectical, and sophistical).¹⁶ In these ways the syllogism is logic's main object of study.

Kilwardby distinguishes the syllogism *simpliciter* from the different specific varieties of syllogism (the demonstrative, the dialectical, the litigious, and the peirastic).¹⁷ The syllogism *simpliciter* is the object of study in the *Prior Analytics*,¹⁸ but in a way it is the object of study in the whole of logic.

¹⁴ *NLPri* BnCF J.10.48, fol. 22ra, Prologus, "logica rationem et modum disserendi debet determinare."

¹⁵ *NLPri* BnCF J.10.48, fol. 22ra (Prologus), "ratio disserendi secundum Boethium duas habet partes, scilicet inuentionem et iudicium. Igitur logica de utraque habet determinare, ut dicatur quedam pars logice 'De arte inueniendi,' quedam 'De arte iudicandi'"; *NLPri* BnCF J.10.48, fol. 22va (Prologus dub. 8), "Logica habet considerare artem diffiniendi et diuidendi sicut artem colligendi."

¹⁶ *NLPri* BnCF J.10.48, fol. 22va (Prologus dub.7), "Ars autem disserendi maxime completur per sillogismum. Unde ars disserendi, que logica est, de sillogismo facit considerationem principaliter. Cum ergo in duobus libris ueteris logice, scilicet *Predicamentis* et *Periarmentias*, determinetur de principiis sillogismi (dico materialibus), in libris residuis de ipso habet determinari. Sed hoc potest esse dupliciter quia aut de sillogismo in se (et sic de ipso est liber *Priorum*), aut in suis partibus et hoc tripliciter. Sillogismus enim specialis aut est ex necessariis (et sic demonstratiuus sillogismus), aut ex probabilibus (et sic dialecticus), aut ex apparentibus probabilibus (et sic sophisticus), de quibus determinatur in tribus libris residuis noue logice, sicut patet." *NLPri* BnCF J.10.48, fol. 22vb (dub.8 ad 1), "diffinitio et diuisio non intenduntur in logica nisi propter sillogismum et hoc principaliter propter sillogismum demonstratiuum."

¹⁷ *LPri* BnCF J.10.48, fol. 24ra (1.1. 2 dub.12).

¹⁸ *NLPri* BnCF J.10.48, fol. 23ra (Prologus dub.9 ad oppositum), "Ad oppositum sic: de quo et cuius partibus probantur oppositum passiones in aliqua scientia, illud habet dici subiectum. Sed de sillogismo simpliciter et partibus eius probantur passiones in *Prioribus*, ut per se patet. Ergo et cetera. Adhuc in principio principalis negotii huius libri dicit quod

In the *Prior Analytics* it is considered in general and not as contracted to any specific matter, whereas in logic as a whole it is considered in all its varieties.¹⁹

The syllogism *simpliciter* stands to the varieties of syllogism somewhat as a genus stands to its species. But a moderate realist like Kilwardby cannot say that the syllogism *simpliciter* is the genus of which the demonstrative and other syllogisms are species, because he holds that something in reality can be a syllogism *simpliciter* without being either a demonstrative or a dialectical syllogism. (This is because he takes a syllogism *simpliciter* to be a syllogistic formula having letters such as *A*, *B*, and *C* for terms.) By contrast, nothing can belong to a genuine genus without belonging to any of its species.²⁰

Syllogistic Form and Matter

To a modern reader, it can seem as if Kilwardby's syllogism *simpliciter* is simply a logical form. And indeed he allows that the syllogism *simpliciter* is formal in relation to the demonstrative and dialectical syllogisms, but he denies that the object of study in the *Prior Analytics*—the syllogism *simpliciter*—is the form of the syllogism.²¹ What he means by “the form

determinaturus est de sillogismo et de demonstratione, sed prius de sillogismo. Patet igitur quod in libro *Priorum* est intentio de sillogismo sed non de aliquo speciali ut patet; quare de sillogismo simpliciter.”

¹⁹ *NLPri* BnCF J.10.48, fol. 23rb (Prologus dub. 9 ad 3), “Ad tertium dicendum quod tota logica est de sillogismo simpliciter et liber *Priorum* est de sillogismo simpliciter, sed alio et alio modo. Cum enim dicitur quod logica est de sillogismo simpliciter hoc intelligendum est quia est de sillogismo totaliter secundum se et secundum omnes eius differentias. Cum autem dicitur quod liber *Priorum* est de sillogismo simpliciter hoc intelligendum est quia est de sillogismo in genere et non contracto ad materiam specialem, scilicet ad necessariam uel probabilem uel aliquam talem.”

²⁰ *NLPri* BnCF J.10.48, fol. 22ra–b (Prologus dub.9 ad 2), “Ad secundum dicendum quod sillogismus simpliciter non est uere genus ad dialecticum et demonstratiuum quia uere genus diuiditur per formales differentias per quas ei aduenientes constituuntur uere species. Sed dialecticus sillogismus et demonstratiuus non fiunt per differentias uere formales sillogismo aduenientes sed per differentias materiales magis. Et ideo sillogismus simpliciter est actu et formaliter constitutus in esse ante sillogismum dialecticum et demonstratiuum. Et ideo abstrahit ab eis secundum esse in tantum quod potest de ipso exemplificari in terminis communibus in quibus neque fit dialecticus sillogismus neque demonstratiuus. Si autem esset uere genus tunc non esset aliquid uere constitutum in esse ante ipsos nec posset tunc exemplificari de sillogismo simpliciter nisi in aliquo sillogismo speciali ut in dialectico uel demonstratiuo.”

²¹ *NLPri* BnCF J.10.48, fol. 23ra (Prologus dub. 9 solutio), “Quamuis ergo sillogismus simpliciter de quo agitur in *Prioribus* sit formalis ad sillogismum dialecticum et demonstratiuum, tamen non uidetur esse dicendum quod liber *Priorum* sit tantummodo

of the syllogism” is not the same as what a modern logician would mean by a syllogism’s “logical form.”²²

A syllogism is composed of form as well as matter.²³ In elaborating on this idea, Kilwardby applies the Aristotelian doctrine of causes to the syllogism. Aristotle himself doesn’t do this systematically, though in one passage he states that the premises of a syllogism are the matter for the conclusion.²⁴ This statement, however, doesn’t apply the matter/form distinction to the syllogism as a whole, but only to the end point of a process of inference or implication. Boethius, by contrast, declares that the matter of an entire argument comprises the propositions occurring in it, and states that a consideration of the truth, necessity, or verisimilitude of those propositions falls within the investigation of the argumentation’s matter.²⁵

The material cause of the syllogism consists of two propositions (the major and minor premises) and three terms.²⁶ It is worth noting that on Kilwardby’s account, the syllogism is materially constituted by two propositions, not three. The conclusion is not part of the syllogism; therefore, the syllogism is not a type of consequence. The syllogism’s two premises, however, possess a unity thanks to the fact that they aim at a single conclusion.²⁷

The major premise occupies a determining role, since it is “contracted” by the minor premise to produce the conclusion. Because of this relation

de forma sillogismi; immo magis considerat tam materiam quam formam sillogismi in genere.”

²² See Paul Thom, “Logical Form” in *Oxford Handbook to Medieval Philosophy*, ed. John Marenbon (Oxford: 2012) 271–88.

²³ *NLPri* BnCF J.10.48, fol. 23ra (Prologus dub. 9), “Sillogismus enim dicit compositum ex materia et forma.”

²⁴ Jonathan Barnes, “Logical Form and Logical Matter,” in *Logica, mente e persona: Studi sulla filosofia antica*, ed. Antonina Alberti (Florence:1990), 7–119, at 40, states that *Physics* 195a18–19 is the only Aristotelian passage in Aristotle that applies the matter/form distinction to the syllogism.

²⁵ Boethius, *In Ciceronis Topica*, in *Opera omnia*, ed. J.-P. Migne (Paris: 1847), 1047A, “Ita in argumentationibus quas propositionibus compaginari atque conjungi supra retulimus, gemina erit speculationis et iudicandi via. Una quae propositionum ipsarum naturam discernit ac iudicat utrum verae ac necessariae sint, an verisimiles, an sophisticis applicentur, et haec quasi materiae speculatio est. Altera vero iudicii pars est quae inter se propositionum juncturas compositionesque perpendit; haec quasi formam iudicat argumentorum.”

²⁶ *NLPri* BnCF J.10.48, fol. 24va (1.1.4 dub. 2), “Sillogismus enim formalis, de quo determinatur in libro isto, cuius scilicet materia sunt due propositiones et tres termini.”

²⁷ *NLPri* BnCF J.10.48, fol. 24va (1.1.4 dub. 3), “Adhuc autem ab unitate finis, scilicet conclusionis, dicitur oratio una.”

between major and minor premise, Kilwardby reasons, the minor should not be counted along with the major; and so, he says, the Aristotelian definition of the syllogism rightly names *oratio* (in the singular) as its genus, not *orationes*.²⁸

The demonstrative and dialectical syllogisms differ from each other in having necessary as against probable matter.²⁹ That he is here relying on a conception of matter drawn from Aristotle's *Physics* is clear from his use of the expressions "from <ex> the necessary" and "from the probable," just as one would say that a statue was "from" bronze.

On the basis of the general principle that a matter-form composite is deficient if it is deficient in matter, it might be argued that a syllogism from false premises is not a syllogism, since it is deficient in matter. Kilwardby solves the puzzle by distinguishing the matter of the syllogism *simpliciter* (which is simply two propositions and three terms) from the matter of the ostensive syllogism (where the propositions have to be true).³⁰

²⁸ *NLPri* BnCF J.10.48, fol. 24va (1.1.4 dub. 3), "Minor autem propositio in sillogismo contrahit maiorem ad conclusionem et ideo non ponit in numerum. Et ideo dicitur sillogismus est oratio et non orationes." Cf. Kilwardby (?), Robert. *Comentum super librum Topicorum*, in Olga Weijers. "Le commentaire sur les 'Topiques' d'Aristote attribué à Robert Kilwardby (ms. Florence, B.N.C., Conv. Soppr. B.4.1618), *Documenti e Studi sulla Tradizione Filosofica Medievale* 6 (1995): 107–43, 308–10, "Et dicendum quod minor propositio contrahit maiorem et ideo non ponit in numerum, quia quod aliud contrahit non ponit in numerum cum eo quod contrahit."

²⁹ *NLPri* BnCF J.10.48, fol. 22va (Prologus dub. 7), "In libris residuis de ipso habet determinari. Sed hoc potest esse dupliciter quia aut de sillogismo in se (et sic de ipso est liber *Priorum*), aut in suis partibus et hoc tripliciter. Sillogismus enim specialis aut est ex necessariis (et sic demonstrativus sillogismus), aut ex probabilibus (et sic dialecticus), aut ex apparentibus probabilibus (et sic sophisticus), de quibus determinatur in tribus libris residuis nove logice. Ex hiis patet subiectum in proposito, scilicet in libro *Priorum*. Est enim de sillogismo simpliciter et non contracto."

³⁰ *NLPri* BnCF J.10.48, fol. 57vb (2.2.2 dub. 2), "Ad dictorum evidentiam consequens est questio utrum syllogismus ex falsis sit syllogismus vel non. Et hoc est utrum inferat ex necessitate. Et primo videtur quod non sic. Syllogismus cum sit quodam compositum debetur compositio a materia et forma, quarum si deficiat altera non syllogismus erit. Si ergo peccat in materia syllogismi non erit syllogismus. Sed dicitur quod syllogismus ex falsis peccat in materia, ex hoc est verum, quare non est syllogismus. . . . Ad primum autem obiectionem dicendum quod syllogismo simpliciter sunt principia materialia que sunt due propositiones et si hic sit defectus non erit syllogismus, syllogismi autem ostensivi sunt due propositiones vere. Quamvis ergo syllogismus ex falsis deficiat in materia non deficit in materia syllogismi simpliciter sed in materia syllogismi ostensivi. Et immo quamvis ex falsis sit, non tamen sequitur quod non sit syllogismus, sed quod non ostensivus simpliciter." Cf. Robert Kilwardby, *De ortu scientiarum* ed. Albert G. Judy, OP (Toronto: 1976), 509, "ex utraque vel altera praemissa falsa concludit, sed ex propriis et in propriis terminis ratiocinatur et concludit ex necessitate, quia non peccat contra formam syllogisticam, sed contra rationem demonstrationis, quae debet esse semper ex veris." The *Topics* commentary attributed to Kilwardby puts forward a slightly different solution, namely, that a syl-

He extends his talk of special matter to the distinction between modal and assertoric syllogisms.³¹ But, rather than reflect a considered view that modal and assertoric syllogisms differ from one another solely by virtue of their matter, this is probably a careless confusion between genuinely modal syllogisms and those assertoric syllogisms whose premises happen to relate to necessary matter. Certainly, when he comes to discuss modal syllogisms in detail he regards them as holding by virtue of their syllogistic form, while at some points contrasting genuine modal syllogisms with arguments that hold only by virtue of their terms (*gratia terminorum*).³² As Lagerlund observes:

general discussions of modal propositions in the most-read logical textbooks do not give the impression that their authors saw the mode as part of a proposition's matter. They tended, rather, to treat the modalities as syncategorematic terms, which suggested that they saw them as part of the form of a proposition.³³

A syllogism's form is the figure and mood as shown respectively by the relative position of the terms in the premises and by the premises' quality and quantity; this is indicated by Aristotle when he says that in the syllogism certain things are posited (*positis*).³⁴ A syllogism's figure is the arrangement of the terms in the premises (the middle term occurring both as a subject and as a predicate in the first figure, only as a predicate

logism from false premises is deficient in accidental, not essential, matter. Kilwardby (?), *Comentum super librum Topicorum*, ed. Weijers, 354–59, “Et dicendum quod materia essentialis in sillogismo sunt tres termini et due propositiones; et si sit defectus in ista materia, non manet sillogismus. Alio modo <materia> sillogismi accidentalis, scilicet tres termini et due propositiones sub istis dispositionibus quod propositiones sint probabiles, vere et necessarie; et si sit defectus in ista materia, bene tunc potest sillogismus esse, et hoc quia materia accidentalis.”

³¹ *NLPri* BnCF J.10.48, fol. 23ra (Prologus dub. 9), “Adhuc determinat de sillogismo secundum quod fit ex propositionibus de inesse et ex propositionibus de modo, et tales propositiones sunt materia ad sillogismum; quare non videtur quod solum intendit de forma sillogismi.”

³² *NLPri* BnCF J.10.48, fol. 42rb (1.19 dub. 10), “Hoc enim non est nisi gratia terminorum, et non gratia forme.” This is in relation to the syllogism Camestres LQM.

³³ Henrik Lagerlund, “Al-Ghazali on the Form and Matter of the Syllogisms,” *Vivarium* 48 (2010): 193–214, at 208.

³⁴ *NLPri* BnCF J.10.48, fol. 24va (1.1.4 dub. 4), “Adhuc dubitatur quid intendat per hanc particulam “positis” et cuius positionem. Et potest dici quod intendit dispositionem in modo et figura sicut patet per primam expositionem diffinitionis. Vel potest dici melius quod positio est partium materialium proprie. Unde intendit ibi positionem terminorum in propositionibus, per quam dinoscitur figura, et positionem propositionum adinvicem, secundum quam dinoscitur modus, quia tam termini quam propositiones sunt partes materiales sillogismo.”

in the second figure, and only as a subject in the third). Its mood is the quantity and quality of its premises (for example, universal negative major combined with universal affirmative minor). Figure and mood are thus features of a pair of premises.

The syllogism's form is either proximate (the mood) or remote (the figure); its matter, too, is either proximate (the propositions) or remote (the terms). In both cases the remote stands in potentiality towards the proximate, which completes it.³⁵

This distinction between proximate and remote form and matter is anticipated in the *Ars Burana's* distinction between principal and secondary form and matter.³⁶ Extensionally, Kilwardby's classification is the same as that in the *Ars Burana*; but intensionally his treatment is richer, and significantly different in one respect. Whereas we might take the concepts of the proximate and remote in Kilwardby's classification to be equivalent to the "principal" and "secondary" as used by the *Ars Burana*, the expressions *incomplete* and *completing* suggest that in his view the proximate and completing form presupposes the remote and incomplete form, so that an argument possessing the completing form must also possess the incomplete form.

Indeed, Kilwardby does believe that an argument can possess an incomplete form without possessing a corresponding completing form. He states in general that "two propositions, made with three terms, necessarily determine a figure through the placing of the terms, but don't necessarily determine a mood."³⁷ This happens in a third-figure syllogism

³⁵ *NLPri* BnCF J.10.48, fol. 28vb (1.4.2 dub. 4), "Et dicendum quod sicut ordo est in materiis, quedam enim est remota et indisposita, quedam autem propinqua et disposita, sic est in formis. Quedam est forma materialis et in potentia ad formam ulteriorem, quedam autem est ultima et completiva. Et sic invenimus in syllogismo ordinem in materia et in formis. In materiis quia terminus est materia eius remota et indisposita, propositio vero est materia propinqua et disposita; in formis etiam quia figura est forma incompleta et in potentia ad ulteriorem formam. Modus autem est forma ultima syllogismi completiva."

³⁶ *Ars Burana*, in *Logica modernorum: A Contribution to the History of Early Terminist Logic*, vol. 2, *The Origin and Early Development of the Theory of Supposition*, ed. Lambertus Marie De Rijk (Assen: 1967), 95,31–196,13, "Materia sillogismi duplex est, scilicet principalis et secundaria. Principalis materia sunt propositiones ex quibus contextitur sillogismus. . . . Secundaria materia sillogismi sunt termini ex quibus constant propositiones. . . . Nunc restat dicendum de forma sillogismi. Que item duplex est, scilicet principalis et secundaria. Principalis forma sillogismi est que constat in dispositione propositionum. Que dispositio sive modus appellatur. . . . Secundaria forma sillogismi est que consideratur ex habitudine terminorum in propositione positorum. Talis habitudo figura dicitur. . . ."

³⁷ *NLPri* BnCF J.10.48, fol. 48ra (1.28.2 dub. 2), "Consequenter queritur cum duplex sit dispositio formalis in syllogismo, scilicet modus et figura, et sunt inutiles inspectiones contra modum, quare non sunt alie inutiles peccantes contra figuram. Et dicendum quod hoc

with two singular premises, which, because they are neither universal nor particular, are not in any mood.³⁸

Kilwardby points out that the same syllogistic form can be shared by a demonstrative and a sophistical syllogism.³⁹ He also discusses the form of syllogisms from opposed premises such as

No learning is assiduous All learning is assiduous

No learning is learning

He says that conceptually there are three terms here (*secundum rationem*) even though in reality there are only two (*secundum rem*).⁴⁰ I take this to mean that we understand the syllogism to instantiate a syllogism *simpliciter* in which there are three terms, namely, Camestres:

No A is B All C is B

No A is C

All of this may bring to mind the modern concept of logical form, according to which a logical form is the result of systematically introducing dummy letters into a sentence or sentences, the matter being what is replaced by those dummy letters.⁴¹ Here, for example, is what Jan Łukasiewicz says about logical form:

The concrete terms, that is, the values of the variables, are called the matter, $\upsilon\lambda\eta$, of the syllogism. If you remove all concrete terms from a syllogism, replacing them with letters, you have removed the matter of the syllogism and what remains is called its form.⁴²

est quia due propositiones facte in tribus terminis per situm terminorum ex necessitate determinant figuram sed non ex necessitate determinant modum; et si abesset figura non esset dispositio ad syllogismum, et ideo quantum ad figuram nulla inspectio."

³⁸ *NLPri* BnCF J.10.48, fol. 45rb (1.24 dub. 2), "Et dicendum quod non est intentio Aristotelis quod sine universali nullo modo fit syllogismus, quia ex singularibus in tertia figura concludit necessario, sed quod syllogismus competenter se habens et secundum modum dispositus non fiat sine universalibus."

³⁹ *NLPri* BnCF J.10.48, fol. 24va (1.1.4 dub. 2), "Forma autem figura et modus potest salvari in sillogismo sophistico, sicut patet hic: omnis canis currit; omne latrabile est canis; ergo etc; et in multis aliis."

⁴⁰ *NLPri* BnCF J.10.48, fol. 25va (1.2 dub. 14), "habet tres terminos secundum rationem, licet tantum duos secundum rem, sicut est de sillogismo ex oppositis qui tantum habet terminos duos secundum rem, qui duo sunt tres secundum rationem. Verbi gratia 'Nulla disciplina est studiosa, omnis disciplina est studiosa, ergo nulla disciplina est disciplina'. Dicit ergo quod similiter est de conversione."

⁴¹ Barnes, "Logical Form and Logical Matter," 19–21.

⁴² Jan Łukasiewicz, *Aristotle's Syllogistic from the Standpoint of Modern Logic*, 2nd ed. (Oxford: 1957), 14.

However, it seems that our Parisian master's conception of syllogistic form differs from the modern one. Unlike modern logicians he does not regard a formula like the Camestres cited above as a pure form. For him, that formula, even though it abstracts from necessary or probable matter, still contains matter of a kind that he calls "transcendent"—namely, the letters *A*, *B*, and *C*.⁴³ Indeed, he holds that the complete separation of form from all matter is impossible. In the most abstracted statement of a syllogism such as Camestres there is still transcendental matter.⁴⁴

The Nature of the Syllogism

What is a syllogism? Various answers suggest themselves. A syllogism, it seems, is a certain motion.⁴⁵ Like all motions, it has a *terminus a quo* from which it begins and a *terminus ad quem* in which it concludes; in the case of the syllogism, what we have is a motion of reason from premises to conclusion.⁴⁶ But this, Kilwardby believes, does not give a true picture of the syllogism's manner of being; it is merely a metaphorical way of speaking.⁴⁷ In rejecting this analysis, he can be seen as taking the side of antipsychologism in the philosophy of logic.

Perhaps, then, a syllogism is a species of reasoning or argument? Certainly, the art that is contained in the *Prior Analytics* is a deductive art; and the syllogism is recognized as one of main species of reasoning

⁴³ *NLPri* BnCF J.10.48, fol. 23ra (Prologus dub. 9), "Syllogismus enim in materia transcendentem, ut in hiis terminis A, B, nec est in materia probabilis neque in materia necessaria et ita nec est dialecticus neque demonstrativus."

⁴⁴ Cf. *DOS*, para. 501, "Nota tamen quod non ita abstrahitur haec forma quod determinetur de ipsa sine omnimoda materia, quia hoc esse non posset. Sed sicut mathematica abstrahuntur a materia physica tantum et nihilominus ipsa habent suam materiam intelligibilem, ut in praecedentibus ostendimus, sic forma syllogistica et omnino ratiocinativa abstrahitur a materia communi et propria, id est probabilis et necessaria. Habet tamen secum quandam materiam simpliciore quae est intra utramque dictam, scilicet tres terminos, duo extrema et medium unum ex quibus connectuntur duae propositiones."

⁴⁵ *NLPri* BnCF J.10.48, fol. 23rb (1.1.1 dub. 2), "Syllogismus autem et demonstratio quidam motus sunt (quia motus rationis), et syllogizare est quoddam movere."

⁴⁶ See Debora Cannone, "Le *Notule libri Posteriorum* di Robert Kilwardby nella tradizione esegetica latina medievale del XIII secolo," 2 vols. (PhD diss., University of Cassino–University "La Sapienza" of Rome, 2003–2004) (hereafter *NLPoS*, Cannone), Prologus 43–46, "syllogismus uero et omnis differentia syllogismi quidam motus est: sicut enim per uerum motum forme de potentia materie extrahuntur, sic per motum rationis conclusiones a principiis et passionibus a subiectis oriuntur syllogizando et demonstrando."

⁴⁷ *NLPri* BnCF J.10.48, fol. 24rb (1.1.4 dub. 1), "Syllogismus vere motus non est sed magis methaforice loquendo."

alongside induction.⁴⁸ But he is not happy with the suggestion that the genus to which the syllogism belongs is argumentation or reasoning. He distinguishes two ways of considering the syllogism: either as the focal case to which all types of reasoning are referred, or as one type of reasoning to which other types (such as induction) are opposed.

If we understand the syllogism in the first way, as the type to which all argumentation and reasoning reduces, and we also regard argumentation or reasoning as the genus of the syllogism, then the nature of the syllogism would not be exhausted by its being argumentation or reasoning and would need to be completed by differentiae that exclude the other types of reasoning or argumentation. This Kilwardby regards as absurd;⁴⁹ he himself regards “reasoning” as an analogical concept not a genus.⁵⁰ The primary instance of reasoning is the syllogism: all other instances of it have to be referred to the syllogism and they draw any necessity they have from the syllogism.⁵¹

If we understand the syllogism in the second way, as one type of reasoning among others, then we have to consider what an argument or a piece of reasoning is relative to. An argument (since it aims to convince

⁴⁸ *NLPri* BnCF J.10.48, fol. 22vb; Prologus dub. 8: Sed ars que est de sillogismo simpliciter est ars colligendi. . . . Species ratiocinationis sunt sillogismus et inductio.”

⁴⁹ *NLPri* BnCF J.10.48, fol. 24va (1.1.4 dub. 2): “Et secundum istam intentionem dicendum est ad predictam questionem quod si in diffinitione sillogismi poneretur argumentatio vel ratiocinatio, que est proprium genus eius, oporteret tali generi addi differentias essentielles completivas sillogismi per quas excluderentur a sillogismo alie species argumentationis. Hoc autem non esset conveniens, ex quo hic determinatur de sillogismo ut in ipsum reducuntur omnes species argumentationis. Propter hoc enim nullam illarum debet diffinitio eius excludere.”

⁵⁰ *NLPri* BnCF J.10.48, fol. 24va (1.1.4 dub. 2), “Potest autem melius et subtilius responderi ad questionem factam sic: argumentum, secundum Aristotelem in octavo *Topicorum*, est sillogismus dialecticus; quare cum argumentatio sit expressio argumenti per sermonem neque argumentum neque argumentatio genus sillogismi est, sed econverso secundum Aristotelem. Adhuc ratiocinatio dicitur analogice de sillogismo et aliis differentis eius, et primo de sillogismo. Et ipsa nichil est in se ante sillogismum sed ipsa primo invenitur in sillogismo. Talis enim est natura analogi. Genus autem vere dicit aliquid quod est natura prius in se quam in suis differentiis, et ideo neque sumitur ratiocinatio pro genere sillogismi neque argumentatio neque argumentatio, sed in oratione univocantur sillogismus et alii modi ratiocinationis. Quamvis enim esse ratiocinationis conveniat aliis a sillogismo per sillogismum non tamen sic est de oratione sed in oratione univocantur, et ideo optime diffinitur sillogismus per orationem quia propriissime genus ei est et aliis modis argumentandi.”

⁵¹ *NLPri* BnCF J.10.48, fol. 22vb; Prologus dub. 8, “Sic autem est ratiocinatio communis sillogismo et inductioni. Tota enim eius natura primo invenitur in sillogismo, in inductione autem non nisi per sillogismum. Et ideo cum determinata sit natura sillogismi simpliciter et qualiter inductio capit necessitatem a sillogismo patet sufficienter natura ratiocinationis nec debet aliter determinari.”

a soul to adopt a given belief) is relative to that soul; a piece of reasoning (since it offers a reason *for* a given conclusion) is relative to the conclusion. Rather than make the syllogism relative to individual minds or conclusions, Kilwardby prefers to take it as a piece of discourse whose integral parts are its premises, invoking Priscian's definition of discourse (*oratio*) as a well-formed sequence of expressions. The premises, he thinks, are the most essential parts of the syllogism.⁵² In defense of his view one can point to the fact that one and the same syllogism can be directed at persuading different hearers, and can have multiple conclusions (as Aristotle says in book 2, chapter 1). This account of the genus of the syllogism fits well with his account of the syllogism's matter as propositions and terms, and with his general idea of logic as a linguistic science.

Notice that Kilwardby does not even consider the possibility that the syllogism is a species of consequence: this is ruled out by his taking the syllogism's matter to be merely the premises (whereas the conclusion is an integral part of a consequence). He does, however, recognize that something follows of necessity from a syllogism, and thus that a syllogism's premises constitute the antecedent of a necessary consequence. And he recognizes two types of consequence: (1) the natural (where the consequent is understood in the antecedent),⁵³ and (2) the accidental (where a necessary proposition is consequent upon everything):

There are two types of consequence: the essential or natural (as when the consequent is naturally understood in the antecedent), and the accidental consequence (such as the consequence according to which we say that the necessary follows from anything).⁵⁴

⁵² *NLPri* BnCF J.10.48, fol. 24rb (1.1.4 dub. 2), "Argumentatio est argumenti per orationem explicatio. Quod quidem argumentum est ratio faciens fidem de re dubia. Argumentatio ergo comparisonem habet ad animam cui fidem facit, et sillogismus simpliciter secundum quod argumentatio est. Ratiocinatio vero est decursus a causa in causatum, et hoc est a premissis in conclusionem; sillogismus igitur secundum quod ratiocinatio est comparisonem habet ad conclusionem. Oratio autem secundum Priscianum est congrua dictionum ordinatio; sillogismus ergo secundum quod est oratio comparisonem habet in suis partibus integralibus. Hec autem comparatio essentialior est ei quam aliqua aliarum, sicut per se patet. Quare ponitur potius oratio in diffinitione sillogismi quam ratiocinatio vel argumentatio."

⁵³ *NLPri* BnCF J.10.48, fol. 30ra (1.5 dub. 5).

⁵⁴ *NLPri* BnCF J.10.48, fol. 59ra (2.4 dub.1), "Duplex est consequentia, scilicet essentialis vel naturalis, sicut quando consequens naturaliter intelligitur in antecedente, et consequentia accidentalis. Talis autem consequentia secundum quam dicimus necessarium sequi ad quodlibet. . . ."

Syllogistic consequence belongs to the first class.

Kilwardby recognizes a sense of *sylogism* in which a syllogism resides in a person's soul in the way that an art resides in the soul of an artificer as a result of a process of discovery through processes of sensation and experience. He distinguishes this sense from the sense in which the syllogism is the subject matter of the *Prior Analytics*. By doing so, he avoids a psychologistic understanding of the science of logic, at the same time allowing that the discovery and deployment of syllogisms (even by the author of the *Prior Analytics*) are matters pertaining to an individual person's psychology.⁵⁵ As such, the actual syllogisms that people produce have efficient causes.

The demonstrative and dialectical syllogism also have a final cause, namely, the production respectively of knowledge or belief. But it is difficult to conceive of the syllogism *simpliciter* as having such a final cause, since its premises and conclusion—expressed as they are in “transcendent” terms—cannot be objects of belief or knowledge.⁵⁶ Nonetheless, Kilwardby sees the syllogism *simpliciter* as an instrument whose function is essentially related to the production of knowledge.⁵⁷ The relationship arises because the syllogism *simpliciter* “descends immediately” into the demonstrative syllogism.⁵⁸ Its function is to prove or infer something of necessity; and it is only if this is done that the specific functions of the demonstrative syllogism can be achieved.⁵⁹

⁵⁵ *NLPri* BnCF J.10.48, fol. 23ra; Prologus dub. 8, “Sillogismus duplex est, unus cuius cognitio habetur per inventionem ut per sensum et experimentum et iste quiescit in anima inventoris sicut ars in anima artificis. Alius est cuius cognitio habetur per doctrinam mediante sillogismo iam invento per experimentum et sensibilem operationem secundum quod docet Aristoteles in fine *Posteriorum*. Dicendum quod de sillogismo secundo modo est scientia et hec per sillogismum primo modo dictum et non erit sic idem ante se ipsum nec aliquid aliud inconveniens.”

⁵⁶ *NLPri* BnCF J.10.48, fol. 22vb; Prologus dub. 8, “Adhuc sillogismus simpliciter caret bonitate et operatione. Ergo de ipso non erit scientia. Est enim ars et scientia de difficili et bono. Probatio premissae: bonitas sillogismi consistit in hoc quod potest facere fidem vel scientiam vel aliquid tale. Sed sillogismus simpliciter abstractus ab omni materia speciali nil tale potest facere. Ergo sillogismus hoc modo dictus caret bonitate caret sillogismi.”

⁵⁷ *NLPri* BnCF J.10.48, fol. 22vb; Prologus dub. 8, “Sillogismus simpliciter est instrumentum quo acquiritur fides de questione opinabili et scientia de questione scibili.”

⁵⁸ *NLPri* BnCF J.10.48, fol. 23rb; Prologus dub. 8, “Sillogismus simpliciter immediate descendit in sillogismum demonstrativum, in quo primo reperitur eius bonitas et maxime.”

⁵⁹ *NLPri* BnCF J.10.48, fol. 22vb–23ra; Prologus dub. 8, “Quod sillogismus simpliciter non privatur bonitate et operatione sillogismi quamvis in sua communitate consideratur, neque faciat scientiam neque fidem. Sicut enim bonitas sillogismi dialectici constat secundum istam operationem facere fidem vel opinionem, bonitas autem sillogismi

Necessary consequence, however, is only one of the characteristics of the syllogism *simpliciter*. Interpreters, including Kilwardby, frequently read three other characteristics into Aristotle's definition of the syllogism: (1) A syllogism must have more than one premise, and thus cannot be an enthymeme; (2) its conclusion must be different from the premises, and thus the inference must not commit a fallacy of begging the question; and (3) no premise can be redundant, and thus the inference must not commit a fallacy of *non-causa ut causa*. These characteristics of the syllogism were proposed as interpretations of (1) the requirement that in a syllogism "certain things" (plural) are laid down,⁶⁰ (2) the conclusion be "other" than the premises,⁶¹ and (3) the conclusion follows "from their being so."⁶² Interestingly, each of these characteristics is connected to the proper functioning of the demonstrative syllogism in the same way as is necessity. A demonstrative syllogism could not perform its function of producing new knowledge if its conclusion were the same as one of its premises. Nor could the work of producing new knowledge be correctly attributed to a deduction with redundant premises, since that would imply that all premises, including redundant ones, played a part in producing the knowledge or belief.

Perfection

One can distinguish between the existence of an instrument [*esse*] and its functioning well [*esse bene*]. In the case of the syllogism *simpliciter* the distinction coincides with Aristotle's distinction between the syllogism in general and the perfect syllogism. In order for a syllogism to exist there must be a relationship of necessary consequence connecting the premises to the conclusion. The premises and conclusion by themselves must be sufficient to determine that necessary relationship, even if by them-

demonstrativi secundum istam operationem facere scientiam, sic bonitas sillogismi simpliciter abstrahentis ab utroque est secundum istam operationem aliquid probare ex necessitate sive aliquid inferre, et hec operatio communis cum ingreditur materiam specialem facit fidem vel scientiam."

⁶⁰ *NLPri* BnCF J.10.48, fol. 24rb (1.1.4 dub. 2), "per hanc particulam 'quibusdam' excluditur entimema."

⁶¹ *NLPri* BnCF J.10.48, fol. 24rb (1.1.4 dub. 2), "Per hoc quod dicit 'aliud accidit' excluditur petitio eius quod est in principio, non secundum quod est locus sophisticus sed secundum quod est peccatum contra sillogismum simpliciter, et determinatur in secundo huius."

⁶² *NLPri* BnCF J.10.48, fol. 24rb (1.1.4 dub. 2), "Per hoc quod dicit 'eo quod hec sunt' excluditur non causa ut causa, non secundum quod est locus sophisticus sed secundum quod est peccatum contra sillogismum simpliciter, et determinatur in secundo huius."

selves they are not sufficient to make the necessity evident. In order for a syllogism to be perfect, and thus to perform well its function of proving or inferring something of necessity, the necessary relationship between premises and conclusion must be evident; and this may require the statement of further things that, while not explicit in the syllogism's premises, are nonetheless necessitated by them.⁶³

Perfect syllogisms are in the first figure; and among these Robert takes the ones with two universal premises to be more perfect than the others—more perfect not in their necessitating their conclusions but in the obviousness with which they do so.⁶⁴ What gives the most perfect syllogisms their special character is that they operate by virtue of being-said-of-all or of-none. They are syllogisms in the first figure whose minor premise is a universal affirmative proposition “Every *C* is *B*”, where the major premise makes a statement about *B* which the conclusion make about *C*: syllogisms like

Every <i>C</i> is <i>B</i> Every <i>B</i> is <i>A</i>	Every <i>C</i> is <i>B</i> No <i>B</i> is <i>A</i>
Every <i>C</i> is <i>A</i>	No <i>C</i> is <i>A</i>

Overall, Kilwardby views the conceptual field occupied by the syllogism as being structured by three distinct ordering relations corresponding firstly to the syllogism's relation to other forms of reasoning, secondly to the relation between demonstrative and other varieties of syllogism, and thirdly to the relation between perfect and imperfect syllogisms.

Among reasonings or argumentations, the syllogism is prior to induction, not only in the sense that the nature of reasoning is most fully instantiated in it,⁶⁵ but also in the sense that an induction, although not actually a syllogism, is potentially such: it is “virtually” and “at root” a syllogism, being reducible to it and drawing any necessity it has from the

⁶³ *NLPri* BnCF J.10.48, fol. 24vb (1.1.5 dub. 3), “Syllogismus simpliciter nullo extrinseco indiget ad hoc quod sit necessarius. Syllogismus autem imperfectus aliquo indiget extrinseco non ut sit necessarius sed ut appareat necessarius, et ita non repugnat imperfectus syllogismus syllogismo simpliciter. . . . Duplex est perfectio, scilicet quo ad esse vel quo ad bene esse. Quando autem dicitur syllogismus “imperfectus”, hoc est quia caret perfectione secunda que pertinet ad bene esse, nichilominus tamen de eo predicatur syllogismus, quia habet perfectionem syllogismi primam pertinet ad esse syllogismi.”

⁶⁴ *NLPri* BnCF J.10.48, fol. 31va (1.7 dub. 9), “Et dicendum quod modi universales, etsi non sunt perfectiores quantum ad necessitatem, sunt tamen perfectiores quantum ad modum et quantum ad evidentiam necessitatis.”

⁶⁵ See note 50.

syllogism.⁶⁶ He gives two different analyses of what it means to say that induction reduces to the syllogism. These correspond to two ways of glossing Aristotle's definition of the syllogism. If we adopt the first gloss, and accordingly take induction to be excluded from the definition of the syllogism, then it can still be said to reduce to the syllogism, "not because the form of induction may be transmuted into the form of the syllogism, but because matter that now exists under the form of induction is reduced so as to take on syllogistic form."⁶⁷ The characteristic form of inductive reasoning is

$$\frac{\text{Every } B \text{ is } C \quad \text{Every } B \text{ is } A}{\text{Every } C \text{ is } A}$$

(where *B* names a class of examples, each of which falls under the predicate *C*, and on the basis of the premise that every *B* is *A* we conclude that every *C* is *A*). This reasoning is not valid, but it can be turned into a valid inference if we exchange the terms in the *B*–*C* premise, thus

$$\frac{\text{Every } C \text{ is } B \quad \text{Every } B \text{ is } A}{\text{Every } C \text{ is } A}$$

We now have a syllogism. But the process whereby we produced it operated on the *matter* of the first inference (its terms); it was not a logical rule for generating one valid inference from another. What the process amounts to is recognizing that the conclusion does not follow from the stated premises in the inductive reasoning, but that it would follow if we assumed that our class of examples, *B*, exhausted the *C*s. This is how the reducibility of induction to syllogism looks if we adopt the first gloss on Aristotle's definition of the syllogism.

If we adopt the second gloss, according to which induction is not excluded by the definition of the syllogism, then induction can still be said to reduce to a perfect syllogism in the manner shown above. Even

⁶⁶ *NLPri* BnCF J.10.48, fol. 62rb (2.23 dub. 7), "Consequenter de hiis que dicit in littera dubitatur, et primo de hoc quod dicit alios modos arguendi a sillogismo fieri per predictas figuras—quia si ita esset tunc non oportet illos reduci in predictas figuras. Et dicendum quod virtualiter et radicaliter fiunt omnes per predictas figuras, quare non habent necessitatem nisi ab eis, et in potentia se habent ad illas ut reducantur in illas. Non autem fiunt actualiter per illas primo et ex se, sed ex reductione."

⁶⁷ *NLPri* BnCF J.10.48, fol. 62a (2.23 dub. 4), "non quia forma inductionis transmutetur in formam sillogismi, sed quia materia nunc existens sub forma inductionis reducitur ad acceptionem forme sillogistice."

so, there remains a sense of “syllogism” to which induction is opposed. This is the sense in which the proper nature of the syllogism is “to show that the first belongs to the third by way of the middle,”⁶⁸ where “first,” “third,” and “middle” are understood in a metaphysical sense. Induction is not reducible to such a syllogism, even if it is reducible to a perfect syllogism, because not all perfect syllogisms satisfy the criteria for being demonstrative.

Among syllogisms, the demonstrative are prior to the dialectical, but only in the first of these senses: the goodness of the syllogism is found primarily in the demonstrative syllogism.⁶⁹ but there is no question of reducing dialectical syllogisms to demonstrations.

Among syllogisms *simpliciter* the perfect are prior to the imperfect, but only in the sense that imperfect syllogisms reduce to perfect ones. Here it is appropriate to talk about the form of imperfect syllogisms being transmuted into the form of perfect syllogisms, because there exist logical rules whereby the imperfect syllogisms are valid if the perfect ones are valid. Thus, imperfect syllogisms reduce to perfect ones in a sense that is quite different from the sense in which inductions reduce to perfect syllogisms. However, the reducibility of imperfect to perfect syllogisms doesn't mean that imperfect syllogisms are not fully syllogistic. Imperfect syllogisms satisfy the Aristotelian definition of syllogism just as fully as do perfect syllogisms. Their reduction to perfect syllogisms makes them evident; it does not make them syllogisms, since they are syllogisms already. Evident necessity, however, is a valuable feature in a syllogism because it makes it easier for the syllogism to perform its function as an instrument for judging actual reasonings; and this is why the perfect syllogism alone is said to possess the syllogism's *esse bene*.

The relationship between the syllogism *simpliciter* and the demonstrative, dialectical, and rhetorical syllogisms is not a simple relation of priority. The syllogism *simpliciter* is abstracted from them, having no regard to whether the premises are true or false, but preserving necessary consequence, figure, and mood. In preserving figure and mood, the syllogism *simpliciter* preserves the characteristics of the syllogism whereby its conclusion follows necessarily from its premises, is “other” than them, and follows “from their being so.” Because of this, the syllogism *simpliciter* is a suitable instrument for regulating actual reasonings.

⁶⁸ *NLPri* BnCF J.10.48, fol. 62ra (2.23 dub. 4).

⁶⁹ See note 58.

Perfectibility: Assertoric Syllogisms

Aristotle's discussion of the theory of the syllogism in the first book of the *Prior Analytics* achieved a high degree of systematicity. Central to his system is the notion of perfectibility. Aristotle demonstrates, for each mood of each figure, either that a syllogism in that mood and figure is perfectible (in that it can be reduced to a perfect syllogism) or that it can have true premises and a false conclusion.

There are three methods by which a syllogism may be perfected. First, it may be turned into a perfect syllogism by converting one of its premises and/or its conclusion, in the way that the imperfect second figure syllogism Cesare

$$\frac{\text{Every } C \text{ is } A \quad \text{No } B \text{ is } A}{\text{No } C \text{ is } B}$$

can be turned into a perfect first figure syllogism:

$$\frac{\text{Every } C \text{ is } A \quad \text{No } A \text{ is } B}{\text{No } C \text{ is } B}$$

by converting the major premise "No *B* is *A*" into its equivalent "No *A* is *B*."⁷⁰

The second way of reducing a syllogism to one of the perfect syllogisms is to argue *per impossibile*. This procedure works in the following way.⁷¹ In order to show that Baroco is valid, that is, that the premises

$$\text{Not every } C \text{ is } A \quad \text{Every } B \text{ is } A$$

lead to the conclusion

$$\text{Not every } C \text{ is } B$$

we show that the contradictory of the desired conclusion is repugnant to the premises, because if we add it to the premises we can use the perfect syllogism Barbara to derive a contradiction:

⁷⁰ For Kilwardby's treatment of the conversion of assertoric propositions, see Thom, *Logic and Ontology*, 77–88.

⁷¹ *NLPri* BnCF J.10.48, fol. 30ra (1.5 dub. 5), "Et dicendum quod cum unum oppositorum repugnat premissis vel premissis, hoc non est nisi quia eius oppositum ibi intelligitur. Primo enim repugnat oppositum suo opposito et per ipsum in aliis. Patet ergo quod si repugnet premissis in ipsis intelligitur reliquum oppositorum. Sed quod intelligitur in aliquo vel in aliquibus necessaria consequentia et naturali sequitur ex ipso vel ex ipsis. Et ita ex necessitate si unum oppositorum repugnat premissis reliquum ex eis sequitur."

$$\begin{array}{l} \text{Not every } C \text{ is } A \quad \text{Every } B \text{ is } A \quad \text{Every } C \text{ is } B \\ \hline \text{Every } C \text{ is } A \end{array} \quad \textit{Barbara}$$

Notice that this procedure operates on a pair of premises, adding a third proposition to them and then deriving the opposite of one of the three from the other two. The procedure could be represented as the transformation of Barbara into Baroco:

$$\begin{array}{l} \text{Not every } C \text{ is } A \quad \text{Every } B \text{ is } A \\ \hline \text{Not every } C \text{ is } B \end{array} \quad \longleftarrow \quad \begin{array}{l} \text{Every } B \text{ is } A \quad \text{Every } C \text{ is } B \\ \hline \text{Every } C \text{ is } A \end{array} \quad \textit{Barbara}$$

This type of transformation is indeed studied by Aristotle in book 2, chapters 11–13; and it is true that whenever a syllogism can be reduced to the first figure *per impossibile* there are two inferences related by this type of transformation. But Kilwardby does not represent reduction *per impossibile* as the transformation of one inference into another. In keeping with his view of the syllogism as materially constituted by two premises, he represents this sort of reduction as operation on a syllogism's two premises.

The third way in which a syllogism can be perfected is by *expositio* (*ekthesis*). This involves showing that a pair of premises lead to a syllogistic conclusion, by replacing the general term which is subject in a universal premise by a singular term—where it is obvious to the senses that the resulting premises lead to the desired conclusion.⁷² For example, the premises

Every *C* is *A*, Every *C* is *B*

can be shown to lead to the syllogistic conclusion

Some *A* is *B*

by selecting an individual, "This *C*," under *C*, forming the premises

This *C* is *A*, This *C* is *B*

⁷² *NLPri* BnCF J.10.48, fol. 30rb (ad 1.6, 28a10), "Consequenter ponit coniugationes universales, et primo utiles, secundo inutiles. Utiles autem ponit duas, quarum prima est ex affirmativis universalibus, cuius utilitatem ostendit reducendo eam in tertium modum prime figure, conversa minore. Et dicit quod per impossibile ostendi potest; similiter etiam per expositionem. Et est ostendere per expositionem descendere ad aliquid individuum signatum et ponere singulare extra suum universale, et sic ad sensum manifestare propositum. Si ergo sub medio accipiatur aliquid signatum de quo dicitur utrumque extremorum necesse est extremum de extremo dici particulariter. Et hoc patet plane in textu."

which obviously yield the desired syllogistic conclusion. (Alternatively, we could give the selected individual a name, such as *N*.) It is noteworthy that according to Kilwardby it must be an individual that is selected, not a species falling under *C*. We shall see shortly that his attitude to *expositio* in modal contexts is not quite so fixed.

What makes *expositio* a valid procedure is the principle that what follows from the consequent follows from the antecedent.⁷³ Our initial premise-pair of universal propositions implies the pair of singular propositions which lead to the conclusion; thus the initial pair yield the desired conclusion:

Every <i>C</i> is <i>A</i>	Every <i>C</i> is <i>B</i>
This <i>C</i> is <i>A</i>	This <i>C</i> is <i>B</i>
Some <i>A</i> is <i>B</i>	

Kilwardby takes Aristotle's systematization of the theory of the syllogism a step further. For each of the three figures, he lays down principles stating which combination of premises in that figure yield a syllogistic conclusion. These principles amount to a filling-out of the notion of syllogistic form as figure and mood. They are

- (P1) In every syllogism, one premise must be universal.
- (P2) In every syllogism, one premise must be affirmative.
- (P3) In first Figure syllogisms, the Major must be universal.
- (P4) In first Figure syllogisms, the Minor must be affirmative.
- (P5) In second Figure syllogisms, the Major must be universal.
- (P6) In second Figure syllogisms, one of the premises must be negative.
- (P7) In third Figure syllogisms, the Minor must be affirmative.⁷⁴

Kilwardby argues in detail that (P1)–(P7) are a complete and adequate basis for the assertoric syllogistic. The entire assertoric syllogistic is based

⁷³ *NLPri* BnCF J.10.48, fol. 30vb (1.6 dub. 1), "Sed queretur de expositione per quam perficit quosdam sillogismos huius figure, qua necessitate sequatur ad propositiones universales quod sequitur ad singulares quando fit contractio subiecti in propositionibus universalibus ad hoc aliquod et singulare. Et dicendum quod necessitas patet per hanc maximam: Quod sequitur ad consequens sequitur ad antecedens." This should be compared with Kilwardby's remark on 1.2 dub. 12, "Talis autem per se manifesta est et non oportet de ea habere doctrinam."

⁷⁴ *NLPri* BnCF J.10.48, fols. 28vb–29ra, 29vb, 30vb (1.4.2 dub. 8, 9; 1.5 dub. 8; 1.6 dub. 2). These, and most of the other syllogistic principles articulated by Kilwardby, can be found in the *Dialectica monacensis*, in Lambertus Marie de Rijk, *Logica modernorum: A Contribution to the History of Early Terminist Logis*, vol. 2, pt. 2, "The Origin and Early Development of the Theory of Supposition," 453–638, at 498–504.

on these principles, in the following sense. For every combination of premises complying with the principles, there is a syllogism that can be reduced by Aristotle's methods to a perfect syllogism; and for every combination of premises not complying with the principles, there is no such syllogism.

Perfectibility: Modal Syllogisms

In his theory of syllogisms having premises that are modified by a sign of necessity or contingency, Aristotle uses the same methods of perfection that he used in his treatment of assertoric syllogisms. Perfection is achieved, if at all, by conversion⁷⁵ or by reduction *per impossibile* or by *expositio*. However, Kilwardby identifies two points of difference. One concerns the method of *expositio*, and the other concerns Aristotle's principle that what is expressed as a contingency may be supposed to be actualized without entailing anything impossible.

Expositio as used for necessity syllogisms does not need to descend to individuals, but may descend either to an individual or to a less universal general term.⁷⁶ (The view that *expositio* for modal syllogisms may operate at the level of either general or singular terms was also put by Alexander of Aphrodisias.)⁷⁷

⁷⁵ For Kilwardby's treatment of the conversion of modal propositions, see Thom, *Logic and Ontology*, 88–99.

⁷⁶ *NLPri* BnCF J.10.48, fol. 32va (1.8 dub. 9), "Et dicendum, ut dicant aliqui, quod non fit hic expositio per singularia vere sed per minus universalia, et illa sumi, dicunt, universaliter sic 'Necesse est omnem hominem esse animal, necesse est quoddam album non esse animal, ergo necesse est album non esse hominem.' Et exponi debet 'album' non per aliquid signatum sensible, sed per aliquid particulare album cuiusmodi est nix. Et ideo sumi debet universaliter, et fiet sillogismus in secundo secunde sic 'Necesse omnem hominem esse animal, necesse nullam nivem esse animal, ergo necesse est nullam nivem esse hominem.' Et ita cum nix sit aliquid album, necesse est aliquid album non esse hominem. Consequenter facienda est expositio in quinto tertie, et fiet sillogismus expository in secundo tertie. Et ita utrobique fit sillogismus expository in eadem figura cum eo qui exponitur, licet non in eodem modo. Sic satis bene dici potest.

Potest etiam dici quod expositio Aristotelis fieri potest per sensible singulare ita quod C exponatur per hoc sensible C, ut predictum est, et fiet sillogismus expository in quarto secunde penitus in eodem modo. Et in quinto tertie fiet in eodem modo manente minore qui universalis est. Si autem fiat expositio in quinto tertie tam in maiori quam in minori, erit utraque propositio singularis, et sequitur per consequentiam sensui notam et fit sillogismus expository adhuc in tertia figura sicut ille qui exponitur, licet non sit ibi sufficienter aliquis modus eius. Potest enim esse tertia figura etsi non sit aliquis modus eius, sicut patet ex predictis.

⁷⁷ See Jonathan Barnes et al., *Alexander of Aphrodisias, On Aristotle's Prior Analytics* (Ithaca: 1991), 1.30a9.

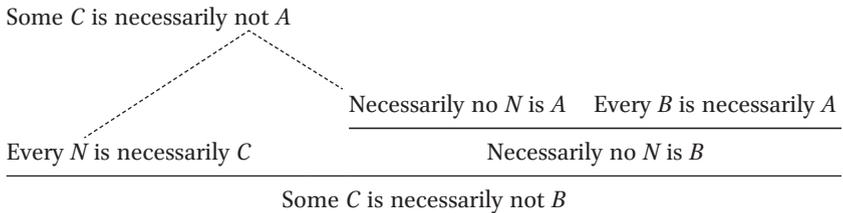
To illustrate the case where *expositio* uses general terms, suppose we want to show that the premises

Some *C* is necessarily not *A* Every *B* is necessarily *A*

imply the conclusion

Some *C* is necessarily not *B*.

If some *C* is necessarily not *A* then there must be some term *N* that is less general than *C* but which necessarily excludes *A*. If so, we can replace the proposition “Some *C* is necessarily not *A*” by the pair of premises “Every *N* is necessarily *C*” and “Necessarily no *N* is *A*.” We can then construct a derivation leading from these two replacement premises, together with the second of the original premises (“Every *B* is necessarily *A*”), to the desired conclusion:



Kilwardby organizes the modal syllogisms under a number of general principles determining which moods in which figure produce a syllogistic conclusion. Principles (P1)–(P7) apply equally to all modal syllogisms, just as they apply to nonmodal syllogisms. But he introduces new principles governing certain types of modal syllogism.

If the syllogism has one necessity premise and one nonmodal premise, then the combinations of premises yielding a syllogistic necessity conclusion are determined by the following principles, which further specify the notion of syllogistic form for this class of syllogisms:

- (P8) In first figure assertoric/necessity syllogisms, the necessity-proposition must be Major.
- (P9) In second figure assertoric/necessity syllogisms, one premise must be a universal negative necessity-proposition.
- (P10) In affirmative third figure assertoric/necessity syllogisms, the necessity-premise must be a universal affirmative.
- (P11) In negative third figure assertoric/necessity syllogisms, the necessity-premise must be a universal negative.⁷⁸

⁷⁸ *NLPri* BnCF J.10.48, fols. 33ra, 33vb, 34rb (1.9 dub. 5; 1.10 dub. 5; 1.11 dub. 5).

No other combination yields a syllogistic conclusion.

(P8) is of special interest. Robert bases it on the role he sees the major premise playing in a first figure syllogism, namely to determine the quality and modality of the conclusion (the quantity being determined by the minor).⁷⁹ If the major is to play this role in a mixed necessity / assertoric syllogism of the first figure, a necessity-conclusion can follow only if the major is a necessity proposition.

The minor, though an assertoric proposition, must according to Kilwardby be a *simpliciter* assertoric,⁸⁰ that is, a proposition that is *per se* in the first or second senses of *per se* given in the *Posterior Analytics*;⁸¹ and in his *Notule* on the *Posterior Analytics* 1.4, 73a34–73b5, he interprets those senses as expressing *per se* inferences where the predicate is what gives being to the subject or flows from its essence, as against necessary inferences that are accidental.⁸² In the *Notule libri Priorum* he reads assertoric premises as *simpliciter* whenever they occur in necessity/assertoric

⁷⁹ *NLPri* BnCF J.10.48, fol. 33ra (1.9 dub. 5), “Et dicendum quod conclusio est pars maioris, et maxime secundum predicatum, in quo communicat cum ipsa. Est etiam quantum ad subiectum pars minoris. Et ideo consequitur minorem in dispositionibus accidentibus subiecto eius (cuiusmodi sunt universalitas et particularitas), maiorem [F1 maxime] autem in dispositionibus accidentibus predicato (cuius sunt affirmativum et negativum, de inesse et de modo).”

⁸⁰ *NLPri* BnCF J.10.48, fol. 33ra (1.9 dub. 7), “Et dicendum quod maior propositio in prima figura continet totum syllogismum et consequentiam eius, quia tam minor quam conclusio pars eius est. Et ideo cum maior sit de necessario, appropriat sibi minorem ita quod oportet ipsum esse de inesse simpliciter, et minorem extremitatem accipi essentialiter sub medio ita quod minor sit necessaria secundum rem. Pars enim necessari in quantum huius non est nisi necessarium.”

⁸¹ *NLPri* BnCF J.10.48, fol. 38rb (1.15 dub. 9), “Et dicendum quod illa dicuntur inesse simpliciter que insunt primo modo et secundo modo per se et que reducuntur proximo.” On Kilwardby’s reference to the *Posterior Analytics*, see Lagerlund, *Modal Syllogistics in the Middle Ages*, pp. 30–32.

⁸² Kilwardby, *NLPos*, ed. Cannone 1.12, lines 81–87, “Item, nota quod ‘ex necessitate inesse’ dicitur dupliciter. Uno modo quando non potest non inesse per hoc quod dat esse ei cui inest uel egrediatur ab essentia eius, et quod sic ex necessitate inest, per se inest; et sic sumetur in sequentibus ‘ex necessitate inesse.’ Alio modo quod semper inest ei cui inest, non tamen posset non inesse, non obstante natura rei, cuiusmodi sunt multa accidentia inseparabilia; et sic omne quod est de omni, est ex necessitate, non tamen omne talis est per se.” Cf. Robert Grosseteste, *Commentarius in Posteriorum analyticorum libros*, ed. Pietro Rossi (Florence: 1981), 1.4.120–30, “Que ergo dicuntur et cetera, quasi diceret: cum sint iam dicti quatuor modi eius quod est per se, tantum duo primi modi accipiuntur in demonstrativis. Dicit ergo: *Que ergo dicuntur per se*, alterum de altero supple, *in scibilibus simpliciter sic sunt, sicut*, supple: ea que stabiliuntur, *in esse suo predicantibus*, id est per predicantia, hoc est per predicata. Et hic est primus modus dicendi per se cum predicatum dat esse subiecto et diffinit illud. *Aut in esse propter ipsa*, resume, aut sic sunt sicut ea que stabiliuntur in esse suo propter ipsa, id est subiecta, et iste est secundus modus dicendi per se in quo subiectum dat esse predicato et diffinit illud; *que*, scilicet predicata que stabiliuntur in esse suo per subiecta, *sunt ex necessitate* dicta de subiectis suis.”

sylogisms (even in the second and third figures). In his note to 1.22, where he states the rules governing mixed modal inferences, he writes, “And notice that in all cases the assertoric is a *simpliciter* assertoric, so that when a first figure syllogism is eventually produced, the minor extreme falls essentially under the middle.”⁸³

The idea that the assertoric premises in valid mixed assertoric/necessity syllogisms must always be *simpliciter* finds some textual justification in Aristotle, *Prior Analytics* 1.15, 34b7ff., where Aristotle (having introduced the distinction between propositions that are true for a limited time and those that are true *haplōs*, that is, *simpliciter*) states that syllogisms are produced “by means of these sorts of premises.” Kilwardby interprets this comment of Aristotle’s as prescribing the nature of assertoric premises in all mixed modal syllogisms; and he takes a *simpliciter* assertoric to be the same *secundum rem* as the corresponding necessity proposition, differing only *secundum modum*.⁸⁴

Just as our English master provides an interpretive grounding for the requirement that the major be a necessity proposition, so he provides one for the requirement that the minor be a *simpliciter* assertoric. His interpretive idea here is that the major premise *appropriates* the minor in such a way that the minor takes on the same character as the major. Thus, if there is a major necessity premise in the first figure, the minor has to be a *simpliciter* assertoric; and accordingly a necessity conclusion follows syllogistically. But since an assertoric major is not appropriated by its minor, it does not have to be a *simpliciter* assertoric even when the minor is a necessity proposition; and accordingly, the combination of an assertoric major and a necessity minor in the first figure does not yield any necessity conclusion syllogistically.⁸⁵

The syllogistic inferences determined by (P8) are perfect, and if the minor premise is universal they are most perfect. In the syllogisms

Every <i>C</i> is <i>B</i> Every <i>B</i> is necessarily <i>A</i>	Every <i>C</i> is <i>B</i> Necessarily no <i>B</i> is <i>A</i>
Every <i>C</i> is necessarily <i>A</i>	Necessarily no <i>C</i> is <i>A</i>

⁸³ *NLPri* BnCF J.10.48, fol. 43vb (1.22n), “Et in his omnibus observandum est quod illa de inesse sit de inesse simpliciter, ita quod cum tandem factus sit syllogismus in prima figura sit minor extremitas sub medio essentialiter.”

⁸⁴ *NLPri* BnCF J.10.48, fol. 32vb (1.9 dub. 2), “Quare idem est secundum rem ei que est de necessario, etsi non sit idem secundum modum.”

⁸⁵ On Kilwardby’s way of distinguishing the case where the major is a necessity proposition from the case where the minor is a necessity proposition, see Lagerlund, *Modal Syllogistics in the Middle Ages*, 33–34, 41–42.

the minor premise is a universal affirmative: “Every *C* is *B*,” and the major premise makes the same statement about *B* that the conclusion makes about *C*.

Of syllogisms with two contingency premises, the productive cases in the first and third figures are those that are determined by (P₁)–(P₇). But in the second figure no cases are productive. (This is because in order for a second figure from a pair of contingency premises to reduce to the first figure, a contingency major in the first figure would have to be convertible, whereas negative contingency propositions are not convertible.)⁸⁶ Recognizing this fact, and recognizing that no contingency proposition is negative without qualification (because all are equivalent to affirmatives), Kilwardby formulates a special principle for uniform contingency syllogisms of the second figure:

- (P₁₂) In second figure pure contingency-syllogisms, one of the premises must be negative without qualification [*simpliciter negativa*].⁸⁷

The combination of a contingency premise with an assertoric can be made in accordance with the following principles:

- (P₁₃) In first figure assertoric/contingency syllogisms, the minor must not be a negative assertoric.
 (P₁₄) In second figure assertoric/contingency syllogisms, the assertoric must be a universal negative.
 (P₁₅) In a negative third figure assertoric/contingency syllogism (where the assertoric premise is negative), the assertoric must be universal and must be the major premise.⁸⁸

The most perfect syllogisms predicate something contingently of all, or none, of the middle term, and infer the same predication about all, or none, of the minor term, via a minor premise that predicates the middle nonmodally of the minor:

Every <i>C</i> is <i>B</i>	It's contingent that every <i>B</i> is <i>A</i>
It's contingent that every <i>C</i> is <i>A</i>	

⁸⁶ *NLPri* BnCF J.10.48, fol. 40v (1.17, dub.1), “Sed dubitatur quare ex utraque de contingenti non fiat sillogismus in hac figura, quia cum fiat ex utraque de contingenti sillogismus in prima figura, et hec figura descendat a prima, uidetur quod hoc possit esse. . . . Et dicendum ad oppositum quod secunda figura descendit a prima per conuersionem maioris. Quare cum maior negatiua de contingenti in prima figura non conuertetur, non poterit sillogismus uniformis de contingenti descendere a prima figura in secundam.”

⁸⁷ *NLPri* BnCF J.10.48, fol. 43vb (1.22n).

⁸⁸ *NLPri* BnCF J.10.48, fol. 43vb (1.22n).

All the first figure syllogisms with a contingency major and an assertoric minor are valid. In addition to them, Aristotle recognizes as valid all the first figure syllogisms with an assertoric major and a contingency minor; they all give rise to a (one-way) possibility-conclusion in the following pattern:

$$\frac{\text{It's contingent that every } C \text{ is } B \quad \text{Every } B \text{ is } A}{\text{It's possible that every } C \text{ is } A}$$

but not in the following pattern:

$$\frac{\text{It's contingent that every } C \text{ is } B \quad \text{Every } B \text{ is } A}{\text{It's possible that no } C \text{ is } A}.$$

At *Prior Analytics* 1.15, 34a34–b6, Aristotle argues that the first of these inferences is valid. We want to show that the premises

$$\text{It's contingent that every } C \text{ is } B \quad \text{Every } B \text{ is } A$$

lead to the conclusion

$$\text{It's possible that every } C \text{ is } A.$$

Along with our premises let us suppose the opposite of the desired conclusion, and let us suppose the affirmative possibility signalled in the minor premise to be realized. We can then perform the following deduction of a contradiction:

$$\begin{array}{rcc} \text{It's contingent that every } C \text{ is } B & & \text{It's not possible that every } C \text{ is } A \\ \vdots & & \\ \text{Every } C \text{ is } B & & \text{Every } B \text{ is } A \\ \hline & & \text{Every } C \text{ is } A \\ \hline & & \text{It's possible that every } C \text{ is } A \end{array}$$

This procedure combines the method of reduction *ad impossibile* with something that looks a little like *expositio*: from our premise “it is contingent that every *C* is *B*” we move to the proposition “every *C* is *B*,” not by a process of deduction but by virtue of the principle that if the former is true we may without contradiction suppose the latter.

Kilwardby is suspicious of this procedure. He outlines its application in the cases where Aristotle uses it; but he also describes several cases where its application would lead to incorrect results. For example, if in the above derivation we omit the last step, and finish with “every *C* is *A*,” we still

have an inconsistency with the premise “it is not possible that every *C* is *A*”; but now it seems we have proved that our initial premise pair (“it is contingent that every *C* is *B*” and “every *B* is *A*”) imply that every *C* is *A*. This, however, does not follow: it could be that no *C* is *A*, and every *B* is *A*, while it is contingent that every *C* is *B*. Even though it is contingent that every man is running, it could be that no man is moving, but everything running is moving.⁸⁹

Kilwardby uses this kind of reasoning to show, in a number of mixed assertoric/necessity moods, that the use of this procedure would lead us to believe in the validity of inferences that are in reality invalid.⁹⁰ But he does not rise above these piecemeal critiques to articulate what the conditions are under which the procedure would be sound.⁹¹

Necessity premises and contingency premises may be combined in accordance with the following principles:

- (P16) In a first figure necessity/contingency syllogism, the minor must not be a negative necessity proposition.
- (P17) In a second figure necessity/contingency syllogism, if the necessity premise is a universal negative, the premises are useful.
- (P18) In a third figure necessity/contingency syllogism, the minor must not be a negative necessity proposition.⁹²

In the first figure when the major premise expresses a contingency, and the minor a necessity, there is a perfect syllogism leading to a contingency conclusion. A syllogism like

$$\frac{\text{It's necessary that every } C \text{ is } B \quad \text{It's contingent that every } B \text{ is } A}{\text{It's contingent that every } C \text{ is } A},$$

where the middle term is said of all the minor, is most perfect.

Imperfect syllogisms may lead to a possibility conclusion or in some cases to an assertoric conclusion. In both types of case, the syllogism can be perfected by arguing *per impossibile*. For example, suppose we want to show that the premises

⁸⁹ v fol. 38ra (1.15 dub. 8), “Oppositum autem conclusionis de contingenti est impossibile utriusque. Si enim omne *B* sit *A* sic est *B* sub *A* et ita hec impossibilia, scilicet “De necessitate aliquod *C* non est *A*” et “Omne *C* contingit esse *B*”, quia si aliquod *C* de necessitate non est *A* tunc aliquod est *C* quod impossibile est esse *A*, et si hoc tunc aliquod est *C* quod impossibile est esse *B*. Et ita non contingit omne *C* esse *B* si necesse est aliquod *C* non esse *A*.”

⁹⁰ *NLPri* BnCF J.10.48, fols. 41rb, 43ra–b (1.18 dub. 3 and 4; 1.21 dub. 2 and 3).

⁹¹ For an attempted solution, see Thom, *Logic and Ontology*, 102–10.

⁹² *NLPri* BnCF J.10.48, fol. 43vb (1.22n).

It's contingent that every C is B It's necessary that no B is A
 imply the conclusion

No C is A .

We can add the contradictory of this conclusion ("some C is A ") to the premises, and perform the following derivation:

		<u>It's necessary that no B is A</u>
It's contingent that every C is B	Some C is A	It's necessary that no A is B
		<u>It's necessary that some C is not B</u>

We have arrived at an inconsistency; so our original premises imply that no C is A .

Kilwardby considers two putative counterexamples to this inference. First, of necessity nothing white is black, and it is contingent that every man is white, yet (we may suppose) it is not the case that no man is black; second, of necessity no stone is a man, and it is contingent that everything moving is a stone, and yet (we may suppose) nothing moving is a man. He rejects both examples. Concerning the first example, he says that the proposition "Of necessity nothing white is black" is false. In order for it to be true, the predicate would have to be denied of those things that actually or possibly are under the subject, so that nothing that can be white, of necessity, is black, or can be; but this is false. Concerning the second, he says that "It is contingent that everything moving is a stone" has to be disambiguated. Either it says that everything that contingently is moving is contingently et cetera (and then it is false and the conclusion is false), or it says that everything that is actually moving is contingently a stone (and then it is true, if only stones are moving—which being true, the conclusion "Nothing moving is a man" has to be true). So, to the extent that the minor is true, so is the conclusion.⁹³

⁹³ *NLPri* BnCF J.10.48, fol. 39va (1.16 dub. 5), "Ad primam sic, quod hec propositio est falsa, 'De necessitate nullum album est nigrum'. Ad hoc enim quod vera esset, oporteret predicatum removeri ab hiis quae actu et quae potentia sunt sub subiecto sic, 'Nichil qui potest esse album de necessitate est nigrum vel esse potest.' Sed haec falsam. Et similiter haec, 'Nullum album est nigrum,' quamvis vera sit simpliciter, non tamen necessaria. Ad aliam instanciam dico quod minor propositio distinguenda est 'Contingit omne movens esse lapidem.' Aut enim dicitur quod omne quod contingit esse movens contingit esse lapidem (et sic falsa est, et conclusio falsa est), aut quia omne quod est movens contingit esse lapidem (et sic vera est si nichil moveatur nisi lapis, qua existente vera oportet conclu-

Perfectibility and Syllogistic Form

Kilwardby notices that this kind of reduction of modal syllogisms sometimes produces results that conflict with the principles that were supposed to determine exhaustively which combinations of premises yield syllogistic conclusions. According to principle (P17)—which is stated by Aristotle⁹⁴—in a second figure mixed necessity/contingency syllogism where the necessity premise is affirmative there is no syllogism. But Kilwardby shows that the second figure premises

It's necessary that every *C* is *A* It's contingent that no *B* is *A*

(where the necessity premise is a universal affirmative) imply the conclusion

It's possible that no *C* is *B*.⁹⁵

The proof proceeds by adding the contradictory of this conclusion ("It is necessary that some *C* is *B*") to the premises, and performing the following derivation:

It's necessary that some <i>C</i> is <i>B</i>		
It's necessary that some <i>B</i> is <i>C</i>	It's necessary that every <i>C</i> is <i>A</i>	It's contingent that no <i>B</i> is <i>A</i>
It's necessary that some <i>B</i> is <i>A</i>		

By converting the terms in "It is necessary that some *C* is *B*" he can use a first figure uniform necessity syllogism to produce a conclusion ("It is necessary that some *B* is *A*") that is inconsistent with the premise "It is contingent no *B* is *A*."

Kilwardby was not the first to show that some second figure necessity/contingency inferences deemed by Aristotle to be invalid are nonetheless perfectible. Alexander of Aphrodisias had long before pointed it

sionem esse veram, scilicet quod nullum movens sit homo). Et ita prout minor accipiatur vera, et ipsa conclusio vera est."

⁹⁴ Aristotle, *Prior Analytics* 1.19, 38b41–39a1.

⁹⁵ *NLPri* BnCF J.10.48, fol. 42rb (1.19 dub. 10), "Consequenter opponitur similiter si minor sit affirmativa de necessario sic: contingit nullum *B* esse *A*, necesse est omne *C* esse *A*, ergo contingit nullum *C* esse *B* (dico de contingent pro possibili). Ex opposito enim conclusionis et minore sequitur oppositum maioris per utraque de necessario in tertia figura sic: de necessitate omne *C* est *A*, de necessitate aliquod *C* est *B*, ergo de necessitate aliquod *B* est *A*."

out—although it not known whether, or how, the ideas in Alexander’s commentary might have reached the thirteenth-century Englishman. Alexander tells us that he solved the problems surrounding this combination of premises in a work of his that is now lost. He says that

either *reductio ad impossibile* should be rejected as insufficient to show that a combination is syllogistic, or, if this cannot be rejected, it would seem that material terms are not sufficient to reject a combination as nonsyllogistic.⁹⁶

Kilwardby takes up both these alternatives, in different ways. He takes the *syllogistic* combinations to be what is determined by the principles for the figures and moods. In the present case, what is provable by *reductio ad impossibile* is not syllogistic. Thus, *reductio* is not always sufficient to show that a combination of premises is syllogistic. But at the same time he states that “by the terms that Aristotle posits in the counterexample he doesn’t rule out that a negative contingency, in the sense of a possibility, may follow,”⁹⁷ What he is calling into question is not the legitimacy of the method of counterexamples as a way to show that an inference is invalid; rather, he is saying that the particular terms that Aristotle proposes in the present case (“white” for *A*, “man” for *B*, “swan” for *C*)⁹⁸ do not constitute a genuine counterexample. And he is right: as Gisela Striker notes in her commentary, these terms do not rule out that it is possible that no *C* is *B*.⁹⁹

But Kilwardby goes further, saying that the inference in question holds *secundum habitudinem et consequentiam rerum*, and thus it holds by virtue of the terms and not by virtue of its form—that is, in virtue of the property of the second figure as expressed by (P17).¹⁰⁰ Here again we see

⁹⁶ Alexander of Aphrodisias, *Commentary on Aristotle’s Prior Analytics*, ed. Maximilian Wallies (Berlin: 1883), 238.35. Translation from Alexander of Aphrodisias, *On Aristotle’s Prior Analytics 1.14–22*, trans. Ian Mueller with Josiah Gould (Ithaca: 1999), 160.

⁹⁷ *NLPri* BnCF J.10.48, fol. 42rb (1.19 dub. 10), “Unde attendendum quod per terminos quos ponit Aristoteles ad instantiam non excludit quin sequatur negativa de contingenti pro possibili.”

⁹⁸ Aristotle, *Prior Analytics* 1.19, 38a26–36.

⁹⁹ Aristotle, *Prior Analytics*, book 1, trans. Gisela Striker (Oxford: 2009), 161.

¹⁰⁰ *NLPri* BnCF J.10.48, fol. 42rb (1.19 dub. 10), “Ad omnia his dici potest quod negativa de contingenti pro possibili sequitur secundum habitudinem et consequentiam rerum sicut iam ostensum est. Et sic dicitur in convertibilibus sequi conclusionem universalem in tertia figura et affirmativam in secunda. Hoc enim non est nisi gratia terminorum et non gratia formae. Non tamen sequitur talis conclusio virtute premissarum sic dispositarum in dictis coniugationibus et sub tali figura ex quo utraque secundum rem affirmativa est, quod repugnat proprietati secundae figurae. Aristoteles igitur respiciens dispositionem premissarum et formam cum proprietate figurae ponit tales coniugationes inutiles esse. Nunquam enim gratia forma ex affirmativis immediate sequitur negativa. Unde attenden-

Kilwardby operating with a concept of syllogistic form different from the modern concept of logical form. The inference in question can never lead from truth to falsity, no matter what concrete terms are substituted for *A*, *B*, and *C*. But it does not satisfy the more stringent requirements that must be met by all second figure syllogisms, and in this sense it does not hold by virtue of syllogistic form.

Conclusion

The topic of form is a recurring theme in Robert Kilwardby's philosophy. Form is always thought of as correlative with matter, so that there is no matter without form and no form without matter. Moreover, form may be possessed by its matter either completely or incompletely. In these respects, Kilwardby's treatment of syllogistic form follows his treatment of other types of form. A syllogism's form is its figure and mood—not merely in the sense that a properly formed syllogism must be in some figure and in some mood, but in the stronger sense that a properly formed syllogism in a given figure can only be in the moods that are admissible for syllogisms in that figure. Syllogistic form in this sense cannot be separated from syllogistic matter; and it can be possessed either completely or incompletely. Kilwardby also proved that, although an inference possessing the appropriate syllogistic form must be valid, not all inferences that are reducible to perfect syllogisms possess the appropriate syllogistic form.

Kilwardby's commentary presents a comprehensive and coherent account of the syllogism from the standpoint of a culture that regarded Aristotle's theories on the subject as authoritative. That culture had a concept of syllogistic form that, while it was helpful for understanding Aristotelian logic, would soon be forgotten.

dum quod per terminos quos ponit Aristoteles ad instantiam non excludit quin sequatur negativa de contingenti pro possibili, quia respiciendo ad consequentiam rerum sequitur. Ponit tamen coniugationes inutiles esse quia ex formam syllogizandi et proprietate figurae non possunt in talem conclusionem. Et sic considerat ubique in hiis mixtionibus."

ROBERT KILWARDBY AND THE ARISTOTELIAN THEORY OF SCIENCE

Amos Corbini*

The *Commentary on the Second Analytics* was written by Robert Kilwardby, together with his other logical and grammatical commentaries, when he was *magister regens* in the Faculty of Arts at the University of Paris where the full text of the *Posterior Analytics* had been compulsory study material since the statutes of 1215.¹ The commentary must have been written between 1237 and 1247, but as far as present day research goes, a more precise date cannot be given.² In chronological order, this is the second Latin commentary on this Aristotelian work to come down to us in a complete form; the work itself was the last of the writings in the *Organon* that the medieval masters became familiar with. Indeed, apart from a commentary by Richard Rufus of Cornwall, of which we are left with some fragments, probably datable to a little earlier than 1230,³ Kilwardby's commentary was preceded only by that of Robert Grosseteste (c.1230).⁴ Kilwardby thus belongs to the initial phase of the Latin exegetical tradition concerning the Aristotelian theory of science—a tradition which would continue with Albert the Great (1261–62), Thomas Aquinas (1271–72),⁵ Simon of Faversham (c.1280 and a little later),⁶ Giles of Rome

* I thank Alfonso Maierù and Alessandro Conti for having read and discussed a first draft of this paper, as well as Pietro B. Rossi, Debora Cannone and Silvia Donati for their useful suggestions.

¹ *Chartularium Universitatis Parisiensis*, 4 vols., ed. Henrich Denifle and Émile Chatelain (Paris: 1889–97), 1:78–80.

² Cf. the specific points in Debora Cannone, "Le *Notule libri Posteriorum* di Robert Kilwardby nella tradizione esegetica latina medievale del XIII secolo," 2 vols. (PhD diss., University of Cassino—University "La Sapienza" of Rome, 2003–2004), 1:5. Vol. 1 contains the introduction to an edition of the text; vol. 2 contains an edition of the text (hereafter *NLPoS*, Cannone, followed by volume and page numbers), and the corresponding point in the Cambridge ms. Peterhouse 205, which is complete and is the oldest of the available manuscripts. Apart from a previous article by Cannone herself on the specific aspect of *per se* predication (q.v., n.40), her thesis is the only study specifically devoted to the work at issue.

³ Rega Wood-Robert Andrews, "Causality and Demonstration: An Early Scholastic *Posterior Analytics* Commentary," *Monist* 79 (1996): 328.

⁴ Robert Grosseteste, *Commentarius in Posteriorum Analyticorum libros*, ed. Pietro Rossi (Florence: 1981), 15–21.

⁵ Thomas Aquinas, *Expositio libri Posteriorum*, ed. René-Antoine Gauthier (Rome: 1989), 58* and 73*–77*. A slightly less precise date for Robert Grosseteste (1229–35) has been suggested in the wake of Gauthier's preface, 57*n.

⁶ John Lee Longeway, "Simon of Faversham's Questions on the *Posterior Analytics*: A Thirteenth-Century View of Science" (PhD diss., Cornell University 1977), 7; Sten

(1291–92),⁷ and Radulphus Brito (c.1299),⁸ and would flourish through the centuries up to the modern era.

It is a literal commentary on the text, organized following the usual form of the times and reflecting the academic practice of the *lectio*. The Aristotelian text, cut into lemmata, is already divided from within (*divisio textus*), then it is explained as to its literal signification (*expositio litterae*) and further analyzed as to its doctrinal signification (*sententia*) in places where these may seem to be clearly distinct. It is more often the case, however, that these are closely connected. This procedure of point-by-point interpretation of the text gives rise, at times, also to *dubia* and *notanda* of varying importance and length, in addition, in some cases, to proper *quaestiones*. Kilwardby's commentary probably did not have a very wide diffusion, judging by the number of manuscripts that have come down to us. According to the most recent studies, Kilwardby's commentary has reached us by means of four manuscripts, two of which are incomplete. They are:⁹

- Cambridge, Peterhouse 205, fols. 135v–177v;
- Brussels, Bibliothèque Royale 2907 (1797–98), fols. 37r–59v;
- Venice, Biblioteca Marciana Z. lat. 240, fols. 45r–61r (commentary on Aristotle's *Analytica posteriora*. 1.1–28);
- Paris, Bibliothèque nationale de France lat. 6576 (marginal glosses which contain four-fifths of the commentary to the first book and the commentary to 2.1–10 and 19).

The dissemination of the work was thus very much inferior to many similar works by other great authors of the century. Albert's paraphrasis is, of

Ebbesen, introduction to Simon of Faversham, *Quaestiones super libro Elenchorum*, ed. Ebbesen et al. (Toronto: 1984), 3–6.

⁷ Silvia Donati, "Studi per una cronologia delle opere di Egidio Romano. I: Le opere prima del 1285—I commenti aristotelici," *Documenti e studi sulla tradizione filosofica medievale* 1, no. 1 (1990): 55–65.

⁸ Amos Corbini, *La teoria della scienza nel XIII secolo: I commenti agli Analitici secondi* (Florence: 2006), 16–17; cited hereafter for all that concerns the developments of the Latin exegetical tradition of the *Posterior Analytics* after Albert the Great.

⁹ *NLPoS* Cannone 1:5–8; a further two manuscripts contain only some *excerpta*, viz. Erlangen, Universitätsbibliothek 192 (214), fols. 253r–90r, and Biblioteca Apostolica Vaticana Pal. lat. 1009 (Vatican City).

all the subsequent commentaries, the one that without doubt is the most influenced by Kilwardby's work and manifests knowledge of it.¹⁰

Such poor diffusion was of no small consequence for the weak interest that later readers of the Aristotelian text took in Kilwardby's commentary—from the medieval authors up to the present day, with the noted exception of Albert the Great. It should be said, however, that the lack of attention also has deeper causes, rooted in the internal nature of Aristotle's text. Grosseteste, in his pioneering commentary, often surprises the reader with his extraordinary capacity to restore with organic clarity the sense of the famously arduous Aristotelian text. Grasping the fundamental problems, he also follows the late antique Greek tradition (in particular Themistius),¹¹ always maintaining a clear and fluid mode of expression. In contrast, Kilwardby's commentary, though often presenting itself as an ideal reworking with more in-depth analyses of his illustrious predecessor's work, does not seem in general to quite reach Grosseteste's degree of clarity and incisiveness—though most certainly, important original elements are not lacking. In some cases the aspects that come to be underlined are different from those emphasized by the bishop of Lincoln. Thus, new problems are brought to light, as well as original solutions for those already dealt with. The best way to present this second Latin commentary on the *Posterior Analytics* seems to be, on the one hand, to present some of the fundamental themes in it, keeping Grosseteste's commentary in the background; on the other hand, we shall measure its significance and assess which aspects and points in Kilwardby's commentary had a significant influence on the subsequent and better-known paraphrasis by Albert the Great. The latter is itself a *trait d'union* that, given the poor diffusion of Kilwardby's text, is the go-between text that links Kilwardby to the following exegetical tradition. Albert's paraphrasis also acts as a historical filter through which it seems that the selection of the most significant elements of the commentary might have been transmitted to Thomas Aquinas and later readers of the text.

¹⁰ While the commentaries of Grosseteste, Thomas Aquinas, and Giles of Rome circulated in several dozen manuscripts, Albert's commentary is in a similar situation to Kilwardby's commentary, as well as Radulphus Brito's exposition (six mss). Of probably even less diffusion was Simon of Faversham's (three mss).

¹¹ 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): 433–39; idem, introduction to Robert Grosseteste, *Commentarius in Posteriorum Analyticorum libros*, 19–21.

The Object of Scientific Knowledge: The Necessary and the Universal

Determining the features of the object of scientific knowledge and of the predicative connection for the expression of such features is not only a particularly important theme within the Aristotelian theory of science, but also a point on which Kilwardby's considerations seem to be the broadest, deepest, and most relevant for the subsequent tradition.

The point is considered more or less at the beginning of the commentary in a *notandum* concerning the definition of science given by Aristotle in the second chapter of the *Posterior Analytics*.¹² Kilwardby reports almost literally an important and well-known passage from Grosseteste's commentary:¹³

Besides, it should be known that "to know" is said in four ways. In the most general sense it means the comprehension of the truth of any thing whatsoever, and in this sense what is contingent either way can be known. In a proper sense, it means the comprehension of the truth of things that happen for the most part but can happen either way. In a more proper sense, it means the comprehension of the truth of things that happen in just one way and are immutable; and in this sense knowledge is common to principles and conclusions. In a most proper sense, it means the comprehension of the truth of things that always happen one way, by taking something else that is prior, from which they have their truth and their being; and this sense is confined to the conclusions of demonstrations. And knowledge in this sense is called knowledge without any qualification; in the other senses it is called knowing in a sophistic and accidental way.¹⁴

Thus a correspondence is established between four different ways in which knowledge can be understood and the ontological features of that which, respectively, makes up the object of knowledge. In so doing, Kilwardby inaugurates what will become a habitual practice in many

¹² Aristotle, *PosteriorAnalytics* 1.2, 71b9–12 (hereafter *An. pos.*).

¹³ Grosseteste, *Commentarius in Posteriorum Analyticorum libros 1.2:99–100*.

¹⁴ *NLPoS* Cannone, 1:31–32; Cambridge, Peterhouse 205, fol. 137rb, "Preterea sciendum quod hoc ipsum 'scire' dicitur quadrupliciter: comunissimo autem modo dicitur comprehensio ueritatis rei qualiscumque sit res, et sic etiam sciuntur contingentia ad utrumlibet; et proprie dicitur comprehensio ueritatis rei, que frequenter et utroque modo se habet, et sic sciuntur contingentia nata; magis proprie autem dicitur scire comprehensio ueritatis rei, que simpliciter uno modo se habet, et est immutabilis, et iste modus sciendi communis est principiis et conclusionibus; maxime proprie dicitur comprehensio ueritatis rei que semper uno modo se habet per acceptionem alterius prioris a quo habet suam ueritatem et suum esse, et iste modus appropriatur conclusionibus in demonstratione. Et istum modum sciendi uocat simpliciter scire, et alios modos sciendi uocat respectu huius scire sophistico modo et secundum accidens."

subsequent commentaries, from Albert the Great until the end of the century and beyond.¹⁵ Kilwardby says that, first and foremost, to know can be understood in its most common sense, that is, the comprehension of the truth of any thing, whatever be its nature. In this sense, those entities are knowable which Kilwardby designates here as *contingentia ad utrumlibet*. Kilwardby's expression seems aimed in some way to be a clarification of the reported Grosseteste text where, at the corresponding point, we find *contingentia erratica*. This last expression, as Pietro Rossi has remarked, signifies (but less obviously) that which can be or not be in an utterly indefinite way; it most probably comes from a point in Boethius's translation of the *Prior Analytics*. In any case, it is an expression which, at least in part, is ambiguous to the extent that, according to Alistair Crombie, it would be used to simply underline the contingency of certain natural events rather than the unpredictability of their occurrence. On the other hand, according to Stephen Marrone, the expression would be used more specifically to indicate events that are not only contingent but also irregular. Though in a passage from *De ortu scientiarum*, Kilwardby chooses to take up Grosseteste's expression again, he seems here to prefer an expression he considers to be more precise. The reason for this, it seems, is that the expression *contingens ad utrumlibet* cannot refer to anything other than the indeterminacy and unpredictability of events that may or may not take place.¹⁶

Secondly, Kilwardby continues, knowledge in its proper sense must be understood as the comprehension of the truth not of any kind of thing but rather of that which is the case or happens in most cases, for the most part (*frequenter*) in the same way. These are the entities that Kilwardby, like Grosseteste, designates as *contingentia nata*. But there exists yet a third sense, even more specific than the preceding one, according to which it is necessary entities that are the possible objects of knowledge—those which are, always and ever, in one and the same determinate way. This is the kind of knowledge we have when we know the principles and the conclusions of demonstrations. Finally, there is a fourth way of understanding

¹⁵ Corbini, *La teoria della scienza*, 7.

¹⁶ Pietro B. Rossi, "Robert Grosseteste and the Object of Scientific Knowledge," in *Robert Grosseteste: New Perspectives on His Thought and Scholarship*, ed. James McEvoy (Turnhout: 1995), 58; Alistair Crombie, *Robert Grosseteste and the Origins of Experimental Science* (Oxford: 1953), 58; Stephen P. Marrone, *William of Auvergne and Robert Grosseteste: New Ideas of Truth in the Early Thirteenth Century* (Princeton: 1983), 224; Robert Kilwardby, *De ortu scientiarum*, ed. Albert G. Judy (London: 1976), 41, 390, 137; hereafter DOS, followed by chapter number, section number(s):page number(s).line number(s).

knowledge, the most proper way, which is the one defined by Aristotle at the beginning of the *Posterior Analytics*. One has knowledge in this highest and most properly scientific sense when one knows not only the necessary entities but also that which is antecedent to them and from which they take their being and their truth. This way of knowing is the way by which, in a demonstration, one properly knows the conclusion; it is indeed from the conclusion that one learns not only that something is necessary but also that it derives necessarily from its antecedent premisses.

This passage is placed by Kilwardby towards the beginning of his commentary, just as Grosseteste had done. The passage ultimately is one of the many in which the bishop of Lincoln has taken points of inspiration from Themistius's paraphrasis,¹⁷ but in both of the Latin commentaries there is a width and programmatic value that are completely missing in the Greek text. In fact (though, fundamentally, not doing more than organizing and systematizing the affirmations formulated in the Aristotelian text), it establishes that knowledge, in order to be fully scientific, must refer to precise types of real entities, that is, the necessary ones—though the same type of knowledge, in a somewhat weaker sense, may also refer in a certain way to that which is or happens for the most part.

Clearly for Kilwardby, as for Aristotle, the necessary is the object of science par excellence, and on this point there was but little to add to the clear Aristotelian enunciations. More interesting considerations arise from the fact that, for Kilwardby, the discussion about the necessary is closely linked to considerations about the universal, and this is not without deep-rooted reasons found in the Greek philosopher's text. In the general set-up of Aristotelian philosophy where the notion of essence is central, universality in predication is the translation of real necessary connections within an object or between different objects. For indeed, if on the one hand the object of science is necessary, on the other hand, the predicative connections in which its determinations get expressed are also necessary and universal.¹⁸ Certain types of *res* (secondary substances) are also universal, as are certain particular types of predicative connections between *res* and forms. Now, in the scientific theory of the *Posterior Analytics*, this leads to the following consequence, namely, that frequently

¹⁷ This debt has been noted by Rossi, "Robert Grosseteste and the Object," 57; cf. Reginald O'Donnell, "Themistius' Paraphrasis of the *Posterior Analytics* in Gerard of Cremona's Translation," *Mediaeval Studies* 20 (1958): 247.

¹⁸ See below, p. 178ff., discussion of *de omni* and *per se*.

the object of science taken as necessary is identified *tout court* with the object of science taken as universal¹⁹—and this without a strict distinction (perhaps impossible to make within this frame of thought) between considering, on the ontological level, certain objects as those proper to science (more precisely the necessary ones) and considering, properly speaking, logically, certain particular types of predicative relations (the universal ones). This is certainly one element that contributes to greatly complicate the task of presenting the Aristotelian theory of science so as to make it fully comprehensible to a reader²⁰—all the more so if one thinks that, for medieval authors, universals were linked to a well-known and complex debate.

Kilwardby is well aware of the absence of a clear-cut distinction in the Aristotelian text between an ontological level and a logical level, when he says:

And some people say that the universal is said in two ways, as was established earlier. That which is signified by the name “universal” is a certain being in the understanding. Hence the understanding produces the universal, that is, it gives it being and produces it. . . . But don’t understand this to mean that *our* understanding produces the universal; rather, it is the causative understanding, namely, the understanding of the first cause or of some caused intelligence which is the cause of things and within which there are concepts of those caused things. And in this way, I say, the understanding of the universal will be the cause of its univocity. But if we consider the universal as something shared which is predicated of many things, not according to the being by which it is in the understanding but according to the being which is predicated of those things—and this sense is not the same as the other one mentioned, in that the universal in the first sense (being in the understanding) is not predicated of those things, because this man is not the universal man, nor conversely is the universal man a man; if the universal is considered in this way, then there will still be one univocal account, and the cause of its univocity in this sense will be a form. For, considered in this way, the universal is the thing’s form, and so this will be the cause of its univocity. For example, the cause of the univocity of the universal “man” in many singulars is a single form that is in them—the form by which a man is

¹⁹ See, for example, *An. post.* 1.8.75b21–30, and on this point in the *Posterior Analytics*, see Anthony C. Lloyd, “Necessity and Essence,” in *Aristotle on Science: The Posterior Analytics*, ed. Enrico Berti (Padua: 1981), 157–71.

²⁰ For a number of recent discussions, see Richard D. McKirahan, *Principles and Proofs: Aristotle’s Theory of Demonstrative Science* (Princeton: 1992), 101–10; Michael Ferejohn, *The Origins of Aristotelian Science* (New Haven: 1991), 48–49, 59–60.

a man. Thus, therefore, whichever way the universal is taken, there will be a univocal account of the universal, and the cause of its univocity is clear.²¹

Kilwardby takes it to be mandatory to distinguish between two senses in which we speak of *universal*. For the term can be used to mean either certain *res* that are present in the divine intellect or in a created intelligence, or else immanent forms that are within the things of the world and that determine their character. Now, if one takes the universal as a *res* in the first sense, it should be understood as that which is cause and model of that which is produced in the world. If, on the other hand, one takes a universal as an immanent form, this leads to determinations that can be expressed with common concepts that can be predicated of many particulars and produced by the human mind. It is clear that, given the general set-up of Aristotle's theory of science as appropriated by Kilwardby, it is only in the second sense that the universal is the object of science, while the first sense seems to refer back to a metaphysical framework rather closer to the Neoplatonic tradition. In effect, here again, Kilwardby is indebted to Grosseteste. It has already been shown by scholars, and with particular perspicacity by James McEvoy, that in the bishop of Lincoln's work two different levels of discussion are often simultaneously present. The first, basically prevailing level is the commentary on the Aristotelian text and adherence to its frame of mind. The second level is characterized by the presence of a Neoplatonic matrix, mostly filtered through Augustine and the *Liber de causis*. This furthermore corresponds to a double ontological level: on the one hand, there is the created world, which comes to be after the fall of man subsequent to the original sin, while

²¹ *NLP*os Cannone 1.38; Peterhouse 205, fol. 153rb–va, "Et dicunt quidam quod uniuersale dicitur dupliciter, ut superius habitum est, est id quod significatur per hoc nomen 'uniuersale,' quod est quoddam esse in intellectu, vnde intellectus facit uniuersale, id est: dat hoc esse et facit. . . . Et hoc non intellige de intellectu nostro, scilicet quod faciat uniuersale, sed de intellectu causante, scilicet de intellectu prime cause uel alicuius intelligentie causate que est causa rerum et apud quam sunt intentiones harum rerum causatarum, et sic, dico, uniuersalis erit intellectus causa sue vniuocitatis. Si autem consideremus uniuersale, scilicet illud commune quod predicatur de multis, non secundum esse quo est in intellectu sed secundum esse quod predicatur de illis, et iste modus non est idem cum alio predicto, eo quod ipsum uniuersale secundum modum primum, quoniam est in intellectu, non predicatur de illis: iste enim homo non est homo uniuersale, nec etiam homo est homo uniuersalis, nec econuerso homo uniuersalis est homo; si in quantum sic consideretur uniuersale, adhuc erit ratio una uniuoca, et eius vniuocitatis causa secundum hunc modum erit forma: sic enim consideratum, uniuersale est forma rei, et ideo eius vniuocitatis causa erit. Uerbi gratia: causa vniuocitatis huius uniuersalis 'homo' in multis singularibus est forma una que in ipsis est, per quam formam est homo, homo. Sic ergo utroque modo erit uniuersale, erit uniuersale ratio vniuoca, et patet causa sue vniuocitatis."

on the other hand there is the eternal and unchanging being of God and of the angels.²² In contrast with Grosseteste, however, in Kilwardby this co-presence of ontological and gnoseological levels does not give its structure to the commentary as a whole. It appears, as in this case, merely as an attentive and circumstantial reference to the writings of his illustrious predecessor. But its importance in proportion to the general understanding of Kilwardby's re-elaboration of the Aristotelian theory of science, it seems, should not be overestimated, because it becomes apparent always in isolated passages.

The text we are examining is also interesting because it considers another problem regarding the universal, namely, how it is possible that it remains unified, though present in many particulars. Also here, coherently with what has been said earlier, Kilwardby distinguishes between two different levels of discussion, saying that if the universal is understood as that which is present in the intellect of the First Cause or of a created intelligence, its unity is the same as the unity of the intellect it is in. If, on the other hand, the universal is understood as a predicate common to many, then its unity is the unity of the form, which is a *ratio* common to particulars and which, in them, coincides with the universal itself. For form has by its nature the capacity of uniting itself with matter in order to form an individual. Just as it can form one individual, analogically it may constitute many, though remaining unique in itself.

An analogous argumentation is made by Kilwardby in order to explain how the universal can be in itself always and anywhere, though it presents itself to our knowledge only as the determination of singular entities which are corruptible and determined in space. The author answers in two different places in the commentary in the following way:

But because he posits the universal as eternal, it is to be noted, in order to make this evident, that "universal" can be taken for the significate or for the suppositum. Now, its significate is a certain being of the form according as it exists in the understanding—and I don't mean your understanding or mine, but a causative understanding, that is, the understanding of the first, or of a caused, intelligence. For the end of understanding is the cause of things. But it is the other way in us. As regards the supposita of the term "universal," it is truly to be said of what are universal forms that they come into being and pass away *per accidens* through the coming into being and passing away of the things that bear them. So the universal in the first sense

²² James McEvoy, *The Philosophy of Robert Grosseteste* (Oxford: 1982), 299–345; Rossi, "Robert Grosseteste and the Object," 73–74.

is completely incorruptible; in the second sense it is incorruptible in itself but is corruptible *per accidens*, as is clear. Alternatively, some people say that the universal can be considered in two ways: either according as it has being in individuals, or according to what it ought to be in its essence, not what it ought to be insofar as it is in individuals. In the first way, it is corruptible, in the second incorruptible.

His statement that universals are always and everywhere can be understood as follows. In one way the universal is understood as that form, found in singulars, by which the singulars are what they are; and this form is the same as the universal. In another way, that being is called a universal which has this form within the understanding—not just any understanding, but a causative understanding, such as is the understanding of the first or of some caused intelligence. If it is taken in the first way, the universal is said always to be because its being is continued through the continual coming into being of the singulars in which it is found. In this way it always is, and it is incorruptible insofar as it is of itself. And the universal taken in this way has being, or something other than being, everywhere in any of its singulars. For, taken in this way, the singulars are the sites of the universal. But if the universal is taken in the second way, in whatever fashion it is always within the understanding within which it is, in the same fashion it is in a way everywhere, because the understanding in a way is where that which is understood is... and so in a way the understanding is everywhere.²³

²³ *NLP*os Cannone, 1.21, 1.42; Peterhouse 205, fols. 143ra, 156rb, “Quia autem ponit uniuersale esse perpetuum, ut hic pateat, notandum quod uniuersale potest accipi pro significato uel pro supposito. Significatum autem eius est quoddam esse ipsius forme secundum quod existit in intellectu, et non dico in intellectu meo uel tuo, sed in intellectu causante, et hoc est in intellectu primi uel alicuius intelligentie causate. Finis enim intellectus est causa rerum. Econtrario autem in nobis est. De suppositis autem per hunc terminum uniuersale que sunt forme uniuersales vere dicendum quod generantur et corrumpuntur per accidens, per generationem et corruptionem eorum que deferunt ipsa. Uniuersale ergo primo modo est incorruptibile penitus; secundo modo incorruptibile est secundum se, per accidens tamen est corruptibile, ut patet.

“Aliter autem dicunt quidam, et sic quod uniuersale potest considerari dupliciter: aut secundum quod habet esse in indiuiduis, aut secundum quod debetur ei non in quantum est in indiuiduis, sed quod debetur ei in sua essentia; primo modo est corruptibile, secundo modo incorruptibile.

“Quod autem dicit uniuersalia esse semper et ubique sic intelligi potest: uniuersale uno modo intelligitur pro forma reperta in singularibus per quam singularia sunt id quod sunt, et hec forma est idem quod est uniuersale; alio modo nominat uniuersale illud esse quod habet hec forma apud intellectum non quemcumque, sed apud intellectum causantem, cuiusmodi est intellectus primi uel alicuius intelligentie causate. Si primo modo accipitur, sic dicitur uniuersale semper esse, quia continuatur suum esse per continuam generationem singularium in quibus fit: sic enim semper et incorruptibile est quantum est de

If therefore the universal is understood as that which is present in an intelligence superior to the human one, be it divine or created by God, then it is present, in one way or another, anywhere the divine intellect or an intellect created by it is present. As for its always being, it seems plausible to add to Kilwardby's words that the universal present in the intellect of God cannot but share in the eternity of his intellect. And the universal present in an intelligence created by God will share in the imperishable being of that intelligence after its creation. If, on the other hand, the universal is understood as a form common to many particulars, it always exists given that the particulars it can be predicated of continue unceasingly to regenerate in addition to also being destroyed. Thus, it will always be possible to predicate the universal of it. (The fact that the universal is everywhere coincides, then, with its being in all the individuals it is predicated of.) Kilwardby, like Grosseteste, admits that, from this point of view, universals may also be said to be accidentally corruptible. If particular emphasis is placed upon the fact that the substrates of universal determinations go through a process of generation and corruption, it becomes possible to make a further claim: namely that their determinations also share in the same destiny—not as such, but insofar as they are considered as united with such substrates. It should be noted that this solution has been considered by the interpreters of Grosseteste to be less valid than the first one: for, in conceding that at least from a certain point of view, universals can be considered corruptible, it does not seem adequate to the requirements of the Aristotelian theory; and the same sort of consideration seems to be extendible to Kilwardby's commentary.²⁴

As for the problems linked to the universal as object of science, if on the one hand Kilwardby shows himself to be close to the Grosseteste line (in some cases also recalling the teaching of Themistius), on the other hand, it is also worth noting that he seems to have passed on something of his own interpretation to Albert the Great. For in the latter's paraphrasis there are certain claims that we can clearly trace back to Kilwardby. For

se. Uniuersale autem sic acceptum ubique esse uel aliud quam esse [habet] in quolibet suorum singularium. Loca enim uniuersalis sic accepti singularia sunt. Si autem accipiatur uniuersale secundo modo qualiter semper est apud intellectum apud quem est, illo etiam modo quodammodo ubique est, quia intellectus quodammodo est ubi est id quod intelligitur . . . , et ita quodammodo intellectus est ubique."

²⁴ Robert Grosseteste, *Commentarius in Posteriorum analyticorum libros* 1.7.139–42 and 1.18.266–67; Rossi, "Robert Grosseteste and the Object," 70; for an echo of this alternative in the later commentaries of James of Douai and Radulphus Brito, see Corbini, *La teoria della scienza*, 13–14.

at times, two senses of a universal come to be distinguished: as that which is present in the light of the intelligence, and as the nature or form of a sensible particular. Furthermore, we find there that the universal, insofar as it is a form, is only accidentally a possible object of scientific knowledge, given that, insofar as it is in the particulars, it is corruptible and changing.²⁵ However, it is worth remembering that in Albert we mostly find passages in which, in speaking about the universal, metaphysical references to God and to the intelligences are no longer made and where the universal seems to be entirely considered as the product of the human mind and its capacity for abstraction. Concerning this aspect, the influence of Kilwardby seems to have gone only so far as Albert's paraphrase: in later commentaries, this distinction of ontological levels disappears from Thomas Aquinas onwards, where the universal will be discussed only as that which the human intellect is able to abstract from sensible particulars.²⁶

General Features of Demonstrative Principles

As stated, the necessity of that which is an object of science understood as a *res* implies that in the propositions which constitute a demonstration there will be particular types of predicative connections, apt to express the peculiar character of such a necessary *res*. For this purpose, in the *Posterior Analytics*, together with the analysis of the ontological features of the object of science, comes a detailed analysis of the predicative features belonging to demonstrative propositions. This aims at showing what are the features of the predicative connections that are present in the propositions which make up demonstrative argumentation.

Aristotle talks in a specific way about the typical predicative features of premisses, at two points in the work.²⁷ Kilwardby summarizes the points in the following manner, at the beginning of his commentary on the second point:

After having determined the primary and universal conditions of demonstration through a definition of "to know"—these being that it is produced

²⁵ Albert the Great, *In libros Posteriorum analyticorum* 1.2.17, ed. A. Borgnet (Paris: 1890), 63a.

²⁶ For further developments of these matters, see Corbini, *La teoria della scienza*, 18–26.

²⁷ *An. post.* 1.2, 71b9–72a7; 1.4, 73a21–74a3.

from what is primary, true, and immediate, etc.—he here focuses on special conditions which narrow down the universal conditions so that they are proper to demonstration—in such a way that it is produced from what is necessary, applies to all and *per se*, and is universal and peculiar.

Therefore, because it is not enough that it be produced from what is primary, true, etc.—since all these things can be present in the absence of what is necessary, *per se*, universal and peculiar—he means to add necessity to the conditions mentioned previously, and to qualify it, just as with many dialectical principles...²⁸

Thus the first of the two passages determines the features of the premisses that are of a more general kind and derive immediately from the definition of scientific knowledge given by the philosopher. The second passage, however, two chapters later, determines more specific conditions that are precisely those which are able to justify the characteristic necessity of such propositions and of that which is expressed by them. In the first passage, as is well known, Aristotle establishes that demonstrative premisses must be true, primitive, immediate, antecedent to the conclusion, better known than the conclusion, and also be its causes. Kilwardby pays particular attention to this point in determining both the reciprocal relations that run through these six determinations as well as their different levels of importance—thus anticipating what will become a characteristic element of Albert the Great's exposition.²⁹

First and foremost, Kilwardby takes for granted that a principle must be true: because as is known in Aristotle, the true simply coincides with that which is, and also because the truth of principles obviously constitutes a necessary condition for the possibility of the demonstrative conclusion being true as well. In any case, it is impossible to have false demonstrative knowledge. What is more, Kilwardby claims that, as far as the principles are concerned, to be primitive and to be immediate in fact coincide.

²⁸ *NLPos* Cannone, 1.12; Peterhouse 205, fol. 139rb, "Postquam determinauit conditiones demonstrationis primas et uniuersales per diffinitionem scire existentes que sunt quod fit ex primis et immediatis etc., hic intendit conditiones specialiores que conditiones uniuersales contrahunt et magis demonstrationi appropriant, cuiusmodi sunt quod fit ex necessariis que sunt de omni et per se, uniuersalia et propria.

"Quia igitur non sufficit quod fit ex primis, ueris etc., possunt enim hec omnia esse et tamen non erunt necessaria nec per se nec uniuersalia nec propria, sicut in multis principiis dialectice, ideo super conditiones prius habitas uniuersales intendit addere necessitatem et ipsam qualificare."

²⁹ This shall, however, become a point of interest abandoned by later commentators; on this question, see Corbini, *La teoria della scienza*, 57–59.

These two features express, according to him, the same thing from two different points of view, given that a premiss is said to be primitive insofar as it has no antecedent premiss, just as it is said to be immediate insofar as between both its terms there is no middle term and thus no antecedent proposition from which it could be deduced. Let us note however, that though he considers these two features to be fundamentally equivalent, Kilwardby seems to take the second as more fundamental in virtue of its being the only one present in the definition of the term *principle*: immediacy, he takes it, is the only one of the six features mentioned by Aristotle to belong to principles as such and not in relation to the conclusions that derive from them.

Moving on to consider the three last features mentioned by Aristotle, Kilwardby discerns a very close relation among them. According to him, for a principle, to be better known coincides with its being the cause of the conclusion and being antecedent to it. For science derives from that which is absolutely better known, which means, in an Aristotelian sense, that it derives from the causes of the demonstrated conclusion. Besides, the principle is better known than the conclusion with regard to our reason, while it is antecedent to it when we consider the things signified by the two propositions. Thus, also these two features express in actual fact the same thing from different points of view.³⁰ In this way we see that Kilwardby analyzes the six features of Aristotle's enunciated principles so as to make them seem basically reducible to three. For Kilwardby, the principles must be essentially true, immediate and better known, and causes of the conclusion. It is worthwhile to note that this is an aspect of Kilwardby which not only seems to find some echoes in the later commentary by Radulphus Brito, but also in the interpretation of certain modern interpreters. It is notable that various scholars tend to group a certain number of the six Aristotelian features together (or to consider them as equivalent among themselves), arriving at the extreme position of Wolfgang Detel, who opts for a reduction of the six fundamental features to two (to be primitive, that is, immediate, and to be causes of the conclusion).³¹

³⁰ R *NLPoS* Cannone, 1.6–7; Peterhouse 205, fols. 137va–138ra.

³¹ Radulphus Brito, *Quaestiones super librum Posteriorum Aristotelis*, Paris, Bibliothèque nationale de France, lat. 14705, fol. 78vb; Aristotle, *Prior and Posterior Analytics*, ed. William David Ross (Oxford: 1965), 509–10; Patrick H. Byrne, *Analysis and Science in Aristotle* (Albany, N.Y.: 1997), 92–101; Aristotele, *Analytica posteriora*, ed. Wolfgang Detel, 2 vols. (Berlin: 1993), 2:39; Michael Ferejohn, "The Immediate Premises of Aristotelian Demonstration," *Ancient Philosophy* 14 (1994, special issue): 80–82.

There is, however, a further aspect to this discussion with respect to which Kilwardby's contribution to the exegetical tradition seems to have been of particular relevance—greater even than for the preceding point. Taking up a formulation by Grosseteste, he distinguishes between principles better known than the conclusion and principles that do not have such characteristics and which, therefore, seem to depart from one of the features set down at first as indispensable.

He says here “all or some” (72a28), expressly adding “some” on account of certain principles that are not at once better known than their conclusions but perhaps equally doubtful, which are made clear through other things, and having been made clear are used for the conclusion.³²

The second type of principle is not formed from propositions that are better known than those that are concluded from them since, insofar as such principles are in turn deduced from others, they are not better known to the speaker than the conclusions that can be extracted from them. In effect, insofar as they are indeed principles with regard to the conclusions which derive from them, but also in turn themselves conclusions of earlier demonstrations, perhaps (the commentator prudently suggests) they could be just as well known as the conclusions from which they derive. On this point, both Grosseteste's and Kilwardby's influence on the later tradition, from Albert the Great and Thomas Aquinas onwards, is decisive.³³ It becomes traditional in dealing with the Aristotelian theory of science to treat this question which, though not explicitly present in it, is probably perceived as necessary for the completeness and coherence of the whole. Jonathan Barnes remarks on the absence in Aristotle of a distinction that would actually be rather important in his theory of science, namely, between first and immediate principles, and derivative ones. The latter, according to the Aristotelian framework, cannot but be mediated since they are deduced from the former.³⁴ Indeed, the mathematical disciplines

³² *NLPoS* Cannone, 1.10; Peterhouse 205, fol. 138rb, “Et nota quod dicit ibi ‘omnia aut quedam’ [72a28], exprimendo ‘quedam’ propter quedam principia, que non statim ipsis conclusionibus sunt magis cognita, sed forte eque dubia, que per alia declarantur: eis declaratis, consequenter utitur ad conclusionem.”

³³ See Robert Grosseteste, *Expositio in libros Posteriorum analyticorum Aristotelis* 1.2, 102–3; Corbini, *La teoria della scienza*, 62–63.

³⁴ Aristotle, *Posterior Analytics*, ed. Jonathan Barnes, 2nd ed. (Oxford: 1994), 93–94; cf. *Aristotele's Analytica Posteriora*, ed. Wolfgang Detel, 2 vols. (Berlin: 1993) for Detel's contrary opinion, according to whom Aristotle does not introduce the distinction only because it is not pertinent to the general argumentation he is dealing with at this point of the text. For indeed, whether the principles are understood as premisses of a determinate demonstration or as general principles, they are antecedent and better known: in the first

are often taken as models of the sciences by Aristotle, but it is patently obvious that not all the conclusions there are demonstrated from first and immediate principles. As in the case of Euclidean geometry, conclusions deduced from such principles become in turn the premisses of further demonstrations, in a chain in which it is always possible to go back to the principles from which, ultimately, they sprang. But, on the other hand, it would not be correct to claim that the final conclusions at which one arrives derive directly from the same principles from which the preceding premisses derive. Thus, basically, Aristotle would have missed a distinction between first/immediate principles, and derivative/mediated ones, though the latter are present and indispensable for the development and progress of any kind of science. It is significant that, in marking out this point, contemporary interpreters are in a way echoing, even if unaware of it themselves, something which had begun to be noted already in Grosseteste and in Kilwardby.

*The Specific Features of the Predicative Connections Present
in Demonstrative Propositions: De omni*

In order for a demonstrative proposition to qualify as precisely one scientific principle, it must possess the features mentioned by Aristotle in *Posterior Analytics*, book 1, chapter 2. These features, however, are not sufficient. In effect, an object of science cannot but be a necessary and universal truth; thus, what is deduced from the demonstrative principles must be necessary and universal. In order for this to be so, we must be able to find in the principles themselves some features that are more specific than those already mentioned. These are the features the philosopher presents in book 1, chapter 4. The analysis of these features, in Kilwardby's commentary as in all thirteenth-century commentaries, is particularly relevant, given the importance of this aspect in the Aristotelian theory of science.

The first feature is that which in the Latin translation of James of Venice was known to the Latin authors as *de omni*, the translation for the

case, with regard to the conclusion of the demonstration of which they are the premisses; in the second case, with regard to all the demonstrations which derive from them. In any case, in both senses, the principles (or premisses) are antecedent and better known than that which follows from them and this is what Aristotle means to claim (Aristotele, *An. post.* 2:63–4).

Greek *katà pantòs*: it is a determination concerning the extent of the predicative connection in the premisses, on the basis of which, according to Aristotle, the predicate must be true of the subject not only in some cases and not in others, nor can it be sometimes true and other times not.³⁵ On this point, already in Themistius, a somewhat *standard* interpretation of the text had come to be established, with which Kilwardby concurs and which was destined to be pursued unchanged at least until the thirteenth century. According to this reading, the way in which *de omni* predication is introduced in the *Posterior Analytics* constitutes a widening of the notion enunciated in the *Prior Analytics* with respect to *de omni et nullo* predication.³⁶ Kilwardby explains with particular clarity that the theory of *de omni* predication developed in the *Posterior Analytics* implies two aspects: on the basis of the first, there must not be any individual denoted by a term which acts as a subject and in which the predicate does not inhere. On the basis of the second, the predicate cannot be true sometimes of each individual to which it refers and at other times not be, but must always be true. On the basis of such a reading of the text,³⁷ it is the consideration of the temporal aspect of predication which comes to constitute the fundamental innovation of *the Posterior Analytics* with respect to the *de omni et nullo* predication of the *Prior Analytics*—an innovation that determines this feature as typical of demonstrative premisses. For it implies, as it is easy to see, the omni-temporal validity of predication and therefore, from the Aristotelian point of view, its necessity. Though this idea, as mentioned, was destined to thrive in later commentaries, it is evidently not agreed upon among modern interpreters. Mario Mignucci and Barnes note that the definition of *de omni* given in the *Prior Analytics* does not, in fact, exclude the temporal aspect of the predicate's relation to the subject. Thus, it would seem at least reductive to limit the innovations of the *Posterior Analytics* treatment of *de omni* in this way.³⁸

Per se: *The First Two Modes*

Per se is the second of the predicative features of which Aristotle speaks in book 1, chapter 4, and it is of a central importance in Aristotle's theory

³⁵ *An. post.* 1.4, 73a28–34.

³⁶ *An. pr.* 1.1, 24b28–30.

³⁷ *NLPoS* 1.12; Peterhouse 205, fol. 139rb.

³⁸ Cf. Mignucci, *L'argomentazione dimostrativa in Aristotele: Commento agli Analitici secondi* (Padua, 1975), pp. 57–58; Aristotle, *Posterior Analytics*, ed. Barnes, 111–12.

of science.³⁹ *Per se* has four possible significations according to the philosopher, each intended to give a more specific definition with respect to the *de omni*. It is in addition supposed to classify exhaustively, according to the intentions of the philosopher, the relations there can be between the subject and the predicate in a proposition which comes to be part of a demonstrative syllogism. However, given that there are four significations, each rather different from the other, it will be appropriate to analyze separately both the way they are dealt with by the philosopher and Kilwardby's comments about them.

The first mode of *per se* predication is the least problematic of the four in the description which the Greek philosopher gives of it. Kilwardby writes the following about it:

In the first [part] he posits two modes of inhering *per se*, of which the first is that the elements of a definition are in that which is defined—either in the nominative or in an oblique case. And I say “in an oblique case” on account of those things that are in that which is defined, not as a predicate in its subject, but as a principle in that of which it is the principle (as the point is in the line, and the line in the triangle). But I say “in the nominative” on account of those things that are in that which is defined as a predicate in its subject (as animal is in man).

Note that this mode includes all predications predicating a cause of that which is caused, whether it be a material, or a formal, or an efficient, or a final cause, and whether it be in the nominative or an oblique case, because that which is caused can be defined by any one of these.⁴⁰

³⁹ Given the focus here on Kilwardby and the medieval authors who are closest to him in time, we shall merely refer to general presentations of the importance of *per se* in the Aristotelian theory: Mario Mignucci, *L'argomentazione dimostrativa in Aristotele: Commento agli Analitici secondi* (Padua: 1975), 59–81; Richard Sorabji, *Necessity, Cause and Blame: Perspectives on Aristotle's Theory* (London: 1980), 188–206; Aristotle, *Posterior Analytics*, ed. Barnes, 112–18; *Aristotele's Analytica posteriora*, ed. Detel, 2:99–135; Ferejohn, *Origins of Aristotelian Science*, 75–130; McKirahan, *Principles and Proofs*, 80–102; Aristotele, *Analitici secondi*, ed. Mario Mignucci (Rome: 2007), 164–66. There is also an article on this aspect of Kilwardby's commentary by Deborah Cannone which contains an edition of the relevant part of the text, Debora Cannone, “Le *Notule libri Posteriorum* di Robert Kilwardby: Il commento ad *Analitici Posteriori* 1.4, 73a34–b24 (*per se*),” *Documenti e studi sulla tradizione filosofica medievale* 13 (2002): 71–135. Though the edition there has been surpassed by the one present in her doctoral thesis, which is based on a more complete comparison between the MSS and is, for this reason, different in certain points, reference hereafter is to the earlier version published in the article in addition to the edition found in the PhD dissertation and not to the Cambridge MS in dealing with *per se*.

⁴⁰ *NLPoS* Cannone, 1.13; Cannone, “Il commento ad *Analitici Posteriori* I, 4, 73a34–b24,” 120, “In prima [*scil. parte*] ponit duos modos inherendi per se, quorum primus est quod diffinitia insunt diffinito, et hoc siue secundum rectum siue secundum obliquum. Et dico secundum obliquitatem propter ea que non insunt diffinito non sicut predicatum

Kilwardby here follows the salient points in Grosseteste's reading of the text, explaining that there is a predication of this type when the determinations present in the subject's definition are predicated of it.⁴¹ For Grosseteste, this type of predication includes all cases where the predicate expresses one of the four causes regarding the quiddity of the subject.⁴² But Kilwardby departs from his predecessor's characteristic line of interpretation in dealing with this question in the Aristotelian text, noting that there are two different ways of inhering *per se* in the first mode. The first way is *secundum rectum*, and is obtained when the characteristic that defines the subject occurs in the direct (nominative) case in the definition of the subject, as in the proposition "all men are animals." The second way is *secundum obliquum* or *secundum obliquitatem*, and is obtained when the defining characteristic of the subject is expressed in the definition in an oblique case, as in the proposition "all lines are constituted of points" or "all triangles are delimited by straight lines." In the second case, the relation between predicate and subject is, according to Kilwardby, more like the relation between a definitional expression and a defined term, than that between a principle (in the first example, the point) and that of which it is a principle (the line). In so saying, Kilwardby not only introduces an original aspect in his reading which will not be overlooked by Albert the Great nor by Thomas Aquinas,⁴³ but he also refers, as remarked by Debora Cannone, to what Aristotle says in chapter 36 of the *Prior Analytics* and to the late antique Greek commentaries of Alexander of Aphrodisias and Philoponus who speak of syllogisms with premisses *in recto* contrasted with syllogisms having premisses *in obliquo*—the claim being that a conclusion *in recto* may also derive from two *in obliquo* premisses,

subiecto, sed sicut principio principiatio, ut punctus inest linee et linea triangulo. Dico autem secundum rectitudinem propter ea que insunt diffinito sicut predicatum subiecto, ut animal homini inest.

"Nota quod in hunc modum cadunt omnes predicationes predicantes causam de causato, et hoc siue materialem siue formalem siue efficientem siue finalem, siue in recto siue in obliquo, quia per quamcumque illarum potest diffiniri causatum."

⁴¹ *An. post.* 1.4, 73a34–37.

⁴² Cf. Grosseteste, *Commentarius in Posteriorum analyticorum libros* 1.4, 111, where the bishop of Lincoln makes explicit the essential relation between the things indicated by the two terms: two things are *per se* one with respect to the other and therefore the terms that signify them can give rise to an analogous predicative relation, when the quiddity or the essence of one item is linked by nature and not accidentally to the quiddity or essence of the other.

⁴³ Corbini, *La teoria della scienza*, 107–18; *NLPoS* Cannone, 1.31; Cannone, "Il commento ad Analitici Posteriori 1.4, 73a34–b24," 94–95.

consisting merely in a material difference between propositions.⁴⁴ From this claim of Kilwardby's it seems possible to derive a consequence also concerning the *per se* predicative mode dealt with by Aristotle in the *Posterior Analytics*: given that there would be only a material difference between inhering *secundum rectum* and inhering *secundum obliquum* in the first mode of *per se*, it would seem legitimate to maintain that according to Kilwardby, in demonstrative syllogisms where the first *per se* mode is present in the premisses, it will be possible to use either one of these two different predicative relations indifferently.⁴⁵ This idea of Kilwardby's concerning the distinction between two ways in which a *per se* predication in the first mode can be set out was to some extent echoed in the immediately following commentaries. It should be noted that, with regard to this mode of predication, the most significant exegetical step forward for further reflection was taken by Albert the Great, autonomously from Kilwardby. Albert identifies as the sole causal relation in a *per se* predication of the first mode, the formal cause (and not all four types of causes as our author claims)—this position will produce a proper interpretative habit in the following tradition.⁴⁶

As for the second mode of *per se* predication, it is presented in Aristotle with contrary characteristics to the first mode. Kilwardby seems to model himself more closely on Grosseteste's interpretation⁴⁷ in bringing out, first and foremost, how it is that, while in the first mode the predicate expresses the definition of the subject, in the second, on the contrary, it is the subject which is contained in the definition of the predicate. Furthermore, in an analogously contrary manner, if indeed in the first mode the predicate expresses a cause of the subject, in the second it is the subject which constitutes a cause of the determination that is predicated of it. It must be admitted that Kilwardby developed one aspect of Grosseteste's exegesis which would become rather important in later interpretations of the *Posterior Analytics* in the thirteenth century: namely, when he affirms that *per se* determinations in the second mode derive essentially and not accidentally from the quiddity of the subject and that therefore there is

⁴⁴ Cannone, "Le Notule libri Posteriorum di Robert Kilwardby, 1184–85; Mignucci, *L'argomentazione dimostrativa*, 59–60; Aristotele, *Gli analitici primi*, ed. Mario Mignucci (Naples: 1969), 482–83; Giles of Rome (in reality Robert Kilwardby), *In libros Priorum Analyticorum expositio* (Venice: 1516; reprt., Frankfurt: 1968) [NLPri], fol. 46rva.

⁴⁵ Cannone, "Le Notule libri Posteriorum di Robert Kilwardby," 1185.

⁴⁶ Corbini, *La teoria della scienza*, 104–5.

⁴⁷ *An post.* 1.4, 73a37–b2; Grosseteste, *Commentarius in Posteriorum analyticorum libros 1.4*, 112 and 115.

in this manner a necessary relation between subject and predicate. Kilwardby in effect indicates such determinations as *accidentia per se* (or *passiones propriae* in the *De ortu scientiarum*). He does not however pause to illustrate this concept, confining himself to saying of this type of predicate that it concerns determinations that belong properly to their subject. These are predicated of it, sometimes taken singularly and, in most cases, taken *in disiunctione* as in the example from Aristotle (Aristotle takes as examples for *per se* predicates of the second mode *even* and *odd* with respect to number and this makes us think that he is alluding to a proposition of the type “all numbers are either odd or even”).⁴⁸ It is from Albert the Great onwards that, on the basis of these suggestions, the discussion of *per se* accidents will become of greater relevance, arriving at a mature system in Thomas Aquinas’s commentary.⁴⁹

The Third and Fourth per se Modes

Yet in comparison with the philosopher, Kilwardby’s considerations about the third mode of *per se* predication are more complex and interesting. This is, in fact, a rather problematic mode, given that already Aristotle presents it as different from the other three: he says that *per se* in this sense is that which is not said of another subject, that is, it is the substance, while (as seen in the first two modes and will be seen in the fourth) the other *per se* relations concern not substances but predicative relations.⁵⁰ Grosseteste’s interpretation is fundamental here as in other cases, paving the way for subsequent interpretations, based in great part on Themistius. He says that the third mode (and according to him also the fourth) was added by Aristotle merely to complete the presentation, given that it concerns a mode of being (*modus essendi*) and not a particular

⁴⁸ “Secundus modus est quod per se accidentia siue passiones insunt suis subiectis, que quidem subiecta in eorum diffinitionibus accipiuntur.” *NLPoS* Cannone, 1.13; Cannone, “Il commento ad Analitici Posteriori I, 4, 73a34–b24,” 121. On the determinations assumed to be *in disiunctione*, cf. *NLPoS* Cannone, 1.14, and Cannone, “Il commento ad Analitici Posteriori I, 4, 73a34–b24,” 129.

⁴⁹ Corbini, *La teoria della scienza*, 109–12. Incidentally, *per se* accidents on which the medieval authors seem to focus, mainly from Aquinas onwards, seem to have today a far greater importance in Aristotle’s theory of science than that which was traditionally attributed to them; see esp. Brad Inwood, “A Note on Commensurate Universals in the *Posterior Analytics*,” *Phronesis* 24 (1979): 320–29; Owen Goldin, *Explaining an Eclipse. Aristotle’s Posterior Analytics 2.1–10* (Ann Arbor: 1996); Theodor Ebert, “Aristotelian Accidents,” *Oxford Studies in Ancient Philosophy* 16 (1998): 133–59; Richard Tierney, “On the Senses of ‘symbebekos’ in Aristotle,” *Oxford Studies in Ancient Philosophy* 21 (2001): 61–82.

⁵⁰ *An. post.* 1.4, 73b5–9.

type of predicative relation (*modus predicandi*). It is a mode of being that belongs to all substances but especially to primary substance that is not predicated of anything else. Thus this *per se* mode does not seem to have, according to him, any real importance or use in science; indeed, no further reference is made to it later in his commentary.⁵¹

Kilwardby explains the characteristics of this mode, at first in the literal exposition of the text, in a completely analogous way to his predecessor. He also seems to agree with the idea that this mode, in contrast to the first two, is not fully pertinent to the question of the nature of science according to Aristotle.⁵² However, in a lengthy question he inserts later in the commentary and which deals with the corresponding relations and possible usefulness of the *per se* modes in demonstrations, he adds some elements that seem to go in a rather different direction, attributing some worth to this mode for the theory of science:

Now, if there is a question about the third mode, it is to be said that Aristotle adds it to the others so that his discussion of demonstration *per se* will be more complete. Or it is to be said that he makes determinations about it entirely on account of demonstration, just like the other modes of inhering. But the third is a mode of being, and just as it is a property of substance to be by itself in such a way that everything else is either in it or is said of it, so it is a property of the subject of demonstration to stand by itself in regard to everything that is in demonstration—and in order to signify that just as it is a property of the characteristic to inhere, so it is a property of the subject to stand and not to inhere.⁵³

⁵¹ Grosseteste, *Commentarius in Posteriorum analyticorum libros 1.4*, 114.

⁵² *NLPoS* Cannone, 1.13; Cannone, "Il commento ad *Analitici Posteriori* 1.5,73a34–b24," 122. In dealing with this mode, Kilwardby explicitly refers to an *alia translatio* of the Aristotelian text from the one he usually uses, which is the same one used by all the commentators of those days, namely, the *vulgata* by James of Venice; see *Analytica posteriora: Translationes Iacobi, Anonymi sive "Ioannis," Gerardi et Recensio Guillelmi de Moerbeka*, ed. Aristoteles Latinus 4.1–4, ed. Laurentius Minio Paluello and Bernardus G. Dod (Leiden, 1968), xvi–xvii. Namely, he is using an Arabic-Latin translation by Gerard of Cremona, used, most unusually for the times, in different circumstances by Kilwardby, to the extent that it forms a peculiar feature of the commentary; on this point see Cannone, "Le *Notule libri Posteriorum* di Robert Kilwardby, 1:40–53.

⁵³ *NLPoS* Cannone, 1.14, "Si autem queratur de tertio modo, dicendum quod Aristoteles adiunxit ipsum aliis ut completius fieret sermo demonstrationis per se. Uel dicendum quod ille determinat propter demonstrationem omnino tamen sicut alii modi inherendi. Sed tertius est modus essendi, sicut est proprium substantie esse per se, ita quod omnia alia sunt in ipsa aut dicantur de ipsa, sic proprium est subiecti in demonstratione stare per se respectu omnium que in demonstratione sunt. Et ad significandum quod sicut proprium est passionis inesse, sic subiecti proprium est stare et non inesse."

Thus, it may be claimed that the third mode is related to demonstration in the sense that, insofar as it concerns substance, it makes up the basis, the condition for the possibility of any kind of predication. For it naturally is that from which all properties can be predicated and which in turn is not predicated of anything else.⁵⁴ Kilwardby thus introduces into the Latin exegetical tradition the idea, utterly absent from Grosseteste, that the third mode also has, to some extent, a right of citizenship within the Aristotelian theory of science. At the same time, he clearly repeats that this mode is not scientific in equal measure to the other three. It rather seems to constitute a preliminary condition to any form of argumentation, be it scientific or not, insofar as a condition for the possibility of any argument is the existence of substrates of which certain determinations can be predicated.

These considerations taken together seem to me to be interesting for two reasons: (1) they are resonant with the claims of certain modern interpreters of the *Posterior Analytics*, especially Barnes and Michael Ferejohn, who justify the presence of this *per se* mode in the Aristotelian scientific theory precisely in virtue of the necessity of distinguishing between substrates and their properties. It is in this manner that it becomes possible to formulate direct, that is, natural predications which are the only ones that can be legitimately used in science.⁵⁵ Thus, it seems to me that what Kilwardby has to say is first of all an important sign of his capacity to grasp the problems set by the text and to propose interesting solutions for them. (2) It is from these texts that a certain tendency emerges, particularly perceptible in Albert the Great (with lengthy textual references to Kilwardby) and in Giles of Rome, but also present with clear traces in Simon of Faversham and Radulphus Brito, namely, the tendency to pay greater attention to this mode and to search for justifications, ever more articulated, of its presence in the Aristotelian system.⁵⁶

⁵⁴ Cannone, "Il commento ad Analitici Posteriori I, 4, 73a34–b24," 127. This aspect is taken up and repeated in a following question concerning the correctness of the division of the *per se* modes into four. Kilwardby says that the division into four has its roots in that which is in nature, i.e., that which is, that which inheres in something else, and the cause of this inherence. The *per se* modes correspond to this subdivision, that is, respectively the third, the first two, and the fourth; *NLPoS* Cannone, 1.14; Cannone, "Il commento ad Analitici Posteriori 1.4.73a34–b24," 130.

⁵⁵ See, e.g., Aristotle, *Posterior Analytics*, ed. Barnes, 114–17, and Ferejohn, *Origins of Aristotelian Science*, 109–15.

⁵⁶ Corbini, *La teoria della scienza*, 118–21.

When we consider Kilwardby's treatment of the fourth *per se* mode, we observe a further search for original and acute solutions, prompted by the previous exegetical tradition but to a large extent independent from it. In this case, in particular, Kilwardby shows himself utterly independent of Grosseteste, and unusually so. The latter deals with the fourth mode just as expeditiously as with the third, considering it as merely complementary to the first two. He limits himself to saying it is a *modus causandi*. Kilwardby on the other hand, poses a long series of questions inquiring analytically about the relations between the *per se* modes.⁵⁷ In effect, Aristotle says that in this mode, the causal relation is expressed between two events (as for example in the proposition "the animal, having been hurt, died").⁵⁸ However, in relation to the first two modes, according to the interpretation of the medieval authors, the predicative *per se* connection consists in a causal connection between what the subject and the predicate respectively denote. It is therefore necessary to specify the differences between these modes of predication.

The first important clarification Kilwardby gives concerns the distinction between the fourth and the second: according to our author the *per se* predications of the fourth mode are immediate, while those of the second mode are mediated:

And it is to be said that this [fourth] mode of *per se* does not differ from the second mode in regard to *per se* inherence. For in both cases the cause of the predicate is in the proposition's subject and so there is a single cause of inhering *per se*, and thus when I say "it" the pronoun always refers to either one. And since it is not futile to posit this mode, for it differs from the second mode by virtue of the fact that in the second mode the inherence is always mediate and demonstrable, but in this mode it is indemonstrable and immediate. For it is the second mode when a characteristic is predicated of its subject, and such a predicate is without qualification not immediate, yet the cause of the characteristic is in the subject. But it is the fourth mode when something is predicated of its cause, whether that be a characteristic or something else. And in general, it is this mode when one thing is in another as a cause in such a way that there is no other cause between it and the subject. And Aristotle signifies this in *Metaphysics* 5, saying that it is the fourth mode when it does not inhere through a cause other than itself, as man is man, not through any cause other than his own humanity, and so the cause by which he is a man is not mediated, but man itself is in it itself.

⁵⁷ *NLPoS* Cannone, 1.14; Cannone, "Il commento ad *Analitici Posteriori* 1.4.73a34–b24," 124–35; Grosseteste, *Commentarius in Posteriorum Analyticorum libros* 1.4, 114.

⁵⁸ *An. post.* 1.4.73b10–16.

And all predications in which a thing is predicated of itself (such as “The good is good,” “Man is man,” and the like) reduce to this mode.

From all this it is clear that this mode of *per se* does not differ from the second mode as concerns *per se* inherence—for in both cases the cause of the predicate is taken in the subject—but that it differs from that as the mediate differs from the immediate.⁵⁹

Thus, according to Kilwardby, *per se* predications of the second mode are mediated because the inherence of the predicate in the subject can be caused immediately, not by that which is signified by the subject but by a different cause. Let us consider for example the proposition “The isosceles triangle has the sum of its internal angles equal to two right angles.” This can be considered *per se* in the second mode because a characteristic that properly belongs to the triangle in general is predicated of a particular kind of triangle. However, it is not the nature of the *isosceles* triangle which constitutes properly and primarily the cause of the determination which is predicated of it. Given that such a property does not only belong to the isosceles but to all kinds of triangle, it is the nature of the *triangle* and not that of the isosceles which constitutes the cause of the noted property of the angles. The inherence concerned here is therefore mediated because it can be syllogistically deduced from two premisses such as “All triangles have the sum of their internal angles equal to the two right angles” and “The isosceles is a triangle.” On the other hand, *per se* predications of the fourth mode, according to Kilwardby, are immediate, because in them the

⁵⁹ *NLP*os Cannone, 1.14; Cannone, “Il commento ad *Analitici posteriori* 1.4.73a34–b24,” 125, “Et dicendum quod iste modus per se [*scil.* quartus], quantum ad per se inherentiam, non differt a modo secundo: utrobique enim causa predicati est in subiecto propositionis, et ita est una causa per se inherendi, et ideo hoc pronomen ‘ipsum’ semper refertur ad hoc quod dico ‘unicuique’. Et cum non ponatur modus iste nugatorie, differt enim a modo secundo per hoc quod modus secundus semper habet inherentiam mediatam et demonstrabilem, sed iste modus indemonstrabilem et immediatam. Secundus enim modus est, cum predicatur passio de subiecto suo; et talis predicatio simpliciter immediata [non] est, causa tamen passionis in subiecto est. Quartus autem modus est, cum predicatur aliquid de sua causa siue illud sit passio per siue aliud. Et uniuersaliter est iste modus, cum aliquid alii inest tamquam causa ita quod inter ipsum et subiectum non sit alia causa; et hoc significat Aristotiles V *Metaphisice*, dicens quod quartus modus est quando non inest per aliam causam ex se, ut homo est homo non per aliam causam quam propter suam humanitatem, et ita non est causa mediata qua sit homo, sed se ipsum inest homo sibi ipsi. Et ad istum modum reducuntur omnes predicationes eiusdem de eodem, ut bonum est bonum, homo est homo et huiusmodi.

“Ex hiis patet quod iste modus per se non differt a secundo modo quantum ad per se inherentiam—utrobique enim causa predicati accipitur in subiecto—et quod differt ab illo tamquam mediatum et immediatum.”

cause of the predicate is always that expressed by the subject itself. This point is suggested to Kilwardby, as he explicitly says himself, by the fifth book of the *Metaphysics* where Aristotle lists another classification of the significations of *per se* (which here are five) and where the fourth covers also tautological propositions of the kind “Man is man.” Now, Kilwardby argues, in this last type of proposition, the predicate does not inhere in the subject in virtue of a cause that is different from the subject itself. In his commentary, this comes to be considered as valid also for the fourth mode of the *Posterior Analytics*.⁶⁰

Concerning this last claim, Kilwardby adds a second point of precisification which for certain aspects of the question is still more acute, according to which in the fourth mode of *per se* (taken in the sense of the *Posterior Analytics*) two different modes must be further distinguished in which a predicate can be said of a subject.

It is to be said that in this mode of *per se*, sometimes a characteristic is predicated, and sometimes something else. And when a characteristic is predicated, it can be immediately predicated of its cause in two ways: for either it is predicated of its cause taken by itself, as when a characteristic is predicated of its causal definition (and in this case the fourth mode occurs in the major proposition of any demonstration), or it is predicated of its immediate cause signified in a concrete way with its subject, in such a way that the same name signifies the characteristic's subject and its cause, the subject indefinitely and the cause definitely (and so it is in “The killed died on account of killings,” because the name “killed” signifies the immediate cause of death, namely killing, but does so in a concrete fashion with subject taken indefinitely, as is clear.⁶¹

In the first of these modes, therefore, the determination which gets predicated of the subject has in itself its own cause insofar as the subject expresses the definition of the determination in question. Expatiating a little on Kilwardby's text, we could think of a proposition of the type

⁶⁰ Aristotle, *Metaph.* 5.18, 1022a32–35.

⁶¹ *NLPoS* Cannone, 2:75–76; Cannone, “Il commento ad *Analitici posteriori* I, 4, 73a34–b24,” 125–26, “Dicendum est quod hoc modo per se aliquando predicatur passio et aliquando aliud. Et cum predicatur passio potest predicari de sua causa immediata dupliciter: aut enim predicatur de sua causa per se accepta, sicut cum predicatur passio de sua diffinitione causali, et sic cadit quartus modus in maiori propositione cuiuslibet demonstrationis; aut predicatur de sua causa immediata concretionis significata cum subiecto eius, et ita quod idem nomen significet subiectum passionis et causam eius, subiectum tamen indefinite et causam diffinite, et sic est hic ‘interfectum interit propter interfectionem,’ quia hoc nomen ‘interfectum’ significat immediatam causam interitus, scilicet interemptionem, et hoc in concretionem cum subiecto indefinite accepto, sicut patet.”

“A body which is deprived of light through the intromission between itself and the source of light by a third body suffers an eclipse,”⁶² in which the subject is the very definition of the eclipse. According to the second way, on the other hand, though the subject expresses the cause of the determination expressed by the predicate, it at the same time signifies the substance of which the determination itself can be said. In the case of the Aristotelian example, “The wounded animal is dead because of its wound,” the cause of death, i.e. the fact of having been wounded, is expressed by the subject term which, however, implicitly signifies also a substance of which the very same determination can be predicated. Thus, the “wounded” subject indicates at the same time in a direct way, the cause of the predicate (the wound) and in an indirect way the substance of which the predicate itself can be said (the animal).⁶³

These considerations, already interesting by themselves, acquire particular weight once placed within the tradition of the commentaries on the *Posterior Analytics*, both antecedent and posterior. On the one hand, they go far beyond the generic indications given by Grosseteste, presenting themselves as a far-reaching development both autonomous and original.⁶⁴ Moreover, Kilwardby’s explanations secure a significant result in view of a global interpretation of the Aristotelian theory of science, by giving a complete justification for the presence in it of the fourth *per se* mode. For, given that in the first way of taking them, *per se* predications of the fourth mode always give rise to necessary connections, it is clear that they will be able to make up propositions present in demonstrative argumentation. In particular, according to Kilwardby, this mode is the typical mode of major premisses.⁶⁵ In addition, Kilwardby had a particularly strong influence on Albert the Great’s way of reading this predicative mode. Albert takes up the idea of the immediacy of the causal relation expressed by the fourth mode, as well as the possibility that tautological predications come to be referred to that mode, and the second type of

⁶² This example, which is not present in the medieval commentary, is propitiously suggested by Cannone, “Le Notule libri Posteriorum di Robert Kilwardby 1:195–7.

⁶³ *NLPoS* Cannone, 1.14; Cannone, “Il commento ad *Analitici posteriori* 1.4.73a34–b24,” 125–26.

⁶⁴ See Grosseteste, *Commentarius in Posteriorum Analyticorum libros* 1.4, 114.

⁶⁵ “Si autem queratur quomodo iste modus se habet ad demonstrationem, dicendum est quod semper cadit in maiori propositione demonstrationis...”; *NLPoS* Cannone, 1.14; Cannone, “Il commento ad *Analitici posteriori* 1.4.73a34–b24,” 126–27. On this point, the commentator, yet again, launches what will become an exegetical commonplace found in Albert the Great, Thomas Aquinas, Simon of Faversham, and Giles of Rome; Corbini, *La teoria della scienza*, 125–26n.

predication identified by Kilwardby, in which the substance is co-signified by the subject (while the stress on the first type of *per se* predication in the fourth mode is abandoned). However, this important influence, as in other cases already mentioned, seems to end with Albert the Great. The interest in a focused and detailed analysis of the characteristics of the fourth mode is greatly diminished in Thomas Aquinas, and in later commentators such as Walter Burley and even in commentators usually rather close to Thomas such as Giles of Rome and Radulphus Brito. Only in the commentaries of James of Douai and Simon of Faversham does an interest similar to Kilwardby's seem to be present. According to John Lee Longeway, the importance given by Simon of Faversham to this predicative mode is one of the distinctive marks of his commentary and theoretically the most relevant.⁶⁶ However, nowhere do Kilwardby's considerations seem to be taken up again, not even through the mediation of Albert the Great.⁶⁷

The Object of Scientific Knowledge: The "for the most part"

Even though in the Aristotelian theory the object of scientific knowledge can legitimately only be that which is universal and necessary, the philosopher seems to admit that such an object can also be constituted of events or conditions which are not always the case and not necessarily so but only in most cases or for the most part (*ut frequenter*). Aristotle admits

⁶⁶ Longeway, "Simon of Faversham's Questions", 326–60.

⁶⁷ Corbini, *La teoria della scienza*, 126–27. In order to complete the picture of the features of predication that Aristotle considers as the characteristics of demonstrative premisses and of their necessity, we must mention a last aspect referred to by the Stagirite: namely, that a predicative relation, in order to be present in the premisses must also be *universal*. This condition implies two elements: on the one hand, the predicate must inhere in the subject *per se* and as such (*secundum quod ipsum*), on the other, the subject must be the first in which the predicate inheres. In this case, though, the interpretation of the medieval commentators, including Kilwardby, basically adheres to the Aristotelian text. They are intent on specifying that, on the one hand, in order to obtain this type of predicative relation, it is opportune that the subject constitutes the cause itself of its belonging to the predicate and, on the other hand, that the subject be more general, of which it is then possible to predicate the property in question. The only aspect that expands the Aristotelian line on which Kilwardby presents a point of view, which is shared by a certain number of later commentators, is his interpretation of the equivalence, stated by Aristotle, of *per se* and *secundum quod ipsum*, which would seem to make some predicative features coincide that had previously been distinguished. Kilwardby suggests that such a coincidence should be understood as one between the universal and the particular—a remark that should probably be taken in the sense that the *per se* is of a more general predicative nature than the *secundum quod ipsum*; *NLPoS* Cannone, 1.15; Peterhouse 205, fol. 140va.

thus of a possibility which, however, generates a number of problems, given that Aristotle's own opinions seem rather wavering on this matter.⁶⁸ The philosopher leaves open this eventuality and, with the support of the enquiries carried out by scholars in the last decades, all agree on the particular ambiguity of the texts on this point, that is, on the characteristics of that which is or comes to be for the most part. Following Mignucci, we can summarize the situation in the following way: "for the most part" is distinguished by Aristotle both from what is always the case and necessary as well as from that which is utterly by chance and accidental. To belong to the category of "for the most part," therefore, excludes that the event or condition in question be considered as always being the case. But it also excludes the absence of any sort of order, regularity, and predictability in a thing's coming to be. It is, therefore, impossible to consider that which occurs purely by chance to be "for the most part." That which is or comes to be for the most part, therefore, is mostly the case and presents a relation with a cause in consequence of which, normally, once such a cause is identified, the effect follows. This relation with the cause, in contrast with the case of that which is necessarily, can sometimes collapse and the event or condition one would expect may not occur. This eventuality is understood as exceptional with respect to the norm.

These determinations of "for the most part" in the Aristotelian theory of science are generally considered nowadays as ascertained. But this does not signify that they were so already for the first medieval authors who interpreted the complex Aristotelian texts—or at least not to the same degree. Kilwardby seems indeed to be saying something rather different from what we have just presented, when he claims that:

For, as Aristotle says, demonstration is either of what always is or of what is for the most part—and I mean according to temporal changes—but through necessary causes ordered towards it.⁶⁹

In this manner, he specifies however briefly, that what is *frequentier* occurs at regular intervals of time and is the effect of necessary causes—which contradicts what we have just said and would be for Mignucci a real

⁶⁸ Mignucci, *Aristotle on Science*, 173–203, on this question remains of fundamental value, "*Hos epì tò polù* et nécessaire dans la conception aristotélicienne de la science"; the fundamental points have been retained with an up-to-date bibliography in Aristotele, *Analitici secondi*, ed. Mignucci, 237–38.

⁶⁹ *NLPoS* Cannone, 2.11; Peterhouse 205, fol. 167ra, "Demonstratio enim, ut dicit Aristoteles, aut est eorum que semper sunt, aut eorum que frequentier sunt—dico enim secundum temporum uices—sed per causas necessarias ordinate[s] ad ipsa."

misunderstanding of Aristotle (but on this point there are nowadays contrasting opinions).⁷⁰ The origin of this idea of Kilwardby's is to be sought, once again, in Grosseteste's exegesis. For it is the bishop of Lincoln, who presents in his exposition an interpretative ambiguity which is felt throughout the following exegetical tradition, starting from Kilwardby, namely, speaking of the *contingentia nata* as an object of science,⁷¹ Grosseteste gives the example of the capacity to generate of a male individual once he has reached the appropriate age, a typical quality which holds in most cases without constituting a necessary characteristic possessed by all individuals. He specifies that that which happens for the most part is an event or a condition that is typical of the natural world, which would always be the case if only its cause were not sometimes prevented from reaching its effect.⁷² In so saying, his opinions are not substantially different from interpreters closer to ourselves. However, in a passage in his commentary in which he speaks more diffusely of this kind of event or situation,⁷³ the example he gives and discusses to some extent is the example of the eclipse of the moon, which seems to represent a natural event of a rather different type from those examined previously. For indeed, it is impossible to say that an eclipse happens in most cases since the normal condition of the moon is not that of being eclipsed, nor can there be events such as to prevent the cause of the eclipse from reaching its effect. For, each time the earth moves between the moon and the sun, there always is an eclipse, as the authors we are considering here well knew. The only analogies which it seems possible to recognize between the generative capacity of an adult individual and the eclipse of the moon are that these things are not always the case, but there exists a cause of them, known to us but not always productive of this effect. This way Grosseteste has of coupling one type of event with a different type, though nowadays considered illegitimate by certain scholars of Aristotle, becomes a diffuse practice from Grosseteste onwards in most of the thirteenth-century commentaries (such as in the

⁷⁰ Mignucci, *L'argomentazione dimostrativa*, 156–57; seemingly of the same opinion is Ferejohn, *Origins of Aristotelian Science*, 119–23; the point of view seems to be different in McKirahan, *Principles and Proofs*, 184–86, while Aristotle, *Posterior Analytics*, ed. Barnes, 192–93, leaves the question completely open.

⁷¹ Rossi has shown that with this expression Grosseteste is precisely indicating those beings or contingent events that fall under the Aristotelian category of “for the most part;” Rossi, “Robert Grosseteste and the Object,” 58–59.

⁷² Grosseteste, *Commentarius in Posteriorum Analyticorum libros 2.3*, 363.

⁷³ Grosseteste, 1.7, pp. 143–45.

later commentaries by James of Douai and Radulphus Brito),⁷⁴ and Kilwardby, at least at first sight, does not seem to be an exception to that tradition.

With regard to a different aspect of Grosseteste's interpretation of *contingentia nata* as object of science, Kilwardby does not seem to be utterly in agreement with his illustrious predecessor. Grosseteste attempts also to determine the ontological basis on which the category of things contained in the *ut frequenter* depends in order to become objects of science, though these are not necessary things. His answer is that, since the object of science must always be, events like an eclipse can be objects of science since these always are, not in themselves but insofar as we consider them in their *rationes causales*.⁷⁵ The eclipse is a necessary event in relation to the causes which bring it about (with such causes being present, therefore, an eclipse cannot not come to be), even though it is not necessary in itself. It is precisely this necessity which grounds the possibility that recurrent astronomical events such as eclipses are indeed objects of scientific knowledge. The eclipse, thus, can be investigated in a scientific manner insofar as, in relation to its causes, it always and necessarily comes to be. This idea of the necessary *esse in suis causis* of astronomical events is a touchstone in the tradition as well, and can be found from Kilwardby's commentary onwards: Kilwardby indeed affirms that determinations which belong to their respective subjects only for the most part and not always, can be demonstrated insofar as it is not their relation with their subjects which is considered, but the relation with their causes—causes which guarantee that such *passiones* be present in the subjects themselves. The great success of this interpretative idea is testified not only by its being taken up almost universally by later commentators, but also that, this time, it is still considered valid by some modern interpreters of Aristotle.⁷⁶

⁷⁴ Corbini, *La teoria della scienza*, 31–32; see also Amos Corbini, "Ps. Boezio di Dacia, Pietro di S. Amour, Guglielmo Arnaldi: La conoscenza scientifica del contingente", in *Conoscenza e contingenza nel pensiero medievale*, ed. Riccardo Chiaradonna, Amos Bertolacci, and Pietro B. Rossi, 231–84. (Pisa: 2008), as well as Pietro B. Rossi, "Il commento di Matteo da Gubbio agli Analitici secondi," in *L'insegnamento della logica a Bologna nel XIV secolo*, ed. Dino Buzzetti-Maurizio and Ferriani-Andrea Tabarroni (Bologna: 1992), esp. 474–84.

⁷⁵ Cf. the above quoted passage in n.73.

⁷⁶ *NLPoS* Cannone, 1.21; Peterhouse 205, fol. 143rb-va; as for other thirteenth-century authors, see Corbini, *La teoria della scienza*, 37–39, and Pietro B. Rossi, "L'oggetto della conoscenza scientifica secondo Rodolfo il Bretone," *Rivista di storia della filosofia* 50 (1995): 141–62. See also Ferejohn, *Origins of Aristotelian Science*, 121–22, and Michael Winter, "Aristotle, *hos epi tò polù* Relations, and a demonstrative Science of Ethics," *Phronesis* 42 (1997): 163–89.

The validity of this idea, in the precise moment in which it tacitly comes to be accepted by later medieval readers of the text, was also in some way elaborated on with more precision and discussed—and this, precisely from Kilwardby onwards. Once again, he proves to be a disciple but not held in thrall to the great master. Amid a long discussion on the possibility of demonstrating a predicate's belonging to a subject on the basis of knowing the definition of the subject itself, he makes a point which at first sight seems to be taking up again a thought expressed already by Grosseteste. But at a closer look, it contains, at least *in nuce*, the possibility of considering the question from a different point of view.

In order to make this evident, it is to be noted that of those things that are not, some in no way are, being neither in potency nor in act, like impossibilities such as a bronze mountain or a chimera (and of such nonbeings there is no knowledge nor a definition indicating what the being of thing is, as Aristotle says). But some of those that are not in act still have a potency in their causes and an aptitude for being in act, just as the rose withers in winter, and suchlike, and of such nonbeings there may well be a definition indicating the thing's essence and quiddity. And so of these there can be knowledge treated demonstratively while yet they do not exist in actuality but only according to their essence and according to aptitude. And in this way there is knowledge of a future eclipse and of the rising and setting of the sun tomorrow.⁷⁷

Our author thus tells us that things which now are not, can be divided into two types: those that absolutely are not, neither potentially nor actually (like a mountain of bronze or a chimera) and of these, obviously, there can be neither knowledge nor a definition. Besides these, there are those which, though not existing now, exist potentially in their causes which have the aptitude (*aptitudo*) to bring them actually about. This aptitude is a sufficient basis for there to be scientific knowledge of that which in act still does not exist. Up to this point, Kilwardby does not seem to stray much from Grosseteste's line of thinking, but this impression changes at least partially if we consider the examples given by the commentator in

⁷⁷ *NLPoS* Cannone, 2.7; Peterhouse 205, fol. 163vb, "Ad eius euidentiam notandum quod eorum que non sunt, quedam nullo modo sunt, quia nec potentia nec actu, ut impossibilia, ut mons eneus et chimera; et talium non entium non est scientia neque diffinitio indicans quid est esse rei, ut dicit Aristotiles. Quedam autem eorum non sunt actu, habent tamen potentiam in suis causis et aptitudinem ad essendum actu, ut rosa in yeme decoquiretur, et huiusmodi, et talium non entium potest bene esse diffinitio indicans essentiam rei et quiditatem; et ita eorum potest esse scientia demonstratiue tradita, illis nondum actu existentibus, sed secundum essentiam solum et secundum aptitudinem, et sic est scientia de eclipsi futura et de ortu solis crastino et occasu."

support of his claims. In effect, after having mentioned a future eclipse or the sunrise, Kilwardby gives a further example which, though traditional for the time, acquires in this context a signification which, at least in part, is different: the rose, destined to wither in winter. Though the example is given by the author in an utterly incidental manner, and is not the object of further explanations, this suggests the idea that Kilwardby meant to extend Grosseteste's doctrine of the *esse in suis causis* also to nonastronomical and cyclically recurrent events, but those typical of the sublunary world. Looking closely, we also note that the terminology changes: we no longer speak of *being* for the effect inside its cause (with the consequent necessity that the effect comes to be, once the cause is present), but of the *aptitude* of the cause to bring about the effect—an aptitude which does not seem such as to exclude the possibility that the cause may not bring about the effect, as often happens in the natural world. For indeed, in winter time, the rose cannot bloom because its cause (the seed) is prevented from reaching its natural effect. This however does not take away the fact that the seed has the aptitude to produce the rose and that, therefore, for the most part, when the right season arrives, it produces it. Thomas Aquinas, on this point, will use the example of the child who, for the most part, is born with two hands, since usually this is what happens thanks to human seed, though, sometimes it may not come about. Thus, in brief, as in other cases, Kilwardby seems to be pointing at a problem in the Aristotelian text or a possibility which is made explicit by Grosseteste. Though Kilwardby himself does not subsequently give a full theoretical elaboration, he raises issues for further reflection for the successive tradition.⁷⁸

The Knowledge of First Principles

In addition to the reflections presented thus far by Kilwardby concerning the object of science, we can widen, though not complete, the picture regarding the principal points of doctrine found in his commentary by considering a further two aspects of his re-elaboration of the Aristotelian theory of science concerning which some elements are significant, using as a guide a well-known passage from Aristotle:

There are three things involved in demonstrations: one, what is being demonstrated, or the conclusions (this is what holds of some kind in itself);

⁷⁸ Corbini, *La teoria della scienza*, 47–55.

second, the axioms (axioms are the items from which the demonstrations proceed); third, the underlying kind whose attributes—the items incidental to it in itself—the demonstrations make plain.⁷⁹

We have already spoken of the first of the three fundamental elements of demonstration. With regard to the axioms, or *dignitates* in the terminology of the Latin commentators,⁸⁰ the attention of the latter is focused most particularly on a pertinent question: from within the Aristotelian gnoseological framework in which knowledge arises from the sensible particulars (corruptible and changing), they ask what are the routes by which it might be possible for us to grasp, with certainty, necessary truths of eternal value—such as the *dignitates* are. This point is rather delicate and is still today a debated point. On the one hand, there is William D. Ross's interpretation, which has acquired some disciples: according to him, at the foundations of science there are contrasting elements of nature, that is, sense perception on one side, intuition on the other, with which the first and universal principles must be grasped (he speaks of "intuitive induction"). This is a reading with which other scholars (e.g., Charles Kahn) are in agreement. The other seemingly prevailing reading nowadays, clearly presented by Barnes, has also been taken up by other interpreters in recent decades. According to this reading, intuition plays no role in the Aristotelian theory of science; the only way indicated by the philosopher to reach knowledge of the principles would be induction starting from the perception of sensible particulars. Such a reading has been recently brought to its extreme consequences by Detel. To summarize his point: if the principles are known by induction, nothing in the Aristotelian theory can guarantee that they are known by us. Since it is well known that induction does not give absolute certainties on this point, we would need to review the traditional way of accounting for Aristotle's scientific theory and make room for an interpretation more open to the innovations that research

⁷⁹ *An. post.* 1.7.75a39–b2; ed. Barnes, p. 12.

⁸⁰ We shall leave aside here the task of clarifying an important problem concerning this type of principle, namely, whether they can constitute the premisses of a demonstration. On this question, see Aristotle's *Prior and Posterior Analytics*, ed. Ross, 531–32; Gilles-Gaston Granger, *La théorie aristotélicienne de la science* (Paris: 1976), 81–94; Mignucci, *L'argomentazione dimostrativa*, 140–43 and 643; McKirahan, *Principles and Proofs*, 74–75; Aristotle, *Posterior Analytics*, ed. Barnes, 138–39; Michael Bordt, "Beweistheorie, Mathematik und Syllogistik: Zum Problem ihres Verhältnisses in Aristoteles' Zweiten Analytiken," *Theologie und Philosophie* 64 (1989): 29. For the medieval interpretations, see Corbini, *La teoria della scienza*, 80–88.

can subsequently bring to our knowledge not only of the conclusions but also of the principles.⁸¹

With regard to these complex problems, Robert Grosseteste's reading proves to be of surprising acumen; as recorded in other cases, he has the capacity of setting up the terms of the discussion and of the following elaborations. Kilwardby seems substantially to follow in his tracks. Grosseteste faces the problems linked to the knowledge of the first principles or axioms from two rather different points of view which, to his mind, must have certainly appeared as complementary. On one side, he more than once uses the metaphor of light in order to explain this point. As is well known, in his philosophical system light takes on much more than the mere signification of a reusing of themes or images of the Neoplatonic and Augustinian tradition. He makes it one of the nodal themes of his system. What is more, this metaphor is of particular weight precisely in the *Posterior Analytics* where it is used on several occasions. Thus, light enables Grosseteste to explain that the first principles, in order to be understood, need nothing more than the rational faculty of the soul (and thus, in contrast with any other kind of knowledge, not of the senses). For indeed, just as in order for a visible body to be seen, nothing else but the sense of sight is needed, which perceives it from the outside; analogically a *dignitas* in order to be understood needs nothing but reason which, with a kind of look of the mind, turns towards it. Knowledge of the truth of a proposition is constituted, generally speaking, by the knowledge of the identity of the subject with the predicate; an identity which, in the case

⁸¹ Aristotle's *Prior and Posterior Analytics*, ed. Ross, 565; Charles H. Kahn, "The Role of Nous in the Cognition of First Principles in *Posterior Analytics* II 19," in *Aristotle on Science*, 385–414; Aristotle, *Posterior Analytics*, ed. Barnes, 267–69; James H. Lesher, "The Meaning of *nous* in the *Posterior Analytics*," *Phronesis* 18 (1973): 44–68; L.A. Kosman, "Perceiving What We Perceive: On the Soul III 2," *Philosophical Review* 84 (1975): 499–519; Lambros Couloubaritis, "Y-a-t-il une intuition des principes chez Aristote?" *Revue Internationale de Philosophie* 133–34 (1980): 440–71; Aristotele, *Analytica Posteriora*, ed. Detel, 1:233–334; Wolfgang Detel, "A New Reading of Aristotle's Philosophy of Science," in *Erkenntnis und Wissenschaft: Probleme der Epistemologie in der Philosophie des Mittelalters*, ed. Matthias Lutz Bachmann, Alexander Fidora, and Pia Antolic (Berlin: 2004), 1–14. A further interpretative attempt, which is rather interesting but which seems to break from all those mentioned above, is Byrne, *Analysis and Science*, 170–89. To conclude, we cannot not cite the important and monumental general study by Terence Irwin, *Aristotle's First Principles* (Oxford: 1988), who, though tackling the problem from a different angle, mostly centring on *Metaph.* 3 and 4, considers the idea of an intuitive knowledge of the principles, which, according to him, is present in *An. post.*, but which is inadequate for the theoretical requirements of Aristotle's philosophy when it is considered as a whole; Aristotle would have had to correct and integrate this idea in the two aforementioned books from the *Metaphysics*.

of the axioms is obvious to our reason. Thus, as soon as reason turns to consider a *dignitas*, its truth appears to it as immediately necessary and indubitable.⁸² It is significant however, that this passage is synthetically taken up again by Kilwardby,⁸³ for more than one reason. For one, the metaphysics of light does not have, for him, an analogous weight to that which it has for Grosseteste. That Kilwardby therefore should take up an image such as vision to speak about the knowledge of the principles of science, precisely insofar as it seems to be a rather extrinsic addition to the general arrangement of the commentary, is further testimony of the attentive knowledge of and noteworthy consideration for the writing of his predecessor. Secondly, for this specific aspect, it is possible and indeed probable that Kilwardby constituted an important go-between for Albert the Great. The latter, though he holds different metaphysical and gnoseological positions from Grosseteste, shows in his commentary a rather strong tendency to follow him on this point.⁸⁴ Finally, it is striking that this last perspective is discarded by almost all following commentators, but returns to favor during the thirteenth century precisely in the writings of another English thinker, Simon of Faversham, who explicitly quotes Albert on this point.⁸⁵

A further consideration comes to mind when reading Kilwardby's commentary. Even if our author seems to be following Grosseteste with his far-reaching Platonic inheritance,⁸⁶ still, when dealing with the knowledge of the principles in other parts of the work, he remains much closer to the actual Aristotelian text, especially when commenting on the famous last

⁸² Grosseteste, *Commentarius in Posteriorum Analyticorum libros* 1.8, 158.

⁸³ "Sic dignitas non indiget exteriori ratione ostendente ipsam esse, nec alico modo explanante, sed solum ratione que est in anima, sicut uisus est in oculo"; *NLPoS* Cannone, 1.23; Peterhouse 205, fol. 144va.

⁸⁴ Albert says, in reference to the *dignitates*, that, just as in nature there are things we can see, thanks not to a light which reaches them from the outside but to a light which comes from inside themselves as in the case of the sun, in this way in the intellect there are some fundamental truths that are grasped not through the mediation of other truths but through the intellectual light that radiates from them; Albert the Great, *In libros Posteriorum analyticorum* 1.3.2., 71b–72a).

⁸⁵ Oxford, Merton College 292, fol. 141vb.

⁸⁶ In addition to the considerations about Grosseteste already brought to light, Kilwardby follows the same line as his predecessor also, for example, in claiming that sense perception is not really and not absolutely the cause of science given that it becomes the indispensable instrument for knowledge only in the actual state of sin of the human condition; a condition that darkens the knowable light placed by God in man—which is a point of consideration very far from the original disposition of the problem in Aristotle; *NLPoS* Cannone, 1.33; Peterhouse 205, fol. 149rb; cf. Grosseteste, *Commentarius in Posteriorum analyticorum libros* 1.14, 212–14.

chapter of the book, which concerns our present theme in particular. This double facet is also present in Grosseteste who, while taking over the theory of illumination as an explanation of our knowledge of the principles, at the same time goes through a close analysis of the induction process. It is the latter which leads man from the knowledge of singular sensibles to the formulation of universal principles. His analysis has had an important historical weight to the extent that Grosseteste has been considered, for decades now, somehow as a precursor of the scientific revolution. I am thinking in particular of the interpretations of Ludwig Baur and Alistair Crombie, who saw in Grosseteste not only the first thinker to have introduced into medieval thought an empiricist interest but also the founder of an experimental method destined to mark successive generations of Oxonian thinkers and form the basis for modern experimental science. While such a viewpoint has nowadays been definitely abandoned,⁸⁷ it is true that in his oscillating from one to another of these diverging perspectives, Grosseteste merely underlines the ambivalence already present in the Aristotelian text. And this is so especially in the last chapter of the work in which, on a first reading, two different approaches to the problem seem to be presented side by side: one, mainly inductive and empiricist, the other with a tendency to consider knowledge of the principles as a form of intuition of the universal. This ambivalence is the grounding for the contemporary debate we have alluded to.⁸⁸

With regard to the first of these two theoretical alternatives, that is, the process of induction which leads to knowledge of the principles, Kilwardby's method, though in some ways adopting the line set out by Grosseteste, does not seem to reach similarly complete and interesting results. For indeed, when he is commenting on the fundamental passages for this theme, Kilwardby does seem to go beyond a careful paraphrasis of the text. He does not follow the bishop of Lincoln point by point in his complex and interesting re-elaboration of the ideas present *in nuce* in the Aristotelian text.⁸⁹ One original element comes out though, which is of particular interest to us given that it constitutes an echo of attentive

⁸⁷ Cf. Ludwig Baur, *Die philosophie des Robert Grosseteste, Bischof von Lincoln* (†1253) (Münster: 1917), 92–93; Crombie, *Robert Grosseteste and the Origins of Experimental Science*, 91–127; Bruce S. Eastwood, "Grosseteste's 'Quantitative' Law of Refraction: A Chapter in the History of Non-experimental Science," *Journal of the History of Ideas* 28 (1967): 403–14; idem, "Medieval Empiricism: The Case of Grosseteste's Optics," *Speculum* 43 (1968): 306–21; McEvoy, *The Philosophy of Robert Grosseteste*, 207–10.

⁸⁸ Corbini, *La teoria della scienza*, 254–55 and 291–93.

⁸⁹ *NLPoS*, Cannone, 2.33–34; Peterhouse 205, fols. 176rb–77va.

knowledge of the *Prior Analytics*. It concerns a theme which both works deal with, that of induction. On this point, medieval authors in general agree with Aristotle that the principles of science come to be known through induction but, in contrast with our contemporary interpreters, they do not worry any further about the logical form that such an inductive process should or could have. They are probably less conscious than we are of the problems pertaining to the idea that knowledge, considered to be necessary and unchanging, depends on induction.⁹⁰ These problems, on the other hand, have led scholars into interesting discussions. If for Ross the fundamental form of Aristotelian induction were the one given in the *Prior Analytics*, which brings with it the necessity of a complete enumeration of the particulars (though the philosopher would be subsequently conscious of the impossibility of completely satisfying this requirement), already Kurt von Fritz had put forward the necessity of attributing to Aristotle the awareness of the existence of different types of induction. In effect, alongside induction understood as a syllogistic argumentation we should at least add an induction understood more generically as the capacity to grasp a universal concept from a certain number of particulars—an understanding which would be indispensable in order to give a meaning to the Aristotelian theory of the knowledge of the principles from the last chapter of the *Posterior Analytics*. Following this line, various other scholars have proceeded to completely reject the validity of Ross's solutions, putting forward different ways of understanding induction in Aristotelian scientific theory. It would thus be understood as an argumentation which can arise not only from the perception of sensible particulars but also from an analysis or reflection upon concepts already known to the person formulating them (Jaakko Hintikka). Another approach is to take induction as the capacity which makes it possible, in perceiving sensible determinations of a particular entity, to grasp immediately under which universal forms or structures such determinations can be subsumed (David Hamlyn). Yet another suggestion is to take the theory of science as the simple and progressive acquisition of becoming aware that in various particular cases, there is a universal and common determination (Troels Engberg-Pedersen)—an awareness which

⁹⁰ Corbini, *La teoria della scienza*, 249–53.

would not exclude the possibility of erring when identifying the universal determinations in question (Wolfgang Detel).⁹¹

All these refined interpretative discussions are utterly foreign to the way the discussion is conducted by the medieval authors we are considering here.⁹² The only thirteenth-century author who does seem to realize at least the usefulness of some sort of specification on this point is Kilwardby, who explains:

Again, it is not necessary to multiply experiences in order to accept the universal. This is clear as follows. When reason makes a mutual comparison of things that have been presented and retained by memory, taking one thing that is common to them, this is nothing but a universal. Hence, in order to attain the universal it suffices for reason to make this sort of comparison. But such a collation is nothing but an experience, in the sense in which we are here speaking of experience. Hence a single experience suffices for attaining the universal. And the name signifies this too, because "experience" [*experimentum*] is from "the mind's object perfected outside" [*extra perfecte mentis intentum*], that is, when it is found anew, complete, in external things.

And it is to be known that there is no need for reason to run through all the singulars in order to attain the universal through experience, but it suffices that reason compares the singulars to one another and sees the same effect following from them. For it understands at once that what is retained under that common factor is similarly to be found in all.⁹³

⁹¹ Aristotle's *Prior and Posterior Analytics*, ed. Ross, 47–51 and 486–87; Kurt von Fritz, *Die Epagōgē bei Aristoteles* (Munich: 1964); Jaakko Hintikka, "Aristotelian Induction," *Revue internationale de philosophie* 34 (1980): 422–39; David Walter Hamlyn, "Aristotelian epagōgē," *Phronesis* 21 (1976), 167–84; Troels Engberg-Pedersen, "More on Aristotelian Epagoge," *Phronesis* 24 (1979): 301–19; Aristoteles, *Analytica Posteriora*, ed. Detel, 1:233–41 and 248–62; see also the attempts to bring together the various positions in Richard D. McKirahan, "Aristotelian Epagoge in *Prior Analytics* 2.21 and *Posterior Analytics* 1.1," *Journal of the History of Philosophy* 21 (1983), 1–13, and in F. Caujolle-Zaslavsky, "Étude préparatoire à une interprétation du sens aristotélicien d'epagōgē," in *Biologie, logique et métaphysique chez Aristote*, eds. Daniel Devereux and Pierre Pellegrin (Paris: 1990), 365–87.

⁹² On this point, Eileen F. Serene, "Robert Grosseteste on Induction and Demonstrative Science," *Synthese* 40 (1979): 97–115.

⁹³ *NLPoS* Cannone, 2.33; Peterhouse 205, fol. 177rb, "Item, non est necesse experimentum multiplicari ad accipiendum uniuersale, quod sic patet: ratio conferens aliquando [P: ad inuicem] presentata memoriter retenta, non accipit ex hiis omnibus [P: nisi uniuersalia cum accipit ex hiis unum] commune; quare ad habendum uniuersale sufficit rationem sic conferre; sed talis collatio nichil est nisi [P add. unum] experimentum, ut hic loquitur de experimento; quare unum experimentum sufficit ad habendum uniuersale. Hoc autem significat [P: designat] nomen, quia experimentum est [P: nam experimentum id est] a<d> (?) [P: id est] extra perfecte [P: praem. mentis] intentum, scilicet [P: id est] quando iterum in hiis que extra sunt, id est in singularibus perfecte.

"Et sciendum quod non oportet rationem per omnia singularia decurrere ad sumendum uniuersale per experimentum, sed sufficit quod ratio conferat singularia ad inuicem et

Thus Kilwardby explicitly refers to the possibility that a complete enumeration of particulars can be considered as necessary, though he does so only in order to better dismiss the possibility. For indeed, according to him, it is not indispensable that the completeness of the enumeration be absolute: if reason, making a comparison between a certain number of particulars, realizes that from them, one and the same effect comes about, then reason can consider this as a sufficiently secure basis to complete an induction which brings it to the knowledge of a general principle. Therefore, Kilwardby does not tackle this aspect of the problem in a fundamentally special way. He ultimately falls back onto the interpretative position of other authors. His referring to the possibility of considering as necessary a complete enumeration of particulars can be a hint to us of his knowledge of the *Prior Analytics*, and can, therefore, be considered as an original element of historical interest.

The Subject Genus and the Subalternation of the Sciences

Coming to the third fundamental element of demonstration according to Aristotle in the above quoted passage, that is, the subject genus, its characterization too is not free of problems. As Barnes and Mignucci show, there are points in the Aristotelian text where it seems that this expression is confined by the philosopher to indicate the term that acts as subject in the conclusion, while elsewhere it indicates more broadly (and in a more plausible manner, according to these scholars) the fundamental context which every science deals with. In the subject genus thus understood, all its essential and necessary determinations would also be accounted for.⁹⁴ As for Kilwardby, he draws up the main lines in conformity with the Aristotelian text and the indications brought to it by Grosseteste. He explains that every science must suppose the existence of its own *subiectum* and, thus, cannot demonstrate it. This *subiectum* must be unitary so that the science which deals with it will also be such. In it are comprised not only the entities principally studied by a determined science but also the principles from which are deduced both the properties of these entities (these will

videat eundem effectum consequi ad illa. Statim enim similiter intelligit in omnibus esse retentis sub illo communi."

⁹⁴ Mignucci, *L'argomentazione dimostrativa*, 137–40 and 144–45; Aristotle, *Posterior Analytics*, ed. Barnes, 130–31 and 190; McKirahan, *Principles and Proofs*, 57–60; Malcolm Wilson, *Aristotle's Theory of the Unity of Science* (Toronto: 2000), 16–23.

therefore be the genus's own principles or those belonging to it), as well as the species of the subject genus itself and the *passiones per se* demonstrated of it in the conclusions of the demonstrative argumentation.⁹⁵ Kilwardby, in contrast with Grosseteste, is particularly attentive to distinguishing between the unity present in a genus taken as a logical genus, that is, as a category, and the unity which there must be in the *genus subiectum* of a determined science (and therefore, in turn, to distinguish between logical genus and the subject genus in the specifically scientific understanding of the term), he says:

And note that although magnitude and length share a logical genus, they do not agree in a single genus whose unity suffices for the unity of knowledge. And so magnitude and multitude are said here from different genera—not logical genera, but genera on which knowledge and demonstration are established. For Quantity only predicates a shared concept found in many things but through different natures, such as through the natures of unity and the point. And so its unity does not suffice in order for it to be a subject of knowledge. For a subject of knowledge should be found in common among many things through a unique and identical nature.⁹⁶

Thus, while a category, as for example the category of Quantity, can be predicated of many subjects by nature, the unity of the genus is based on the fact of constituting one unique nature; it is therefore an essential unity—a point of precision which Albert the Great will appreciate.⁹⁷ It further forms the groundings for interesting developments of the discussion. In effect, this attention to the intrinsic unity which must be present in the genus as subject of any science is manifest all the more clearly in another aspect of the Aristotelian theory that is closely linked to the preceding point, namely, the possibility of subalternation (or subordination) of a science (or more than one) to another.

In the Aristotelian theory, the subject genus rigidly establishes the limits within which each science can carry out its own investigations. Thus, it becomes the discriminating feature, the criterion of distinction

⁹⁵ *NLPoS* Cannone, 1.41–42 and 2.1; Peterhouse 205, fols. 155va, 156ra, and 159va.

⁹⁶ *NLPoS* Cannone, 1.43; Peterhouse 205, fol. 156vb, "Et notandum quod, licet magnitudo et longitudo communicant in genere logico, non tamen conueniunt in genere uno, cuius vnitas sufficit ad vnitatem scientie. Et ideo magnitudo et multitudo dicuntur hic diuersa genere, non genere logico, sed genere super quod stabilitur scientia et demonstratio. Quantitas enim solum predicat intentionem communem in multis repertam, sed per naturas diuersas, ut per naturas vnitatis et puncti, et ideo eius vnitas non sufficit ut sit subiectum scientie. Subiectum enim scientie debet esse commune in multis repertum per naturam eandem et vnican."

⁹⁷ Albert the Great, *In libros Posteriorum Analyticorum* 1.5.6, p. 140b.

and of autonomy of different disciplines. This requirement of disciplinary autonomy is however counterbalanced by the possibility that one science gets subordinated to another. This possibility is present wherever the subject genus is partially shared in common between two sciences, the subalternating one and the subalternated.⁹⁸ Kilwardby, again in the wake of Grosseteste, but in this case expatiating on his considerations, gives full attention to determining under what conditions such an assimilation, and thus a subalternation, can be correctly verified. He claims, first and foremost—and in this he follows Grosseteste—that a science, in order to be subalternated to another science, must add to the *subiectum* of the other subalternating science its own determination (*conditio superaddita*): for example, optics has as its genus the visible line; we could say with a more precise terminology, the luminous ray which we get by adding the determination *visible* or *luminous* to the genus *line*, which belongs to geometry. Such an addition concerns all propositions which enter into the constitution of the demonstrative argumentations of optics. In consequence also, it can be correctly sustained that optics is subalternated to geometry.⁹⁹ Kilwardby adds at this point, enlarging the scope of Grosseteste's presentation, that not any kind of determination may be added to any kind of subject genus in order to secure the subordination of a genus to another, and thus of one science to another. In effect, in order for this to be the case, three conditions must be verified. First, the added condition or determination to a *subiectum* must not belong to the same genus of the *subiectum* in question (otherwise there would, for example, be a science of the triangle distinct from geometry and subalternated to it). Secondly, the added difference must not be caused by the principles of the genus to which it is added but by those of a different genus (otherwise, on the basis of what is comprised within the subject genus of every science, this one would fall under the same genus). Finally—and here Kilwardby is fully autonomous with respect to Grosseteste in his insisting upon a feature which seems to him to be fundamental for the subject genus of every science—the genera of both sciences must be, by nature, such as to constitute a new genus which will be essentially unitary. Such is the case of number, a genus of arithmetic, but which can, by nature, unite with the genus of magnitude in order to constitute the genus of *measurable magnitude*, investigated by Euclid in the tenth book of his *Elements*;

⁹⁸ *An Post.* 1.7, 75b7–16; 1.13, 78b34–79a16.

⁹⁹ Grosseteste, *Commentarius in Posteriorum Analyticorum libros 1.8*, 147–49.

number can also unite with the determination of *sonorous* in order to constitute the *sonorous number* (or, more precisely, “the numerical relations present in the production of sounds”), which is the subject genus of music.¹⁰⁰ This last feature, and the insistence that the genus must form an essential unity with the added condition, is Kilwardby’s most original contribution to Grosseteste’s elaboration on the Aristotelian theory of subalternation. It is particularly important for this author, as testified also by his explicit reference to it in *De ortu scientiarum*.¹⁰¹

This point, like other interesting intuitions of Kilwardby’s, has a possible antecedent in Themistius’s paraphrasis; but it does not seem to have had a particularly fortunate destiny in later commentaries, with perhaps the exception of Gerard of Nogent.¹⁰² A different destiny awaited another of Kilwardby’s contributions to this aspect of the elaboration of the Aristotelian theory of science (though present in his commentary quite incidentally). It concerns the possibility of a merely partial subalternation between the sciences. This possibility came later to be a commonplace, but it is not actually present in the Aristotelian texts from which it originates.¹⁰³ Touched upon in Grosseteste’s commentary, it receives greater attention by Kilwardby who claims, for example,

Geometry, which is about the line, *in a certain part* subalternates perspective to itself. . . . Magnitude applied to number comes about in a certain way in number . . . and book 10 of Euclid is about such a magnitude, which thus in a way is number, and so arithmetic descends *into that part of geometry*. . . . so that perspective, which is subalternated to geometry, subalternates to itself *that part* of knowledge which is about the rainbow.¹⁰⁴

¹⁰⁰ *NLPoS*, Cannone, 1.28; Peterhouse 205, fol. 146vb.

¹⁰¹ *DOS*, 32, 322–24:115.

¹⁰² Themistius’ “Paraphrasis of the *Posterior Analytics*,” 263–64; Paris, Bibliothèque nationale de France, ms. Lat. 16170, fols. 122vb–23ra.

¹⁰³ Cf. Steven J. Livesey, *Theology and Science in the Fourteenth Century. Three Questions of the Unity and Subalternation of the Sciences from John of Reading’s Commentary on the Sentences* (Leiden: 1989), 29–53; Antonius de Carlenis, *Four questions on the Subalternation of the Sciences*, ed. Steven J. Livesey (Philadelphia, 1994), 21, which take up and develop the results of preceding studies of the same author quoted there.

¹⁰⁴ Emphasis added; *NLPoS* Cannone, 1.21 and 29; Peterhouse 205, fol. 142vb e 147ra, “Geometria que est de linea *in quadam parte* subalternat sibi perspectivam . . .

“Magnitudo que applicatur numero fit quodammodo in natura numeri . . . et de tali magnitudine, que sic quodammodo est numerus, est decimus Euclidis, et ideo descendit arismetica *in illam partem* geometrie. . . .

“ . . . ut perspectiva, que subalternatur geometrie, subalternat sibi *illam partem* scientie que est de yride.

Thus, *one part* of geometry subalternates optics, that is, the part which concerns straight lines. Vice versa, *one part* of geometry is subalternated to arithmetic (present in the tenth book of Euclid's *Elements*). Finally, given that the science of rainbows is a part of natural science, optics, insofar as it subalternated the science of rainbows, subalternates also *one part* of natural science. There is thus ample evidence that Kilwardby considers as possible the idea of a partial subalternation (in contrast, for example, with Thomas Aquinas).¹⁰⁵ However, these are mere intimations and not a complete theory, which would come to be formulated only in later decades.

Conclusions

This familiarization with some of the main themes from Kilwardby's commentary on the *Posterior Analytics* enables us now to turn back to what was suggested in the first part of this article in order to make some general points about this little-studied work. First of all, let us consider its worth as an attempt to understand the difficult Aristotelian text and the presentation of the theory of science contained in it. Kilwardby's commentary frequently shows a high regard for the groundbreaking work of Grosseteste (including the latter's transmission of Themistius's paraphrasis). But his commentary is certainly not confined to a repetition of the writings of the bishop of Lincoln. The innovative elements which it introduces are often significant and testify not only to an attentive and analytical reading but also to a capacity to suggest interesting theoretical paths. The original aspects of Kilwardby's reading seem in general to lie in some specific elements and often in details rather than in a coherent and articulated vision.

As for the destiny of the commentary, Kilwardby undeniably had an important influence on Albert the Great,¹⁰⁶ but, while there are some cases

¹⁰⁵ Corbini, *La teoria della scienza*, 185–89.

¹⁰⁶ On this point, it seems that Henrik Lagerlund's claim concerning the presentations of the *Prior Analytics* made by the two authors can be added to the comments considered here, namely that "Kilwardby's work... is earlier than the work of Albert the Great, which seems partially based on it, since Albert the Great in several important places literally duplicates Kilwardby. He never deviates from Kilwardby in any of his interpretations of the modal syllogistics; instead he seems to want to clarify what has been said by the former—although not always for the better". Henrik Lagerlund, *Modal Syllogistics in the Middle Ages* (Leiden, 2000), 21.

in which his interpretative intuitions continued to significantly influence the later tradition, these are very few. Thus, this is a work that is more interesting for us today than it had seemed—perhaps a little unjustly and most certainly due to a very poor circulation of the text—to his contemporaries and the next generation of medieval thinkers.

ROBERT KILWARDBY ON TIME

Cecilia Trifogli

Time is a central topic of natural philosophy and one that apparently had a special interest for Kilwardby, since it is the only physical notion to which he devoted a specific treatise, the *De tempore*,¹ written probably in the late 1250s when he was an Oxford master of theology.² Although the *De tempore* is an independent work and not part of a commentary on Aristotle's *Physics*, its structure and its contents are essentially those of a thirteenth-century commentary *per modum quaestionis* on Aristotle's discussion of time in *Physics* 4.10–14. In particular, Kilwardby addresses the problems about time traditionally debated by Aristotelian commentators.³ In this chapter I will present and clarify Kilwardby's position on three major controversial issues in the medieval debate: the existence of time as successive entity, the nature of time as an attribute of motion, and the unity of time.⁴

The Existence of Time: Time as Successive Thing

The opening question of the *De tempore* asks whether time is a thing that exists outside the soul, that is, whether time is an extramental being

¹ The edition of the *De tempore* is in Robert Kilwardby, OP, *On Time and Imagination: De tempore, De Spiritu fantastico*, ed. Patrick Osmund Lewry, OP (Oxford: 1987), 7–44 (hereafter *DT*). There is a second volume containing an English translation of the two works by Kilwardby: Robert Kilwardby, OP, *On Time and Imagination*, part 2, intro. and trans. Alexander Broadie (Oxford: 1993). The translation of the *De tempore* is at 2:25–63. The quotations from the *De tempore* are a modified version of Broadie's translation.

² This is the dating proposed by the editor of the *De tempore*, Patrick Osmund Lewry, OP. See *DT*, introduction, xvii–xx.

³ The most comprehensive survey of the Scholastic debate about Aristotle's theory of time remains that by Anneliese Maier: *Metaphysische Hintergründe der Spätscholastischen Naturphilosophie* (Rome: 1955), 47–137.

⁴ Kilwardby's views about time have so far received very little attention. Apart from Broadie's introduction to his translation of the *DT*, the only other—very short and scarcely analytical—presentation of some of Kilwardby's views is in Udo Reinhold Jeck, *Aristoteles contra Augustinum: Zur Frage nach dem Verhältnis von Zeit und Seele bei den antiken Aristoteleskommentatoren, im arabischen Aristotelismus und in 13. Jahrhundert* (Amsterdam: 1994), 280–86.

(*ens*).⁵ The formulation in terms of existence in the soul or outside the soul may suggest that the conceptual background of this question lies in Augustine's philosophy. At Kilwardby's time, Augustine is regarded as the main authority in favor of the view that time exists only in the soul, and Kilwardby in the course of the question quotes Augustine's view.⁶ The content of the question, however, shows that the influence of Augustine in Kilwardby's discussion is very marginal. The relevant conceptual framework is given by Aristotle's treatment of the existence of time. In fact, as in other thirteenth-century questions on this topic, so also in Kilwardby's question, the presence of Augustine amounts to nothing more than the mere quotation of his opinion, which is left without any clarification or comment. The remainder of the question deals with a genuine Aristotelian problem in genuine Aristotelian terms.

At the beginning of his account of time in *Physics* 4.10 Aristotle asks whether time is among the things that exist or those that do not exist, that is, in medieval terms, whether time is a being or not. He presents two main arguments against the existence of time.⁷ He suggests that he does not regard these arguments as conclusive but he never provides an explicit solution to them, thus leaving the reader to guess what the solution might be. Given the complexity of Aristotle's discussion of time,⁸ it is not surprising that the solution to these arguments has been a matter of contention among Aristotelian commentators, both ancient and modern. In particular, there was a medieval debate on this topic, and it is to this medieval debate that Kilwardby's initial question about the extramental existence of time belongs. In what follows, I will first present the Aristotelian context and then try to clarify the main aspects of Kilwardby's very compressed question and to delineate his position in the medieval debate.

Aristotle's arguments in *Physics* 4.10 against the view that time is a being are the following:

- (1) (i) One part of it has been and is not, another part of it will be and is not yet. From these are composed both the infinite and whatever time

⁵ *DT*, Q. 1, pp. 7–8.

⁶ *DT*, Q. 1, p. 7, lines 15–21.

⁷ *Aristotle's Physics*, a revised text with introduction and commentary by W.D. Ross (Oxford: 1936), 4.10, 217b30–218a8 (hereafter *Phys.*).

⁸ On Aristotle's theory of time, see especially the commentary by Edward Hussey in *Aristotle Physics*, bks. 3 and 4, ed. and trans. Edward Hussey (Oxford: 1983), and the more recent study by Ursula Coope, *Time for Aristotle: Physics 4.10–14* (Oxford: 2005).

is on any given occasion taken. But what is composed of non-beings might seem to be incapable of participating in being.

- (ii) In the case of anything divisible, if it is, it is necessary that when it is, either all or some of its parts must exist. But of time, though it is divisible, some parts have been, some parts are to come, but no part is. The now is not a part. For the part measures and it is necessary that the whole is composed from the parts. But time is not thought to be composed out of nows.⁹

In both these arguments time is viewed as a continuum composed of two parts: a past part (the part that has been) and a future part (the part that will be), which join at the “now,” the present indivisible instant. Then the non-existence of time is inferred from the non-existence of each of its parts: neither the past nor the future is. The arguments assume that the reason why the past and the future do not exist is that they do not exist now, that is, they are not present. In argument (ii) Aristotle considers the suggestion that the past and the future are not the only parts of time but there is also a present part of time. He rejects this suggestion: the present or “now” is an instant, an indivisible, and not a part, something having temporal extension. Behind the claim that no part of time is present lies the idea that every part of time has temporal extension and so is composed of earlier and later parts in such a way that any two non-overlapping parts of time do not exist simultaneously.¹⁰ It is exactly to this idea that the standard medieval interpretation of the problem about the existence of time appeals. For medieval commentators, the arguments of *Physics* 4.10 show that time does not exist because there are no parts of time that exist simultaneously. In Kilwardby’s question, this standard medieval interpretation appears very neatly in the way in which the problem of the existence of time is introduced:

- (2) It seems that time is not one of the things outside the soul. When something is composed of parts, either all of its parts exist simultaneously or some of them do. This is not true of time, though time is composed of homogeneous parts.¹¹

⁹ *Phys.* 4.10, 217b33–18a8. English translation from Coope, *Time for Aristotle*, 18–19.

¹⁰ On this idea of Aristotle and the possible dilemma behind it see the comment by Hussey in *Aristotle’s Physics*, bks. 3 and 4, pp. 138–39.

¹¹ *DT*, Q. 1, p. 7, lines 3–6, “Videtur quod tempus non sit de entibus extra animam: quando aliquid est compositum ex partibus, aut sunt omnes partes eius simul aut aliquae; quod non est verum de tempore, cum tamen sit compositum ex partibus homogeneis.”

This is the first argument against the (extra-mental) existence of time presented by Kilwardby. The argument essentially is a reformulation of Aristotle's arguments in terms of the non-simultaneity of the parts of time rather than in terms of the non-present existence of such parts.

Thus, for Kilwardby, the objections against the existence of time of *Physics* 4.10 assume a criterion of existence according to which for a thing composed of parts to exist it is necessary (and sufficient) that its parts exist simultaneously and not one after the other in time (simultaneity criterion). In medieval terms, those things that satisfy the simultaneity criterion are called permanent things (*permanentia*). A paradigm case of a permanent thing is a natural substance, for example, wood. The relevant parts of a physical substance are its physical parts (parts of its spatial extension) and they can all exist simultaneously. Those things that have parts with temporal extension and therefore such that no distinct parts of them can exist simultaneously are called successive things (*successiva*). Successive things include not only time but also change. Distinct parts or phases of a change exist one after the other and not simultaneously. Accordingly, for medieval commentators, although the arguments of *Physics* 4.10 are directed specifically against the existence of time, they also apply to change. Kilwardby makes this point very clearly in an argument in favor of the extramental existence of time:

- (3) Moreover, the same arguments, and similar ones, which have been advanced in connection with time could be advanced in connection with motion. But since no one doubts that motion is outside the soul, it should therefore be said that time is a real thing outside the soul.¹²

The arguments to which Kilwardby here refers are arguments based on the simultaneity criterion of existence. But these arguments—he remarks—if they are conclusive for time, are conclusive for motion, too. But they cannot be conclusive for motion, because it is a basic assumption of natural philosophy that motion is something extra-mentally real. Therefore, they cannot be conclusive for time either.

The question then is why these arguments are not conclusive, and how they can be solved. On what grounds can successive things be legitimately said to be existing things, despite their parts not existing simultaneously?

¹² *DT*, Q. 1, p. 8, lines 4–7, “Item, eedem rationes que facte sunt de tempore possent fieri de motu, et consimiles. Cum tamen nemo ambigit motum esse aliquid extra animam, propterea dicendum tempus esse aliquid verum ens extra animam.”

One possible reply to this question consists in accepting the assumption that only the things that satisfy the simultaneity criterion exist but qualifying the claim that the parts of time or of a successive entity do not exist simultaneously in the following way: the parts of a successive thing do not exist simultaneously in extra-mental Reality but they do or can exist simultaneously in our mind or soul (*anima*). That is, the parts of any period of time or the phases of any motion exist one after the other in extra-mental Reality but we can think of these parts as existing simultaneously. We can think, for example, of the present year as a whole without dividing it into earlier and later periods. Accordingly, also successive things satisfy the simultaneity criterion for existence, although, unlike permanent things, they satisfy this criterion only as objects of our thought.

This possible reply is implicitly contained in Kilwardby's formulation of some arguments against the existence of time. In the argument in passage 3, for example, the failure of time to satisfy the simultaneity criterion is taken to imply that time does not exist outside the soul rather than that time does not exist at all. This point is made more clearly in a further argument of Kilwardby's question:

- (4) Moreover, time is *a number of motion in respect of the before and after*. Therefore, where time exists, there the before and after of motion exist, and where the before and after do not exist, neither does time. But the before and after do not exist anywhere except where they exist simultaneously, since where only one of them exists they do not both then exist there. But they exist nowhere simultaneously except in the soul. Therefore, they do not exist anywhere unless it be in the soul. Therefore, neither does time exist elsewhere.¹³

Rather than relying on the general property of time of being composed of parts, as in the original arguments of *Physics* 4.10, this argument appeals to the very nature of time as expressed by Aristotle's definition: time is a number of motion in respect of the before and after.¹⁴ In this context, the essential point is that Aristotle's definition implies that time is intrinsically linked to the earlier and later phases of a motion—the before and after of

¹³ *DT*, Q. 1, p. 7, lines 10–14, "Item, tempus est *numerus motus secundum prius et posterius*, igitur ubi tempus, ibi prius et posterius est motus, et ubi non sunt ista, nec tempus. Set ista nusquam sunt nisi ubi simul sunt, quia ubi tantum alterum est, ibi ipsa iam non sunt. Set simul nusquam sunt nisi in anima; ergo nec alicubi sunt nisi in anima; igitur nec tempus alicubi est." Instead of the second occurrence of "alicubi" ("tempus alicubi est") at line 14, ms. L has the reading "alibi," which gives a better sense. My translation follows the reading "alibi" of L.

¹⁴ *Phys.* 4.11, 219b1–2.

motion—which function as a sort of subject of which time is an attribute (their number). As an attribute exists in its subject and so where its subject exists, similarly time exists where the before and after of motion exist. But according to the simultaneity criterion, the before and after exist only where they exist simultaneously. And since motion is a successive thing, the before and after of motion exist simultaneously only in the soul. Time, therefore, exists only in the soul.

The view that time exists in the soul is nowhere suggested by Aristotle as a possible solution to the arguments of *Physics* 4.10 against the existence of time. Later in his discussion of time he raises the question of whether the existence of time depends on the soul, but the motivation for this question derives from the identification of time with some kind of number and not from the successive nature of time.¹⁵ This solution is very clearly suggested by Augustine. Indeed, immediately after the argument just quoted, Kilwardby adds, “For these and similar reasons Augustine stated that time exists only in the soul. . . .”¹⁶

It is worth pointing out that the *subjective* solution to the problem of the existence of time and of successive entities, although without proper foundation in Aristotle himself, is found in an inchoate way in Averroes, one of his most authoritative and influential commentators. In connection with the first argument of *Physics* 4.10, Averroes remarks that the argument applies also to motion. He then claims that motion and time, being composed of past and future parts or phases, do not have a complete being. Complete beings—Averroes says—are those to the existence of which the soul does not contribute, that is, extramental beings. Incomplete beings are those to the existence of which the soul contributes something.¹⁷ In particular, he goes on to explain, motion and time are incomplete beings because “their being is composed from the action of the soul on that which in these beings exists outside the soul.”¹⁸ These remarks are extremely obscure and compressed, and are not developed in a coherent way in Averroes’s further treatment of this topic. Like many other obscure claims of Averroes, these seem to have been influential. For example, later

¹⁵ *Phys.* 4.14, 223a16–29.

¹⁶ *DT*, Q. 1, p. 7, lines 15–16, “Propter has et consimiles rationes posuit Augustinus quod tempus non sit nisi in anima. . . .”

¹⁷ Averroes Cordubensis, *Aristotelis de Physico Auditu (Aristotelis Opera cum Averrois Commentariis, 8)* (1562; reprt., Frankfurt 1962; hereafter Averroes, *In Physicam*), 4, t. c. 88, fol. 174raA–B.

¹⁸ Averroes, *In Physicam* 4, t. c. 88, fol. 174raA–B, “esse eorum componitur ex actione animae in eo quod est in eis extra animam.”

in the thirteenth century, Thomas Aquinas maintains that the arguments of *Physics* 4.10 show that time as well as motion does not have a perfect being outside the soul, which is equivalent to Averroes's view about the incomplete being of motion and time. Furthermore, Aquinas gives a rather detailed account of the incompleteness of the extra-mental existence of motion and time and of the role of the soul in completing their being, an account which seems to originate from Averroes's compressed comments, and to attempt to make sense of them.¹⁹ As to Kilwardby, my suggestion is that, despite the explicit quotation of Augustine and the lack of any explicit quotation of Averroes in his question, he paid great attention to Averroes's remarks about the incompleteness of the being of motion and time, and these remarks rather than Augustine's view primarily led Kilwardby to formulate the question on the existence of time in terms of extra-mental or mental existence.

As in some other issues about time, so also in this case, Kilwardby disagrees with Averroes and rejects the subjective solution. His main argument against it has been quoted above in passage 3: this solution would make not only time but also motion something existing only in the soul, which is contrary to all opinions; no one doubts, Kilwardby says, that motion is something outside the soul.

The negative attitude of Kilwardby to the subjective solution is shared by the large majority of medieval commentators. For Kilwardby, then, as for most Aristotelian commentators, one needs to show how time and motion can be things existing outside the soul, despite the fact that they have no simultaneous parts.

Kilwardby's view on this issue is that the condition of having parts existing simultaneously outside the soul defines one class of existing things—the permanent things—but not the only one. There is also another class of extra-mental things, the successive things, like motion and time, a class defined by the condition of having parts existing one after the other. So in his reply to the two arguments quoted above based on the simultaneity criterion, Kilwardby says:

- (5) In reply to these objections it should be said that some things, such as time and motion, exist essentially in a successive and transient way; others exist essentially in a permanent and fixed way. Hence as regards the first objection it should be said that all or some of the parts of every

¹⁹ S. Thomae Aquinatis *In octo libros Physicorum Aristotelis Expositio*, ed. P.M. Maggiolo, OP (Turin-Rome: 1965), 4, lectio 23, p. 310a.

permanent composite thing exist at the same time. But a transient and successive thing has parts that are only transient and that therefore exist successively and not at the same time. . . .

Likewise, as regards the third objection, the before and after in motion do exist somewhere since they exist in motion. But they are in it in act, not simultaneously but successively. And for the existence of time and motion no more is required as they are successive and transient. Hence as regards such things, it is false that they do not exist anywhere except where they exist in act simultaneously. But this is true as regards the parts of permanent things.²⁰

The beginning of this passage contains the crucial point of Kilwardby's solution. The point is to distinguish (extra-mental) *being* or *existence* into *being simultaneously* and *being successively*. Kilwardby does not argue for this distinction; he simply assumes it. He regards it as a basic ontological fact that there are two irreducible types or modes of existence: that of permanent things and that of successive things. As he puts it, there are things that are in their essence successive and things that are in their essence permanent. Given this distinction, it is not true that only the things that exist simultaneously exist. In particular, the inference on which the objections against the existence of time are based, namely, "motion and time do not have parts existing simultaneously; therefore, motion and time do not exist" is not valid. Motion and time have parts existing successively, and things that exist successively do exist in the sense of being successively. Therefore, as Kilwardby points out in the second part of this passage, the simultaneity that the parts of motion and time acquire in our soul is not necessary to make motion and time beings. They can well exist outside the soul as successive beings.

Kilwardby's solution then consists in positing a distinct mode of existence for motion and time, different from that of permanent things and irreducible to it. This solution is not peculiar to Kilwardby. On the contrary, it was very popular in the thirteenth and fourteenth centuries, mainly because it finds support in Aristotle. In a passage of *Physics* 3.6,

²⁰ *DT*, Q. 1, p. 8, lines 8–13, 17–21, "Et ad obiecta dicendum quod quaedam entia sunt in successione et transitu de sua essentia, ut motus et tempus; quaedam autem sunt in permanentia et fixione, scilicet essentialiter. Unde ad primum dicendum quod omne compositum permanens habet omnes partes simul vel alicue; compositum vero transiens et successivum non habet partes nisi in transitu, et ideo non simul set successive. . . . Similiter ad tertium, quod prius et posterius in motu alicubi sunt, quia in motu; sed non sunt ibi simul actu set in successione. Nec plus requiritur ad esse temporis vel motus, quia sunt successiva et transitiva. Unde hec est falsa de talibus, nusquam, sunt nisi ubi simul sunt actualiter; set de partibus permanentium est hoc verum."

in connection with the notion of potential infinite, Aristotle distinguishes between the type of being of a substance, like a man or a house, and that of other entities, like a day or an athletic contest. The latter type of being is described as being in potency or also in generation and corruption.²¹ In the standard medieval interpretation, Aristotle here distinguishes between the type of being of permanent things (man and house) and the type of being of successive things (day and athletic contest). Aristotle's description of the being of successive things as being in potency or being in generation and corruption is reformulated in a variety of ways in medieval commentaries: for example, as being in becoming (*in fieri*) and contrasted with the being in complete being (*in facto esse*) of permanent things, or, as in Kilwardby, as being in succession and transit (*in successione et transitu*) and contrasted with being in permanence and fixity (*in permanentia et fixione*). Unlike some other thirteenth century commentators, Kilwardby simply accepts as valid Aristotle's description without investigating the potential problems involved in it.²²

The Nature of Time: Time as Continuous Quantity of Motion

Aristotle defines time as a number of motion in respect of the before and after.²³ Like most Scholastics, Kilwardby accepts this definition and thinks that it does express the real nature of time, but in a very obscure way. Aristotle's definition needs to be clarified. Kilwardby provides this explanation in two main parts: (1) he makes clear what the nature of time is, arguing that time is a continuous quantity existing in motion, a quantity that every motion has by its very nature;²⁴ (2) he provides a detailed exegesis of Aristotle's definition with the aim of showing that the nature of time as continuous quantity measuring motion is adequately expressed in terms of number of motion in respect of the before and after.²⁵

The second exegetical part of Kilwardby's discussion shows that he is an accurate and subtle commentator of Aristotle but it is of scant relevance for reconstructing his own doctrinal contribution to the medieval

²¹ *Phys.* 3. 6, 206a18–25, 29a–33.

²² For some problems raised in this connection by other thirteenth-century commentators see Cecilia Trifogli, *Oxford Physics in the Thirteenth Century (ca. 1250–1270): Motion, Infinity, Place and Time* (Leiden: 2000), 210–12.

²³ *Phys.* 4.11, 219b1–2.

²⁴ *DT*, Qq.2–4, pp. 8–11.

²⁵ *DT*, Qq.5–7, pp. 11–16.

debate about the nature of time. The first part is much more relevant. The main claim of the first part—that the nature of time is that of being a continuous (successive) quantity of motion—is not very original. One often finds this claim in medieval commentaries since it is supported by the authority of Aristotle himself, both in the *Categories* (where he lists time among the continuous quantities)²⁶ and in his specific treatment of time in *Physics* 4.10–14.²⁷ Unlike many commentators, especially in the thirteenth century, Kilwardby does not simply rely on Aristotle's authority in support of this view. On the contrary, he attempts to substantiate this view and to show why motion has in its nature a continuous quantity. In doing this he also tries to establish an analogy between the quantity of motion and that of a corporeal substance, namely, between time and spatial extension. The remainder of this section will concentrate on these original aspects of Kilwardby's account of the nature of time as successive quantity of motion.

Following Aristotle, Kilwardby makes the general assumption that time is an essential attribute of motion, so that motion and time are not separable: time, being an attribute of motion, cannot exist without motion, but equally motion cannot exist without time because time flows from the very essence of motion. Given this intrinsic connection between motion and time, Kilwardby starts his investigation into the nature of time by clarifying what the nature of motion is. Aristotle defines motion as the actuality of what potentially is insofar as it is potentially.²⁸ As in the case of time, so also in the case of motion Kilwardby thinks that Aristotle's definition does express the real nature of motion, but it does this in a very obscure way. In his view, Aristotle's definition must be expanded to give the following more explicit description of the nature of motion:

Note that motion in its essence *formally* is *nothing else than* the being of the mobile altered without interruption.²⁹

In other passages, Kilwardby describes motion as an uninterrupted alteration of the being of the mobile instead of as the uninterruptedly altered

²⁶ *Aristotelis Categoriae et Liber De Interpretatione*, ed. L. Minio-Paluello (Oxford: 1949), 6, 4b20–25.

²⁷ *Phys.*, e.g., 4.11, 219a10–14; 12, 220b22–26; 13, 222a10–12.

²⁸ *Phys.* 3.1, 201a9–11.

²⁹ *DT*, Q. 2, p. 9, lines 2–3, “nota quod motus secundum essentiam formaliter nichil aliud est quam esse mobilis sine intermissione alteratum.”

being of the mobile, and he seems to assume that the two descriptions are equivalent.³⁰

Kilwardby illustrates this account of the nature of motion with the examples of locomotion and alteration (qualitative change).³¹ The mobile body subject to locomotion remains the same body in its essence throughout its motion but its location changes continuously: the body is at one instant in one place and at another instant in another place. Thus its being in a place, its location, changes continuously. This shows that locomotion is the continuous renewal of the being located of the mobile body. Similarly, for alteration, suppose that someone changes from being sick to being healthy. His being changes continuously in progressing from sickness to health by acquiring more and more of the quality of health: he becomes healthier and healthier.

The claim that motion is *nothing else than* the continuously changing being of the mobile may suggest that Kilwardby endorses a reductionist position on the ontological status of motion, a position according to which it is possible to account for motion in terms of permanent things, that is, without positing motion as a successive thing distinct from permanent things. In this reductionist view, for example, the change of a man from sickness to health can be explained without positing a successive thing—*alteration*—distinct from the three relevant permanent things involved in this change, namely man (that is, the body subject to alteration), sickness (that is, the initial quality from which the change starts), and health (that is, the final quality at which the change ends).³² Although Kilwardby does not explicitly discuss the problem of the ontological status of motion, there are clear indications that he is a realist, that he assumes that motion is a successive thing distinct from and not accountable for in terms of the permanent things involved in motion. For example, in the question on the existence of time he claims that there are beings which are *in their essence* successive, like motion and time, and beings that are *in their essence* permanent. Accordingly, for Kilwardby, successive things are essentially distinct from permanent things and therefore not reducible to permanent things.

³⁰ For example in Q. 13, p. 26, lines 2–6, “Unde motus formaliter consideratus reducitur ad materiam, et sic diffinitur in illa diffinitione, ‘actus entis *in potentia* secundum quod est in potentia’; eius enim actus *secundum quod huiusmodi* simpliciter nichil aliud videtur esse nisi alteratio indistans ipsius esse.”

³¹ *DT*, Q. 2, p. 9, lines 3–12.

³² For a comprehensive outline of the medieval debate about the ontological status of motion, see Anneliese Maier, *Zwischen Philosophie und Mechanik* (Rome: 1958), 59–143.

Kilwardby's ideas about the nature of motion become clearer when passage (1) is supplemented by a later passage in the *De tempore* where Kilwardby distinguishes motion taken *formally* and motion taken *materially*:

motion can be considered (i) formally and without regard to the particularization or addition of the form in which it exists, or (ii) materially, by having regard to the form towards which it is directed. Averroes makes this distinction in his commentary on *Physics* 3. Taken in the first way, motion is simply a way to perfection; that is, the very alteration or uninterrupted change of the being itself. Taken in the second way motion always involves in itself the form, of which something is always acquired through motion, in such a way that motion taken in the second way is the same thing as the acquisition of successive parts of the form towards which motion is directed. In the first way, motion is one in essence and definition; it is not something divided into formal specific differences but is only divided in respect of the different existence in different motions. And in this way motion is a cause of time, as was shown above. And in this way motion is by its nature the subject of time, and they are thus like each other in unity and difference. In the second way, motion is divided into species in virtue of the different kinds of form towards which something moves.³³

In this passage Kilwardby appeals to the distinction between motion taken formally and motion taken materially to solve a problem about the unity of time, which I will present in the next section. For the time being let us concentrate on the distinction itself. The idea of the distinction is that of isolating the very essence of a motion—motion taken formally—from another element necessarily concomitant with a motion but not belonging to its very essence, namely, the final form to which motion is directed. Motion taken formally is motion considered without the addition of this form, while motion taken materially is motion considered with the addition of this form. For example, in the change towards health, that is, in a body's becoming healthy, health is the form or perfection towards which

³³ *DT*, Q. 13, p. 25, lines 3–16, “motus potest considerari formaliter et sine concretionem vel adiunctionem forme in qua est; vel potest considerari materialiter concernendo formam ad quam tendit: sic distinguit Averroes super 3 *Physicorum*. Primo modo motus est sola via ad perfectionem, scilicet ipsa alteratio vel mutatio indistans ipsius esse; secundo modo semper concernit secum formam, cuius semper aliquid acquiritur per motum, ut sit motus illo modo idem quod acquisitio partis post partem de illa forma in quam est motus. Primo modo motus est unum per essentiam et per diffinitionem, non divisum per differentias specificas formales set solum divisum penes esse diversum in diversis motibus; et illo modo est motus causa temporis, ut preostensum supra est; et illo modo est per se subiectum temporis, et sic assimilatur sibi in unitate et diversitate. Secundo modo dividitur motus per species ratione formarum diversorum generum in quas movetur aliquid.”

change is directed. The change towards health taken formally is an uninterrupted (*indistans*) change in the being of the mobile substance, regardless of the fact that the change in the being of this substance is a change with respect to health. Equivalently, in the formulation of passage (1), the change towards health taken formally is the continuously changing being of the mobile body and nothing more than that, that is, not as involving also the form of health to which this change is actually directed and with respect to which the mobile body actually changes. Therefore, rather than pointing to a reductionist view about the ontological status of motion, passages (1) and (2) point to a realist view in that they say that one gets the very essence of motion by disregarding a permanent thing necessarily involved in motion, like the final form, and focusing exclusively on the succession of phases of a motion defined by the continuous renewal of the being of the mobile body.

The expressions “motion considered formally” and “motion considered materially” suggest that Kilwardby’s distinction is a conceptual distinction between two ways of viewing or describing the same thing. Many other aspects of his discussion, however, indicate that he has in mind an ontological distinction, a distinction between things or really distinct aspects of the same thing. In particular, he does not think that motion formally considered is the result of a mental operation of abstraction or separation in thought of considering a change directed to a form without considering the form to which it is directed. For he claims that motion considered formally is that defined by Aristotle’s definition of motion as the actuality of what potentially is as such.³⁴ Furthermore, in passage (2) he says that motion considered formally is one in essence in different motions, so that motion thus considered is viewed as a nature common to every motion, an ontological principle that makes something a motion. The problem is that it is not at all clear how he defines the distinction between motion considered formally and motion considered materially as an ontological distinction, that is, which are exactly the two real items here distinguished. Kilwardby says that he takes the distinction between motion formally and motion materially from Averroes in his commentary on *Physics* 3.³⁵

³⁴ See the passage quoted in note 30.

³⁵ In the passage to which Kilwardby refers Averroes introduces a distinction between two ways of considering motion in order to solve an apparent inconsistency in Aristotle’s classification of motion in his system of categories. Averroes, *In Physicam* 3 t. c. 4, fol. 87raC–rBE, “Et quaeritur de hoc quod dicit hic quod motus non invenitur in uno praedicamento, et dictum est in *Libro de praedicamentis* ipsum esse in praedicamento passionis, et secundum hoc aut non debemus computare praedicamentum passionis aut non debemus

Kilwardby's distinction, however, is not exactly the same as that of Averroes. Averroes wants to distinguish motion considered as a way (*via*) to a form, where the way is understood as a thing distinct from the form towards which it is directed, and motion considered as differing from the final form only in degrees of perfection (*secundum magis et minus*) and not in essence, that is, motion considered as the final form in an incomplete state. Thus, for Averroes, basically the distinction is that between motion as a process towards a form and motion as the same thing as the final form. In Kilwardby's interpretation, however, this distinction becomes rather that between an *absolute* process or change, regardless of its being in respect of a form and directed towards a form, and a change relative to a form.³⁶ Obviously, Kilwardby does not think that there is an absolute change over and above the changes relative to a form (or place). But he does seem to think that in each relative change there is a distinction between what makes that relative change a change and its being relative to a form. So for example, given a local motion (*motus localis*), Kilwardby

dicere ipsum inveniri pluribus uno praedicamento. Ad hoc autem dicamus quoniam motus secundum quod non differt a perfectione ad quam vadit nisi secundum magis et minus necesse est ut sit de genere illius perfectionis. Motus enim nihil aliud est quam generatio partis post aliam illius perfectionis ad quam intendit motus, donec perficiatur et fit in actu. Unde necesse est ut motus qui est in substantia inveniat in genere substantiae et motus qui est in quantitate in genere quantitatis et similiter qui est in ubi et qualitate. Secundum autem quod est via ad perfectionem, quae est alia ab ipsa perfectione, necesse est ut sit genus per se. Via enim ad rem est aliud ab ipsa re. Et secundum hoc fuit positum praedicamentum per se. Et iste modus est famosior, ille autem verior. Et ideo Aristoteles induxit illum modum famosum in *Praedicamentis* et istum modum verum in hoc libro." In the thirteenth and fourteenth-century discussions on motion this passage is the locus classicus for raising the question about its ontological status. On the ontological implication of Averroes's distinction see Trifogli, *Oxford Physics*, pp. 47–51.

In his comment on book 5 of the *Physics* Averroes deals again with the apparent inconsistency in Aristotle's categorical classification of motion and introduces a similar distinction between two ways of regarding motion, for which he uses the expression "motus secundum materiam"/"motus secundum formam." See Averroes, *In Physicam* 5, t. c. 9, fols. 214vbK–215raC. Although Kilwardby has probably in mind this latter passage in formulating the distinction in terms of motion taken formally and motion taken materially, in his presentation of the distinction, however, he seems to refer to the passage from Averroes's commentary on *Physics* 3 quoted in this footnote.

³⁶ Another crucial difference between Averroes and Kilwardby is about which of the two ways of "considering" motion is the more fundamental and "truer." For Averroes it is motion considered materially—in Averroes's terms, as being essentially the same as the final form (see the end of the passage quoted in note 35). For Kilwardby, instead, it is motion considered formally, as a way towards the final form considered independently of this form.

distinguishes between this local motion insofar as motion (*unde motus*) and insofar as local (*unde localis*).³⁷

Why is this distinction relevant in Kilwardby's discussion about the nature of time? The point apparently is that Kilwardby wants to show that every motion insofar as motion—formally by its essence or as absolute change—has a continuous quantity. This continuous quantity intrinsic to motion is what Kilwardby thinks that time is. To show this Kilwardby appeals to the description of the essence of motion given in passage (1) as the being of the mobile changing without interruption:

But since the being of a thing in motion becomes always different, in this being there is one part outside another part, and therefore there is quantity; and since that being becomes different uninterruptedly and without intermission, it is a continuum.³⁸

Kilwardby here assumes a common view about continuous quantity such that for something to have an extended quantity it is necessary and sufficient to have extended parts (part outside part) and for this quantity to be continuous that its parts are so joined one to another that there is no interval between them. In the case of motion, the different beings of the mobile thing (or the different phases of a motion) are the relevant extended parts, analogous to the spatially extended parts of a material substance. The fundamental difference between the spatial parts of a material substance and the intrinsic parts of a motion is that the first are permanent and the second successive, that is, while all the spatial parts of a substance exist (or can exist) simultaneously, the intrinsic parts of a motion can exist only one after the other. More precisely, therefore, time is the successive continuous quantity intrinsic to motion.

A question arising from Kilwardby's account is whether his view is that time is the only quantity involved in a motion. This view is obviously problematic. Take for example a local motion: in this motion the mobile body traverses a spatial distance in a certain time. So there are two relevant quantities here: space and time. Similarly, although less evidently, in the other types of motion. In the change from sickness to health, for example, the distance traversed by the mobile is one defined by the

³⁷ *DT*, Q.3, p. 10, lines 10–12.

³⁸ *DT*, Q. 2, p. 9, lines 15–17, “Quia autem esse rei mote sit alterum et alterum, est in tali esse pars extra partem, et ideo quantitas; quia autem illud esse alterum fit iugiter sine interpollatione, est continuum.” Instead of the reading “sit” at line 15 (“sit alterum et alterum”), the ms. L has the better reading “fit,” which is followed in translating the passage.

qualities intervening between sickness and health (for example, degrees of sickness and health). While stressing the intrinsic connection between motion and time, Kilwardby does not want to deny that there is another type of quantity in motion. He does not express very clearly his view on this point but his general idea seems to be that time is the only intrinsic quantity of motion, that which motion has by its essence. The other type of quantity is something that does not belong to motion insofar as motion, but to motion as being relative to a form. For example, he says that local motion as motion has in itself a continuous quantity, namely time, but as local has a continuous quantity derived from extension, namely, the local distance.³⁹ Accordingly, the decomposition of motion into absolute motion and relative motion does in some way (not completely clarified, though) correspond to the decomposition of the quantity of motion into an intrinsic quantity (namely, time) and an extrinsic quantity, that associated to motion as relative, like space for local motion.

There is something very appealing in Kilwardby's view of time as the quantity intrinsic to motion, because (i) it captures well the common intuition that motion is essentially temporal and also because (ii) it seems to offer a clear way of distinguishing between space and time in Aristotle's ontology—where space and time are not self-subsisting entities—by positing that space (spatial extension) is the quantity intrinsic to material substances while time is the quantity intrinsic to the motions of these substances. Arguments (i) and (ii) are not explicitly found in Aristotle and in fact are in contrast with some Aristotelian assumptions. Kilwardby seems to be aware of Aristotelian difficulties about these arguments. I will

³⁹ Kilwardby deals with this issue in trying to make sense of Aristotle's problematic claim that the continuity of local motion derives from the continuity of the spatial magnitude over which this motion takes place (and the continuity of time derives from that of motion). See *Phys.* 4.11, 219a10–14; *DT*, Qq.3–4, pp. 10–11. This claim seems to be incompatible with Kilwardby's own view that motion has by itself, essentially, a continuous quantity. His not-very-clear attempt to reconcile the two views using the distinction between motion insofar as motion and motion insofar as local is the following, "Et dicendum quod motus unde motus habet in se continuitatem esse alterati; set hec continuitas in motu locali est a continuitate magnitudinis, quia renovatio esse ipsius mobilis non est nisi per renovationem situs et partis spatii: et ideo esse alterati indistantia est ab indistantia partium magnitudinis et spatii. Unde sciendum quod motus localis unde motus habet continuitatem esse (esse] *fortasse scribendum* in se); unde localis habet illam continuitatem per continuitatem magnitudinis" (Q. 2, p. 10, lines 6–12). For similar problems experienced by other thirteenth-century commentators in connection with Aristotle's derivation of the topological properties of motion and time from those of space, see Trifogli, *Oxford Physics*, 231–37.

present here how he deals with some issues concerning the parallelism between space and time.

In Aristotle's ontology, the paradigmatic case of continuous quantity is the extension of material substances, that is, space. The extension of a material substance is an accident of this substance. For example, the quantity or spatial extension of earth is an accidental form inhering in earth that accounts for the property of this substance of having parts continuous one to another. This paradigmatic case indicates that there is a problem in the idea that time is a continuous quantity of motion. Motion here is thought of as the subject of time and time as an accidental form inhering in motion. Motion, however, is not itself a substance and so, in Aristotle's view, cannot be the subject of time thought of as an accidental form inhering in motion, as the quantity of motion. One very common way of trying to solve this problem is by denying that motion is, strictly speaking, the subject of time. The proper subject of time as accidental form is the mobile body, which is a substance, although time as accidental form inheres in the mobile body only in a sort of derivative way, that is, via motion: the inherence of time in the mobile body is dependent on the inherence of motion in the mobile body.

Kilwardby, however, nowhere suggests this *reductive* view of the claim that time is a continuous quantity of motion. He repeatedly talks of motion being the subject of time and of time as a continuous quantity existing in motion without qualifying these claims. More generally, he seems to assume that the subject of a quantity is not necessarily a substance, that is, the things having quantity are not necessarily substances. For example, he says that heaviness (*gravitas*), which is ontologically an accidental form in the category of quality, has its own quantity,⁴⁰ and he distinguishes the quantity of heaviness from the extension of material substances (spatial extension).⁴¹ He also distinguishes between the *quantitas molis* and the *quantitas virtutis*. He does not explain this distinction but he seems to take the *quantitas molis* as the extension of a substance and the *quantitas virtutis* as the quantity of an accidental form.⁴²

⁴⁰ *DT*, Q. 5, p. 12, lines 15–16, “Similiter est in gravibus: habet enim gravitas quamdam suam quantitatem, et illa mensurantur gravia secundum suam gravitatem. . . .”

⁴¹ *DT*, Q. 5, p. 13, lines 4–5.

⁴² *DT*, Q. 4, p. 10, lines 21–25, “dicendum quod in omni mobili est aliqua magnitudo sive molis sive virtutis ex cuius partibilitate accidit quantitas in motu et ex cuius indistanti partium explicatione fit continuitas. Unde sicut in motu locali est magnitudo localis que est molis, sic in aliis motibus magnitudo virtualis.”

Accordingly, Kilwardby does not see it as a problem that an accident is the proper subject of quantity.

He seems to assume, instead, that in order to establish that time as intrinsic quantity of motion is parallel to spatial extension as intrinsic quantity of substance one needs to show that the way in which time is produced in motion is parallel to that in which spatial extension is produced in a substance. The Aristotelian account of how quantity is produced in a substance involves the decomposition of this substance in its two essential components: matter and (substantial) form. Matter is not by itself extended, nor does extensive quantity inhere in matter and give it extension and parts prior to the introduction of the substantial form in matter. On the other hand, the quantity of a substance necessarily accompanies its substantial form and derives from it, so that the introduction of the substantial form in matter is necessarily concomitant with the introduction of quantity in the resulting substance. From the point of view of efficient causality, the efficient cause of the coming into being of a substantial form in matter—that is, the efficient cause of a substance—is also the efficient cause of the quantity of this substance. To give an analogous account of the production of time in motion Kilwardby posits that there are two elements in motion that have the role of matter and form in producing its intrinsic quantity: the being of the mobile substance and the power of the agent of motion. He then gives the following analogy between the two cases:

For just as a natural form coming to be in matter makes a quantity by making one part outside another part, so also it makes a continuum by making two parts so adjacent to each other that there is no distance between them and nothing intervening—this is how the natural form makes the accident of continuous quantity—exactly so it is in the case at stake. And just as there comes to be in the substance a continuous quantity which measures that substance, so also in the case at stake there comes to be a continuous quantity in motion which measures that motion. And just as there matter and form belong to the very being of a substance and in the conjunction of these a continuous quantity comes into being through the action of the form on the matter, so here, to the substance of motion the power of the mover in the movable thing and the being which is continuously altered belong, and in these things that are conjoined in motion the continuous quantity comes to be through the action of that power of moving upon the thing which is moved or its being. Hence it is obvious that continuous quantity is an accident of motion and is caused essentially by motion. . . .⁴³

⁴³ *DT*, Q. 2, p. 9, lines 17–29, “Sicut enim forma naturalis adveniens materie per hoc quod facit partem extra partem facit quantitatem, per hoc quod facit partem iuxta par-

Kilwardby's analogy is defective. One major problem is that, unlike the substantial form of a substance with respect to this substance, the power of the mover (the agent of motion) is not an intrinsic component of motion. In Aristotle's ontology, motion exists in the moved thing while the motive power of the mover exists in the mover. Furthermore, the substantial form is the formal cause of a substance, the formal principle that makes something a substance of a given kind; the mover or its motive power, however, is the efficient and not the formal cause of motion. I think, however, that the analogy does not fail altogether to make the basic point that time as continuous quantity derives from the essence of motion, given that what produces a motion concomitantly produces this continuous quantity in that motion.

Attempts to establish a parallelism between spatial extension and time, like the one of Kilwardby in passage (4), are exceptional in the medieval discussions of time. On the other hand, Anneliese Maier (who does not mention Kilwardby in this connection) found an attempt completely similar to that of Kilwardby in a question on time that she ascribes to Peter Olivi.⁴⁴ This similarity, therefore, may indicate that the views of Kilwardby on time had an influence on Olivi.

The Unity of Time

In *Physics* 4.14 Aristotle addresses the issue of the unity of time. He starts by stating that time is the number of every continuous motion and not of any particular motion. This leads to the question: if time is the number of every motion, since there are many motions, does this imply that there are also many times, as many as there are motions? Aristotle replies that this is not the case but that there is just one time. More precisely his view is that the time of all simultaneous motions is one and the same.⁴⁵ Apparently Aristotle is here making an obvious point, because being

tem indistanter et sine interpollatione facit continuitatem, et sic facit accidens quod est quantitas continua, sic omnino est in proposito; et sicut illic fit quantitas continua in substantia que mensurat ipsam substantiam, sic in proposito fit quantitas continua in motu que mensurat ipsum motum; et sicut illic de esse substantie est sua materia et sua forma et in hiis coniunctis fit quantitas continua per actionem forme in materia, sic hic de substantia ipsius motus est virtus moventis in mobili et esse alterum factum continue, et in hiis coniunctis in motu fit quantitas continua per actionem illius virtutis moventis in rem motam vel esse suum. Unde patet quod continua quantitas accidens motus est et causata a motu essentialiter. . . ."

⁴⁴ Maier, *Metaphysische Hintergründe*, 49n3.

⁴⁵ *Phys.* 4.14, 223a29–b12.

simultaneous seems to be equivalent to being in one and the same time. Aristotle himself may have thought that it was obvious, since he adds no proper argument to support it. Despite Aristotle's confidence, Aristotelian commentators—Greek, medieval, and modern—think that there is a serious problem with the thesis that there is only one time. For medieval commentators, the problem arises from the ontological status of accident of motion that Aristotle ascribes to time. Motion is the subject in which time inheres. A widely accepted principle states that the numerical identity and diversity of an accident depends on that of its subject, so that numerically distinct subjects have numerically distinct accidents. In the common medieval formulation of this principle, an accident is numbered according to the numbering of its subject (*accidens numeratur ad numerationem subiecti*). Accordingly, if time is an accident of every motion there is no obvious way in which in Aristotle's theory one can refer to the same time in which different motions take place, even in the case of simultaneous motions: since there are many simultaneous motions, there seem to be many simultaneous times as well.

Kilwardby formulates very clearly this traditional objection against the unity of time:

But then a difficult question arises concerning the unity of time. For if the subject of time is motion without qualification, and an accident is multiplied in respect of the multiplication of the subject, then just as motion is multiplied in respect of species and individuals, so also is time, or so it seems, even though it is commonly said that time is numerically one in all temporal things.⁴⁶

Then Kilwardby adds his own comment to this traditional objection and an original one:

However, when Aristotle says that there is one time of all motions and temporal things existing simultaneously, he does not add 'numerically'; but that is added by men who do not take much trouble to look for what he has in mind.⁴⁷

⁴⁶ *DT*, Q. 11, p. 19, lines 2–6, "Set tunc oritur questio difficilis de unitate temporis. Si enim motus simpliciter sit subiectum temporis, et accidens multiplicetur secundum multiplicationem subiecti, sicut motus per species et individua multiplicatur, sic et tempus, ut videtur, cum tamen communiter dicatur quod tempus sit unum numero in omnibus temporalibus."

⁴⁷ *DT*, Q. 11, p. 19, lines 6–9, "Verumptamen, cum dicit Aristoteles quod tempus sit unum omnium motuum et temporalium simul existentium, non tamen addit 'numero', set hoc additum est ab hominibus minus diligenter intuentibus mentem eius."

In Kilwardby's interpretation, Aristotle does not want to say that there is a numerically one time of numerically distinct motions, even if these motions are simultaneous. On the contrary, there are as many times as there are motions. For Kilwardby, the unity that Aristotle wants to ascribe to time is an essential unity, a unity in nature: time is numerically distinct in distinct motions but has the same essence or nature in every motion, in the same way in which, for example, whiteness is numerically distinct in distinct white things but has the same nature in each of them. Accordingly, the position that Kilwardby defends as genuinely Aristotelian is that there are numerically many times of the same essence or nature.⁴⁸

Kilwardby's position is very original. In the thirteenth-century debate about the unity of time, the admission of numerically many times if not unique to Kilwardby is certainly very rare.⁴⁹ The dominant view is that there is only one time. The debate is rather about how to solve the traditional objection to the numerical unity of time arising from its status of accident of motion. The most influential solution is that of Averroes, and Kilwardby presents it in some details.

Averroes accepts the principle that the numerical unity of an accident depends on that of its subject, but he also thinks that from this principle it does not follow that there are as many times as there are motions because time is not an accident of every motion but only of one motion: the first circular motion of the heavens, the diurnal motion of the first heavens. Thus, the crucial move of Averroes is that of positing that the subject of time is only the celestial motion: time is numerically one because the subject of time is numerically one. Averroes's concern is then that of showing that the restriction of the subject of time to the first motion is not incompatible with the natural assumption about the universality of time, that is, with the idea that time is "everywhere," an idea that Aristotle himself explicitly endorses.⁵⁰ He claims that the universality of time is saved because, although time only inheres in one motion, it functions as

⁴⁸ Kilwardby does not address the problem that the admission of many times may create for the definition of temporal simultaneity.

⁴⁹ Another case of admission of many times is found in an anonymous set of questions on *Phys.* 4 of English origin written around 1250–70, preserved in the manuscript Todi, Biblioteca Comunale, ms. 23, fols. 39vb–57rb. This anonymous commentary is edited, together with some other commentaries on *Physics* III–IV, in a CD-Rom accompanying the volume: Cecilia Trifogli, *Liber Quartus Physicorum Aristotelis. Repertorio delle Questioni, Commenti Inglese ca. 1250–1270* (Florence: 2007). The relevant question from this anonymous commentary is found in the CD-Rom under: T, Liber IV, *De tempore*, q.62. For a presentation of this position, see Trifogli, *Oxford Physics*, 244–246.

⁵⁰ *Phys.* 4.14, 223a16–21.

the noninhering number or measure of every other motion. The celestial motion and its duration define the “universal clock” by which we measure the duration of any other motion, which in fact is commonly measured in hours, days, years, and so forth.⁵¹

Kilwardby maintains that the time of the first celestial motion has a special role in measuring the duration of all the other motions. In this respect, he agrees with Averroes. He also recognizes that the difficult question about the numerical unity of time would find an easy solution if one accepted the fundamental assumption of Averroes that only the first celestial motion is the subject of time.⁵² He thinks, however, that this assumption must be rejected and with it Averroes’s attempted solution to the problem of the unity of time. Kilwardby’s explicit attack against Averroes is exegetical in the sense that it consists in pointing out that the restriction of the subject of time to the first celestial motion is in contrast with a number of fundamental claims about time made by Aristotle.⁵³ It seems to me that Kilwardby’s exegetical attempt to reject Averroes’s opinion is not conclusive. The Aristotelian counterexamples that Kilwardby gives are in fact either considered by Averroes and solved or such that a solution to them can be found within Averroes’s theory. On the other hand, it is clear that Averroes’s restriction of the subject of time to the first motion is incompatible with Kilwardby’s own understanding of the relation between time and motion. For Kilwardby time is the continuous quantity of motion and belongs to motion because of the very essence of motion as continuous alteration in the being of the mobile substance rather than because of its being a particular kind of motion (such as local motion or qualitative motion). Therefore, in Kilwardby’s view, given that time flows from the essence itself of motion, it is contradictory to posit that something is a motion and yet time does not inhere in it as in the subject from which it is caused.

In formulating his own view about the unity of time, Kilwardby introduces a distinction between definite time and indefinite time. Having rejected Averroes’s solution to the objection against the unity of time in passage (1) he presents his own solution as follows:

⁵¹ Averroes, *In Physicam* 4, t. c. 98, fols. 178rbF–179vaG; t. c. 132, fol. 203vaI–vbL.

⁵² *DT*, Q. 11, p. 19, lines 10–14.

⁵³ *DT*, Q. 10, p. 18, lines 3–24.

It should therefore be said that it is possible to consider time so far as it is known and limited and defined by fixed termini, and to consider it simply, so far as it is unlimited and undefined and not yet denoted by fixed termini. According to the first way of considering time, time is numerically one simply from the unity of a subject which is numerically one. According to the second way, it is one through the unity of the essence and of definition and by the essential unity of the subject, one not in respect of number but of essence.⁵⁴

Thus, with a concise formula Kilwardby's view is that definite time is one in number while indefinite time is one only in essence and not also in number. But what are definite and indefinite time? Kilwardby gives a detailed explanation of this distinction. As in the case of the claim that time is a continuous quantity deriving from the essence of motion, so also in this case Kilwardby relies on an analogy between space and time: the distinction between definite and indefinite time can be made clear starting from a similar but more obvious distinction about space.

Suppose that all spatially extended things are twenty feet long and that a perch is (by definition) a length of exactly twenty feet. Imagine also that initially no perch has been chosen as the unit of measure of all the other perches but at a later stage one of them has been chosen or prepared for this role, for example, a piece of wood of exactly twenty feet long. Kilwardby says that in the initial state in which no unit of measure has been fixed no definite perch exists although many perches do exist with an indefinite being, whereas once the unit of measure has been fixed the perch representing this unit is a perch with a definite being.⁵⁵ The case of time is similar:

For from its beginning right up to now every motion has one of its parts before and another after, and so it has quantity and continuity which can measure it and which is what I said time was. But it was not immediately after the beginning from which there was motion and its measure that that measure was limited and defined by fixed termini by which the quantity of every motion could be known with certainty. There was, however, a quantity of motion measuring it in an indefinite way. In order, therefore, that a

⁵⁴ *DT*, Q. 11, p. 19, lines 16–23, “Propterea, dicendum est quod est considerare tempus vel secundum esse notum et limitatum et certis terminis diffinitum, vel simpliciter secundum esse illimitatum et indiffinitum prout nondum notificatum est certis terminis. Primo modo est unum numero simpliciter ab unitate unius subiecti numero; secundo modo est unum unitate essentie et diffinitionis et ab unitate essentiali subiecti non secundum numerum set secundum essentiam.”

⁵⁵ *DT*, Q. 11, p. 19, line 24–p. 20, line 24.

fixed and definite quantity of motion be recognized, a fixed measure was prepared by which all motions could be measured. Since a more suitable motion for this is a common one known by everyone and regular rather than a motion which is known by some people and not by others, the regular motion assumed by art and human industry is the motion which is most common to all people, best known and most regular. . . . And so the motion of the heavens has been limited and determined by marks and fixed periods, and when these are applied to other motions we know their determinate quantity.⁵⁶

So Kilwardby's idea is that definite time is that which men and more specifically astrologers⁵⁷ have chosen as the unit of measure of the duration of all other motions. And this is the time inhering in the motion of the heavens: we measure time in years, days, hours and so on, which are all periods of the time of the heavenly motion. Though the time of the heavenly motion is the unit of measure not by its nature but by human institution, the choice is not completely arbitrary, as Kilwardby points out at the end of the passage quoted, given that for example this motion is the most uniform and also that of which we all have experience and so the most suitable to be posited as the "universal clock." Indefinite time, on the other hand, is the time inhering in any motion other than the motions of heavens. For instance the time of writing this paper is an indefinite time.

Therefore, for Kilwardby, what makes the difference between definite and indefinite time is some mental act, that of stipulating that one time is the unit of measure of time and not another: definite time is that which by human convention is used to measure the duration of all motions. Kilwardby makes this point in replying to the question of whether time can exist without the soul:

⁵⁶ *DT*, Q. 11, p. 20, lin. 25–36; p. 21, lines 15–17, "Omnis enim motus ab initio et modo habet aliud sui prius et aliud sui posterius, et sic quantitatem et continuitatem mensurativam sui quam dixi esse tempus. Set non mox ab initio, quo erat motus et sua mensura, fuit ipsa mensura limitata et diffinita certis terminis quibus posset certe cognosci quantitas cuiuslibet motus; fuit tamen nichilominus quantitas motus indiffinite ipsum mensurans. Ut igitur sciretur certa quantitas et diffinita cuiuslibet motus, preparata est mensura certa qua omnes mensurari possent, et quia ad hoc convenientior est motus communis cognitus ab omnibus et regularis quam motus cognitus aliquibus hominibus et incognitus aliis, ideo regularis assumptus est arte et humana industria motus omnibus hominibus communissimus, notissimus et regularissimus. . . . Et sic limitatus est motus celi et determinatus notis et certis articulis, quibus applicatis ad alios motus eorum determinatam cognoscimus quantitatem."

⁵⁷ *DT*, Q. 11, p. 21, lines 17–19.

In accordance with what has already been settled, it should therefore be said that time exists without qualification as unlimited and undetermined or as limited and determined, and this first kind of time exists without any action of the soul, and this is the meaning of all authoritative texts which are quoted in favor of this position. Time in the second sense does not exist without the counting and the determining by a soul, and that is the meaning of the authority with which Averroes agrees.⁵⁸

For Kilwardby, indefinite time exists without the soul but definite time does not exist without the soul. It is important, however, to understand Kilwardby's position within the medieval debate about the dependence of time on the soul. The debate is shaped by Averroes's view, to which Kilwardby refers at the end of this passage. For Averroes, the controversial issue is whether time is an extra-mental property of motion or something that belongs to motion only in virtue of the soul, that is, whether time and motion are really distinct—two distinct extra-mental things—or not. Following a suggestion by Aristotle,⁵⁹ Averroes denies that time and motion are two distinct extra-mental things. He maintains that “outside the mind only motion exists and time comes to be only when the mind divides motion into the before and after.”⁶⁰ Thus, for Averroes, only motion and not also time is an extra-mental thing, while time as distinct from motion is nothing else than the mental act of counting the successive phases of a motion.

Even from this very concise presentation of Averroes's position, it is clear that in claiming that the existence of definite time depends on the soul Kilwardby is not conceding to Averroes that there is at least one time that is not an extra-mental thing distinct from the corresponding motion. Indeed, for Kilwardby, definite time is the time inhering in the motion of the heavens and, just like the time inhering in every other motion, is a continuous quantity of that motion; but the continuous quantity of something is, for Kilwardby, a real thing and really distinct from the subject in which it inheres. Accordingly, definite time is an extra-mental thing

⁵⁸ *DT*, Q. 14, p. 29, lines 8–13, “Propterea dicendum est secundum praedeterminata quod est tempus simpliciter inlimitatum et indeterminatum vel limitatum et determinatum, et hoc est tempus sine omni actione animae, et hoc volunt omnes auctoritates ad hoc inducte. Secundo modo non est sine numeratione animae et determinatione, et hoc vult auctoritas illa cui consentit Averroes.”

⁵⁹ Aristotle presents an argument in favor of the dependence of time on the soul based on the property of time of being a number. The argument assumes that the existence of a number depends on the soul; *Phys.* 4.14, 223a21–29.

⁶⁰ Averroes, *In Physicam* 4, t. c. 109, fol. 187raC, “extra mentem non est nisi motus [motum *ed.*], et tempus non fit nisi quando mens dividit motum in prius et posterius...”

distinct from the motion of the heavens in which it inheres and not something that comes to be when the soul divides or counts the successive phases of this motion, as in Averroes's view.⁶¹ It is rather the case that definite time comes to be *definite* in virtue of the soul, that is, it comes to be the unit of measure of duration in virtue of a mental act.⁶²

As to the problem of the unity of time, it is now clear why Kilwardby claims that definite time is one in number. Definite time is only the time inhering in the celestial motion and therefore, according to the principle about the identity of accidents, is numerically one as its subject—the celestial motion—is numerically one. Indefinite time, instead, is not numerically one: there are as many indefinite times as there are motions other than the celestial motion, because each of these motions is the subject of a corresponding indefinite time. Indefinite time, however, has an essential unity: the times of any two distinct motions are of the same nature.

Kilwardby feels that the claim that indefinite time is one in essence is open to the following objection:

- (6) Furthermore, since the *per se* subject and its *per se* accident are alike in respect of unity and diversity, from the fact that motion is the *per se* subject of time, it seems that time is divided into the same different species as is motion.⁶³

The objection assumes that the principle of the dependence of the unity of an accident on that of its subject holds not only for numerical unity but also for essential unity, so that accidents inhering in specifically different subjects are specifically different and so of different natures. On the other hand, not all motions are of the same nature: a qualitative motion is of a different species from a quantitative motion. In general, for Aristotle, the species of a motion is determined by the form with respect to which that

⁶¹ Kilwardby proposes the following argument in favor of the extra-mental reality of every time, "Item, si tempus est quantitas motus mensurativa secundum quod huiusmodi, et hec quantitas in ipso motu est ex eo quod motus est sine omni actione anime numerantis, ut prius ostensum est, videtur quod tempus est in motu sine omni actione anime numerantis semper."

⁶² For example, Kilwardby points out that in saying that "determinamus tempus in accipiendo aliud et aliud nunc" (*Phys.* 4.11, 219a25–26), a claim that apparently supports Averroes's position, Aristotle is not explaining how time comes to be but how it comes to be known to us. See *DT*, Q. 14, p. 29, lines 21–25, "Item, non dicit 'facimus' tempus in accipiendo nunc aliud et aliud, sed *determinamus*, quasi dicens priusquam numeremus nunc in motu et motum, fuit tempus, set non fuit nobis determinatum et notum secundum certas quantitates et diffinitas horarum et dierum et huiusmodi."

⁶³ *DT*, Q. 13, p. 23, lines 21–24, "Item, cum per se subiectum et suum per se accidens assimilentur in unitate et diversitate, ex quo motus est per se subiectum temporis, videtur quod tempus dividitur per differentias specificas sicut et motus dividitur."

motion occurs so that motions relative to specifically different forms are specifically different. Therefore, by the principle above, there are as many specifically different times as there are specifically different motions that are their subjects.

The principle about the dependence of the essential unity of an accident on that of its subject is much more controversial than the corresponding principle about the numerical unity. Indeed, it does not seem to be universally true. For example, the whiteness of the snow seems to be exactly of the same nature as the whiteness of milk, although snow and milk are specifically different subjects. Kilwardby, however, accepts the principle or at least does not explicitly argue against it. His reply to the objection consists in specifying that the *per se* subject of time does not have different species. Appealing to the distinction between motion formally considered and motion materially considered that we have presented in the preceding section, Kilwardby claims that the *per se* subject of time is motion formally considered and not motion materially considered.⁶⁴ On the other hand, it is only motion materially considered which is divided into species and so it is of different natures. For motion materially considered is motion considered as relative to the form with respect to which the change takes place and the differences in species of the forms determine the differences in species of the motions relative to them. But motion formally considered is motion considered as an *absolute* change, as uninterrupted change in the being of the mobile, regardless of the form relative to which that being changes. Therefore, the specific differences in the forms do not affect the specific unity of motion formally considered.

Not entirely happy with this account, Kilwardby further investigates what gives essential unity to motion formally considered. Relying on an idea proposed by St. Bonaventure about the unity of time,⁶⁵ Kilwardby posits that the essential unity of motion formally considered derives from the essential unity of matter. The potentiality of matter to different forms is the principle from which motion formally considered derives and this potentiality is one in essence.⁶⁶ Like other thirteenth-century attempts to appeal to the unity of matter to account for the unity of time,⁶⁷ that of Kilwardby remains obscure.

⁶⁴ See above p. 220, passage (2).

⁶⁵ *S. Bonaventurae Liber II. Sententiarum (Opera theologica selecta, vol. 2)*, Editio minor (Florence: 1938), dist. 2, pars 1, art. 1, q.2, p. 51a–b. On Bonaventure's opinion see Maier, *Metaphysische Hintergründe*, 97–99.

⁶⁶ *DT*, Q. 13, pp. 25, line 22–26, line 22.

⁶⁷ See Trifogli, *Oxford Physics*, 257–261.

Finally, Kilwardby addresses the question of the essential unity of time in a more general perspective than that of Aristotle's physical theory. For Aristotle, time is essentially linked to motion, and motion is a property exclusively of bodies, so that time is a constituent of the physical world alone. Some theologians—Augustine, for example—posit that time exists also in the actions of spiritual (incorporeal) things. The question then is whether the physical time of Aristotle is of a different nature from the spiritual time of the theologians. Some people claim—and here Kilwardby seems to have St. Bonaventure in mind—that the two times have different natures and are irreducible one to the other.⁶⁸ Kilwardby does not agree with this dualistic view:

- (7) But I do not see the need to say this. For if time does not measure the existence of corporeal things except insofar as they are in motion, time ought to be present where there is motion. If there is motion in the actions of the spirits, it seems to me that time must be there, and the same time which is in bodies, in the same way as specified above.⁶⁹

Coherently with his basic assumption that time is essentially linked to motion and its nature is determined by the nature of motion insofar as motion, Kilwardby here makes the point that because of the differences between corporeal and spiritual things one does not need to posit two essentially distinct times, as long as there is motion and it is of the same nature both in corporeal and spiritual things.

Conclusion

For Kilwardby time is a successive continuous quantity inhering in motion, a quantity that every motion has by its own nature. In particular, time, like motion itself, is a successive thing, a thing having parts that cannot exist simultaneously but one after another. Departing from

⁶⁸ *DT*, Q. 13, p. 27, lines 17–22, “Sunt adhuc non nulli qui de hac questione aliter sentiunt, dicentes scilicet quod sunt duo tempora quorum neutrum ad alterum reducitur: secundum Aristotilem enim et philosophos tempus est mensura rerum corporalium; et secundum Augustinum et sanctos tempus accidit actionibus spirituum, sicut patet [***] quam in illo enim ubi loquitur de evo. Et dicunt quod neutrum ad alterum reducitur.”

⁶⁹ *DT*, Q. 13, p. 27, lines 23–27, “Ego autem non video huius dicti necessitatem. Si enim tempus non mensurat esse corporalium nisi quatenus sunt in motu, debet tempus adesse ubi motus est. Qui si est in actionibus spirituum, non video quin ibi sit tempus, et idem quod in corporalibus, eodem modo quo supra determinatum est.”

Augustine and more relevantly from Averroes, Kilwardby maintains that successive things have a mind-independent type of existence: successive things exist in extra-mental Reality. Kilwardby's view is not simply that succession is extra-mentally real but also that it cannot be accounted for in terms of permanent things, like substances and their permanent attributes. For example, the succession of phases in the becoming healthy of a man (a case of qualitative motion) cannot be accounted for by positing only permanent things like man and health. It is also necessary to posit a further thing, "becoming healthy," which is by its essence successive. In assuming that successive things are distinct from and irreducible to permanent things Kilwardby disagrees with the reductionist view of motion and time supported by Averroes. For the Arabic commentator, motion is essentially the same as the permanent form which is its final term, differing from it only in degrees of completeness—becoming healthy is health in an incomplete state—whereas for Kilwardby the very essence of motion (motion taken formally) is the alteration itself in the being of the mobile substance, regardless of the form with respect to which this alteration occurs: health. Similarly, for Averroes time is not a mind-independent attribute of motion but its existence depends on the human soul discerning the different phases of a motion. On the contrary, for Kilwardby, time is a mind-independent attribute of motion, its intrinsic continuous quantity, a quantity that motion has by its essence. It is because motion by its essence has parts continuous one to the other that motion has by its essence a continuous quantity, and this quantity is time. Accordingly, for Kilwardby, time and motion are two distinct successive and extramentally real things. Kilwardby is not the only Aristotelian commentator of his time to oppose a realist view of motion and time to Averroes's reductionism. This realist view is very common in the Faculty of Arts of Oxford in the years 1250 to 1270.⁷⁰ Kilwardby's most original contribution is his attempt to support this realist view by establishing a parallelism between space and time, that is, in Aristotelian terms, between the continuous extension of a material substance and time as the continuous quantity of motion. Another very original aspect of Kilwardby's interpretation of Aristotle's theory of time is about the issue of the unity of time. While the vast majority of thirteenth-century commentators try to defend Aristotle's claim that there is only one time, Kilwardby thinks that there are many times,

⁷⁰ See Trifogli, *Oxford Physics*, 37–86, 203–61.

as many as there are motions, although only one of them, the time of the celestial motion, is posited to be the measure of the durations of all the other motions. All these numerically distinct times, however, are of the same nature, because the essence of motion from which time derives—the uninterrupted alteration in the being of the mobile substance—is the same in all motions.

ROBERT KILWARDBY ON MATTER

Silvia Donati

Robert Kilwardby has not left a treatise on matter, nor have commentaries by him on works such as the *Physics* or *Metaphysics* been identified so far: works whose philosophical content would have provided an opportunity to reflect on the notion of matter.¹ Kilwardby's analysis on this subject is limited to a few pages in the treatise *De ortu scientiarum* (prior to 1250), the commentary on book 2 of the *Sentences* (after 1256), and a letter he sends to the archbishop of Corinth, the Dominican Peter of Conflans, in support of the condemnation that Kilwardby, in his capacity as archbishop of Canterbury, issued in Oxford on 18 March 1277.² Notwithstanding their fragmentary nature, the positions taken in these instances give us a fairly complete picture of Robert Kilwardby's doctrine of matter. In the present study, Kilwardby's view will be considered against the background of the English philosophical tradition of the time, examining the aspects of (1) the field of application of the notion of matter; (2) the unity of matter in the various kinds of substance; (3) the relationship between matter and quantity; (4) the problem of the divisibility of matter; and (5) the notion of physical matter.

¹ Commentaries on the *Metaphysics* and most of Aristotle's *Libri naturales* attributed to Robert Kilwardby have so far not been found; see Charles Lohr, "Medieval Latin Aristotle Commentaries Authors: Robertus-Wilgelmus," *Traditio* 29 (1973): 93–195, esp. 108–13.

² Robert Kilwardby, OP, *De ortu scientiarum*, ed. Albert G. Judy, OP (Toronto: 1976), 89–114; hereafter *DOS*, followed by chapter number, section number(s): page number(s): line number(s); Kilwardby, *Quaestiones in librum secundum Sententiarum*, qq.14–16, ed. Gerhard Leibold (Munich: 1992), 14–16, 51–60; hereafter *Sent.* 2 followed by number of the question or paragraph: page number, line number (e.g., *Sent.* 2, 1:2.34); Kilwardby, *Epistola Roberti Kilwardby Archiepiscopi Cantuariensis ad Petrum de Confleto Archiepiscopum Corinthi*, ed. Franz Cardinal Ehrle, S.J. "Der Augustinismus und der Aristotelismus in der Scholastik gegen Ende des 13. Jahrhunderts," *Archiv für Literatur- und Kirchengeschichte des Mittelalters* (1889), 603–5, reprt., F. Ehrle, *Gesammelte Aufsätze zur englischen Scholastik* (Rome: 1970), 3–57 (the quotations in this study refer to the reprint). On the dating of the first two works cf. *DOS*, p. xvi, and Kilwardby, *Sent.* 2, 27*, respectively. With regard to the letter to Peter of Conflans, the date is later than 18 March 1277 (the date of the Oxford condemnation), but probably earlier than 4 April 1278 (the date of Kilwardby's appointment as cardinal bishop of Porto).

Sublunary Matter, Celestial Matter, and Spiritual Matter

The notion of matter is introduced by Aristotle in book 1 of his *Physics* in the context of analyzing the principles of change. In *Physics* 1.5–6 he demonstrates that in order to explain a change it is necessary to postulate a pair of opposing determinations and a substrate in which the opposites are alternatively inherent. In *Physics* 1.7 he identifies the opposites respectively as privation of a certain formal determination and as form: the *terminus a quo* of the change consists in a substrate subject to privation, while the *terminus ad quem* is the substrate which has acquired that form. Substrate and privation, although numerically identical, differ at the formal level: the substrate is that from which something is generated not by virtue of concurrence and which remains in what is generated, while privation is that from which something is generated by virtue of concurrence and which disappears at the end of the process.³ Privation is also described as something, which is of itself a nonbeing, while the substrate is that which is only by virtue of concurrence a nonbeing, because it is subject to privation.⁴ The idea of matter has its origin in the extension of this analytical schema from accidental change, to which it is originally applied, to the generation and the corruption of substance: according to Aristotle, substantial change can also be analyzed through the use of three principles, the substrate—that is to say, matter—a privation, and a form.⁵ In *Physics* 1.8 the schema described in chapter 7 is used to resolve Parmenides’s aporia of becoming: Aristotle’s solution is that becoming does not take place either from being or from nonbeing, but from that which is only by virtue of concurrence nonbeing: in other words, by virtue of privation.⁶ In the final chapter of book 1 we find the famous definition of matter as “primary underlying thing in each case, out of which as a constituent and not by virtue of concurrence something comes to be.”⁷ From this principle the conclusion is drawn that matter cannot be generated or corrupted: given that it should itself be generated from a matter and be corrupted into a matter, we would have an infinite regress.⁸ In his analysis of change in other works, for example the *Metaphysics* and *De*

³ Aristotle, *Physics* 1.7, 190a13–21, 190b23–27 (hereafter *Phys.*).

⁴ *Phys.* 1.8, 191b15–16, 192a3–6.

⁵ *Phys.* 1.7, 190a31–b13.

⁶ *Phys.* 1.8, 191b13–27.

⁷ *Phys.* 1.9, 192a31–32; English translation in *Aristotle’s Physics: Books 1 and 2*, ed. and trans. William Charlton (Oxford: 1970), 21.

⁸ *Phys.* 1.9, 192a25–34.

generatione et corruptione, along with the notions of substrate, form, and privation Aristotle introduces the notions of potentiality and actuality. In these contexts matter is described as the specific potentiality from which the corresponding actuality is produced, and as that which is nonbeing in act and is being in potentiality.⁹

In book 1 of the *Physics* Aristotle seems to equate matter with the substrate of substantial change. In other of his works, however, we see some variation in the use of the term “matter,” which at times is also used to indicate the substrate of other types of change. The ambiguity is underlined by Aristotle himself in a passage in *De generatione et corruptione*, where he specifically states that the term *matter* understood in its primary meaning indicates the substrate of substantial change; more generally, however, it can refer to the substrate of any change.¹⁰ Aristotle’s position on the nature of celestial bodies is consistent with the definition of the term *matter* given in *De generatione*. As is well known, in the Aristotelian system the celestial bodies are corporeal substances, but exempt from substantial change and all other types of physical change except local motion, that is, the motion of rotation around the earth. Given their nature as incorruptible bodies, for Aristotle the celestial bodies are not composed of matter understood in its most proper sense of substrate of generation and corruption. On the other hand, since they are subject to local motion they are not completely immaterial, but possess matter in the broad sense, in other words, understood as potentiality in relation to accidental change: as Aristotle emphasizes in the *Metaphysics*, they are composed of a *hule topike*—a matter characterized by potentiality in relation to different places.¹¹ As for spiritual substances, in the *Metaphysics* the intelligences that act as movers of the celestial spheres are described as pure actuality and as immaterial substances. Because they are the cause of an eternal motion, that is, the motion of the celestial spheres, they

⁹ Aristotle, *Metaphysics* 8.4, 1044a15–b3 (hereafter *Metaph.*). The question that has provoked discussion among the interpreters of Aristotle in the past several decades—whether the notion of prime matter understood as an absolutely formless and absolutely potential reality is an authentically Aristotelian idea—goes beyond the limits of the present study. The medieval authors examined here subscribe to the traditional interpretation, which attributes to Aristotle the idea of an absolutely formless material substrate. For a succinct formulation of the traditional interpretation, see H.M. Robinson, “Prime Matter in Aristotle,” *Phronesis* 19 (1974): 168–88.

¹⁰ Aristotle, *De generatione et corruptione*, 1.4, 320a2–5 (hereafter *Gen. corr.*).

¹¹ *Metaph.* 8.1, 1042a32–b6; 8.4, 1044b6–9; 9.8, 1050b8–24; 12.22, 1069b24–26.

cannot encompass any potentiality. But being eternal and absolutely in act, they must also be entirely devoid of matter.¹²

It will be clear from this brief discussion that the notion of matter, which comes out of Aristotle's analysis, is primarily a physical one, because it derives from the analysis of physical change and is conceived as potentiality relative to the various kinds of change. This physical approach of Aristotle's is taken up and developed by Averroes, in particular in his discussion on the structure of the celestial bodies. In a debate with Avicenna, Averroes supports the thesis that these kinds of bodies are immaterial. Avicenna's position is based on an analysis of the notion of corporeity. In the *Metaphysics*¹³ Avicenna maintains that by its very nature corporeity, which he equates with the capacity to receive the three dimensions, requires a principle of a potential nature, that is to say matter. But since in his view corporeity is a formal determination which univocally belongs to all types of body, it follows from the analysis of the notion of corporeity that the different types of bodies must have homogeneous principles, and that consequently the celestial bodies are made up of matter just as the sublunary bodies are. In contrast with Avicenna's metaphysical approach, Averroes sees the analysis of change as the only path that allows us to come to know the existence of matter; to put it more precisely, the starting point of the investigation into matter is the examination of substantial change.¹⁴ Averroes, freeing the Aristotelian notion of matter from its ambiguity, defines matter strictly as the potentiality with respect to the substantial form and therefore with respect to change in the category of substance.¹⁵ Unlike Avicenna, Averroes maintains that the celestial bodies, being incorruptible, are not composed of matter: if in fact they were composed of matter, they would be subject to generation and corruption or the potentiality for generation and corruption present in their matter would remain inactive.¹⁶ The celestial bodies are thus conceived by Aver-

¹² *Metaph.* 12.6, 1071b12–22.

¹³ Avicenna, *Liber De Philosophia prima sive Scientia divina*, ed. Simone van Riet and Gérard Verbeke, trac. 2, chap. 2 (Leiden: 1977), 77–82, esp. 77, lines 46–79, 84.

¹⁴ Averroes, In *Phys.*, 1.83, in *Aristotelis opera cum Averrois commentariis* 4 (Venice, 1562–74; repr., Frankfurt: 1962), fol. 47va H–I.

¹⁵ Averroes, *Sermo de substantia orbis*, chap. 2, in: *Aristotelis opera cum Averrois commentariis*, 9 (Venice, 1562; repr., Frankfurt, 1962), fol. 6va H (hereafter Averroes, *Sermo*, followed by chapter number: folio number). For an English translation see Averroes, *De Substantia orbis*, ed. and trans. Arthur Hyman (Cambridge, Mass.: 1986), 82.

¹⁶ *Averrois Cordubensis commentum magnum super libro De celo et mundo Aristotelis: Praefatio, Liber 1*, ed. Rüdiger Arnzen, Francis James Carmody, and Gerhard Endress (Leuven: 2003), 38.64–39.84.

roes as bodies not composed of matter and form, but subject to accidental determinations of a perceptible nature, such as extension for example. He believes that in a sense one can speak of hylomorphic composition with reference to the celestial bodies because they perform the function of matter in relation to the *virtus* that moves them, which he describes as a soul.¹⁷ However, we are talking about a *sui generis* hylomorphic composition¹⁸ because in this case the matter, that is to say the body itself, is in act independently of the form and not in potentiality in relation to the form,¹⁹ while the form, that is to say, the soul, only constitutes the mover of the body and not its substantial actuality.²⁰ In consideration of these elements, Averroes stresses that the use of the term *matter* in the case of the celestial body is purely equivocal, so that in speaking of bodies of this type it is more appropriate to use the name *subject* than *matter*.²¹

The so-called theory of universal hylomorphism belongs to a philosophical tradition different from the Aristotelian one. In this theory (the main source of which, for the Latin Middle Ages, is generally identified by historians with the *Fons vitae* of the Jewish Spanish philosopher Avicbron—Ibn Gabirol—although some see Augustine as one of its sources), matter and form are conceived as universal principles, common not only to generable and corruptible bodies or, more generally, to all corporeal substances, but also to spiritual substances. From Avicbron's Neoplatonic perspective, the starting point of the derivation of the multiple from the One is the production of universal matter and universal form; these two principles give rise to the whole of reality via a process of progressive emanations. From this perspective, hylomorphic composition is the distinctive trait of created substances as compared with the absolute simplicity of the creator. Avicbron's position is characterized by a substantial identification of the logical plane with the real plane—an identification that was clearly pointed out by one of his medieval critics, Thomas Aquinas: Avicbron seems to postulate a fundamental coincidence between the relationship between matter and form on the one hand, that between

¹⁷ Averroes, *Sermo*, 2, 6rb D–6va I; Averroes, *De substantia orbis*, trans. Hyman, 79–83.

¹⁸ On this point see M. Di Giovanni, "Averrões on the Species of Celestial Bodies," in *Wissen über Grenzen: Arabisches Wissen und lateinisches Mittelalter*. ed. A. Speer and L. Wegener (Berlin: 2006), 438–64, esp. 456–57.

¹⁹ Averroes, *Sermo*, 2:6va G–H; 3:10ra–C; Averroes, *De substantia orbis*, trans. Hyman, 82, 110–11.

²⁰ Averroes, *Sermo*, 2:6rb D–F; Averroes, *De substantia orbis*, trans. Hyman, 79–81.

²¹ Averroes, *Sermo*, 2:6va G–H; Averroes, *De substantia orbis*, trans. Hyman, 82.

genera and differentiae on the other.²² In this schema, the generic characteristics function as matter with respect to specific characteristics to which the role of form is assigned: the ultimate matter is thus the genus of substance, which is common to all types of created being both corporeal and spiritual, and is progressively specified by subsequent formal determinations.²³ As is evident, the notion of matter that lies behind this concept is very different from the Aristotelian one. Avicbron counters the fundamentally physical Aristotelian approach with one that is essentially logical/metaphysical. Of course, from Avicbron's point of view matter also retains the function of physical principle of change; however, this is not the essential function of matter, but only a derived role connected with one of the subsequent manifestations of matter, in other words, one that is far removed from matter understood as the ultimate and universal principle of reality.

The theory of universal hylomorphism, widely popular in the first half of the thirteenth century, was harshly criticized by Albert the Great and by Thomas Aquinas,²⁴ then in the last decades of the century it became a position typical of the Franciscan school. In English circles in the first half of the thirteenth century, supporters of the theory of universal hylomorphism included such well-known authors as the Dominican Richard Fishacre and the Franciscans Richard Rufus of Cornwall and Roger Bacon;²⁵ its success is also well documented in the commentary

²² On this point see Fernand Brunner, "L'universalité de la matière," in *Platonisme et Aristotélisme: La critique d'Ibn Gabirol par saint Thomas d'Aquin*, ed. Richard H. Popkin (Louvain: 1965), 33–61.

²³ On Avicbron's position see Avicbron (Ibn Gabirol), *Fons vitae: Ex Arabico in Latium translatus ab Iohanne Hispano et Dominico Gundissalino*, ed. Clemens Baeumker (Münster: 1895), 12–16, 34–41, 228–30; Brunner, "L'universalité de la matière"; Jacques Schlanger, *La philosophie de Salomon Ibn Gabirol: Étude d'un néoplatonisme* (Leiden: 1968). On the doctrine of universal hylomorphism in the Latin Middle Ages and its sources and dissemination, see E. Kleineidam, *Das Problem der hylemorphen Zusammensetzung der geistigen Substanzen im 13. Jahrhundert, behandelt bis Thomas von Aquin* Dissertation (Breslau: 1930); Oden Lottin, OSB, *Psychologie et morale aux XII^e et XIII^e siècles* (Gembloux: 1957), 1:427–60; Roberto Zavalloni, *Richard de Mediavilla et la controverse sur la pluralité des formes* (Louvain: 1951), 442–43; Dorothea Elizabeth Sharp, *Franciscan Philosophy at Oxford in the Thirteenth Century* (New York: 1964); see also n.24 below.

²⁴ See James A. Weisheipl, OP, "Albertus Magnus and the Oxford Platonists," *Proceedings of the American Catholic Philosophical Association* 32 (1958): 124–39; Brunner, "L'universalité."

²⁵ See Lottin, *Psychologie et morale*, 1:450–59; Rega Wood, "Angelic Individuation according to Richard Rufus, St. Bonaventure and St. Thomas Aquinas," in *Individuum und Individualität im Mittelalter*, ed. Jan. A. Aertsen and Andreas Speer (Berlin: 1996), 209–29; Theodore Crowley, *Roger Bacon: The Problem of the Soul in his Philosophical Commentaries* (Louvain/Dublin: 1950), 81–91.

literature originating from the Faculty of Arts at Oxford.²⁶ The English advocates of the theory of universal hylomorphism include Robert Kilwardby, who maintains that both the celestial bodies and the spiritual substances created are composed of matter, as are the sublunary bodies. The arguments used by Kilwardby to demonstrate his position are part of the classic repertoire of the universal hylomorphism theory. The fundamental metaphysical traits that distinguish the creature from the perfection of the First Being are traced back to the composition of matter and form: the capacity of the creature to undergo the action of an agent, the possession of accidental characteristics, and the basic type of composition established by the distinction between *quod est* and *quo est*, which Kilwardby, following a widespread tradition during this phase, equates with matter and form respectively. In addition, matter is considered a necessary condition for individuation.²⁷ Finally, in the discussion concerning the nature of celestial bodies the possession of matter is described as a necessary condition for possessing perceptible characteristics such as extension, color, and so forth, and for the possibility of change, that is to say, in the case of celestial bodies, circular motion.²⁸

Robert Kilwardby is aware that the notion of matter on which this theory is based is very different from the Aristotelian one. In *De ortu scientiarum* and in the commentary on book 2 of the *Sentences*, he identifies two different notions of matter, one understood in the strict sense and one in the broad sense of the term. In the strict sense, it is the physical notion belonging to the Aristotelian tradition: that matter is the substrate of substantial change. The notion of matter understood in a broad sense is the very general and most abstract notion that is at the base of universal hylomorphism: in this sense matter is the *quod est*, that is, the substrate that receives the substantial form in any composite substance. Matter understood in its strict sense, as the principle of substantial change, belongs exclusively to sublunary corporeal substances, to substances liable to

²⁶ See Silvia Donati, "La discussione sulla materia nella tradizione di commento della Fisica: Commentatori inglesi degli anni 1240–1270 ca.," in *Il commento filosofico nell'occidente latino (secoli XIII–XV)*, ed. G. Fioravanti, C. Leonardi, and S. Perfetti (Turnhout: 2002), 185–232, esp. 207–18.

²⁷ DOS, 31, 265–69:99.16–30. For the various interpretations of the distinction between *quod est* and *quo est*, introduced by Gilbert de la Porrée in his commentary on *De hebdomadibus* by Boethius, see *Le "De ente et essentia" de S. Thomas d'Aquin: Texte établi d'après les manuscrits parisiens*, ed. M.-D. Roland-Gosselin (Paris: 1948), 167–205.

²⁸ DOS, 30, 254:95.12–22.

generation and corruption. If it is understood in its more general sense, as the principle corresponding to form, matter extends to all created substances, including incorruptible corporeal substances—the celestial bodies—and to spiritual substances.

It must be said that [the term] *matter* can be understood in two ways: in a strict sense and in general. In a strict sense we call matter that starting from which something is generated, by virtue of nature or art, through motion or transformation, as from something that existed before its constitution. This is how it is understood by the philosophers and, therefore, they said that the heavens do not possess a matter of this kind, that is to say, subject to change with respect to its substance. According to this strict understanding, matter is only in corporeal beings, and not in all of them but only in the elementary bodies, which can change into one another. And thus it is not in spiritual substances, as is clear. In general, however, we call matter that which in every compound is called “that which exists” (*quod est*), as form is that by virtue of which [the composite] exists (*quo est*), in accordance with the principle that which subsists *per se*, apart from God, possesses that which exists (*quod est*) and that by virtue of which it exists (*quo est*), and that which exists (*illud quod est*) acts as a substrate to form and supports it. And so it is in spiritual substances.²⁹

According to Kilwardby, a distinction exists between matter understood as substrate of generation and corruption and matter understood as substrate of form that is not only conceptual, but also ontological: in accordance with a logical pattern that we find already in Avicbron,³⁰ Kilwardby maintains that the greater conceptual complexity, and therefore greater specificity, of the notion of matter in the sense of substrate of substantial change is accompanied by a corresponding greater ontological complexity. He associates the notion of matter understood in its basic function of substrate of substantial form with prime matter considered in its naked essence of an absolutely potential and receptive principle: it is in fact the prime material which receives the most basic substantial form, that of the *genus generalissimum* of substance. The other substantial forms are then gradually added to this primary composite in a process of progressive specification.³¹ While the role of substrate of substantial form

²⁹ Robert Kilwardby, *Sent.* 2, 14:51.24–52.34; see also *DOS*, 30, 255–56:95.11.

³⁰ Avicbron too believes that the matter of physical beings is a matter informed by corporeity; however, he equates the characteristic of corporeity with extended quantity. According to his conception corporeal matter functions as a substrate for qualities. Cf. *Avenebrolis Fons vitae*, 4: 8, 229–30.18.

³¹ *DOS*, 29, 246–48:92.23–93.22, “Materia enim pure prima praeter omnem formam considerata substat omnibus formis generalibus et specialibus. Sed primo recipit generales

is carried out by prime matter considered in its naked essence, the substrate of substantial change is something ontologically complex constituted by adding to prime matter. In addition to prime matter, it includes some fundamental determinations of form—substantiality, corporeity, and extension; added to these characteristics there is an active principle represented by the active potentiality of matter. It is through these elements that matter is brought from the static role of substrate of form into the dynamic sphere of change.³²

An obvious metaphysical precondition for the view described here is the theory of plurality of substantial forms; in particular, the theory according to which the multiplicity of essential predicates in the category of substance has a corresponding multiplicity of really distinct forms is of relevance to the present discussion: according to this theory, again generally attributed by historians to Avicbron,³³ substance is a layered reality in which prime matter, in itself absolutely formless, is progressively determined by a multiplicity of forms that are really diverse—from the form corresponding to the *genus generalissimum* of substance, to the ultimate specific form; these follow one after the other according to nature, even if not temporally. So, according to this viewpoint, matter considered in its function of substrate of form is the ultimate and most basic level of substance, which receives the most basic of formal determinations, the form of the genus of substance. Matter considered in its function of physical principle, by contrast, in addition to the form of the *genus generalissimum*, also includes the subsequent form, corporeity, accompanied by its properties—in particular, extension—and by its aptitude for receiving subsequent forms, that is to say, its active potentiality.

The eminently metaphysical character of the notion of matter understood in its most general function of substrate of substantial form is formally expressed by the description *materia metaphysica* used by authors of Kilwardby's time.³⁴ This description is also mentioned by Kilwardby in

naturaliter, secundo speciales. Cum igitur advenit ei forma generalissimi qua compositum recipit rationem substantiae... Cum autem deinde advenit ei forma corporalis qua compositum dicitur et est corpus... Consequenter autem tertio gradu recipit dicta materia differentias speciales corporum, scilicet circulare et rectum et huiusmodi..."

³² DOS, 250:94.2–3, "Substantia enim corporea potentiis gravida, quibus potest mutari a forma in formam, physica materia est."

³³ Cf. Weisheipl, "Albertus Magnus," 260.

³⁴ For example, Roger Bacon, in his second series of questions on the *Physics* (in the 1240s); cf. *Rogeri Baconi Questiones supra libros octo Physicorum Aristotelis*, ed. F.M. Delorme and R. Steele (Oxford: 1935), 66.27–29, "Materia prima, si consideretur secundum

his commentary on book 2 of the *Sentences*. However, the English master himself does not seem to adopt this classification, which places the most general notion of matter, common to spiritual substances as well, under the aegis of metaphysics. In what is apparently a historically correct observation, Kilwardby points out that the philosophers—by which he seems to mean Aristotle and Averroes—may not have concerned themselves with the matter of spiritual beings but concentrated on the matter of substances that are corporeal and subject to change.³⁵ Also of historical interest is that Kilwardby, in line with an approach that appears to have been fairly widespread among the advocates of the theory of universal hylomorphism, shows no awareness at all that this theory originated with Avicbron; on the contrary, the name Avicbron seems to be completely unknown to him.³⁶ Nor do we see in Kilwardby the tendency remarked in some English writers of the mid-thirteenth century to place this theory under the aegis of Augustine, the theological authority par excellence.³⁷ He seems to see the theory of universal hylomorphism as solidly proven and not particularly controversial.

*A Single Type of Matter or Different Types of Matter in the Different
Genera of Substance?*

In the critical interpretation of Avicbron's theory of universal hylomorphism provided by Thomas Aquinas, Avicbron's view is described as an essentially monistic system: prime matter, equated by Avicbron with the most basic reality in the category of substance—substantiality itself—is in itself one and undifferentiated, and any differentiation is introduced by the subsequent forms.³⁸ Thomas's interpretation is rejected by some historians, who believe it ignores the real nature of the emanationist

substantiam ejus nudam ut est in potentia ad generis generalissimi formam et ad alias, sic est metafisica. . . ."

³⁵ Kilwardby, *Sent.* 2, 14:52.41–46, "Aliter dicitur quod materia physica non est in spiritibus, quia illa est transmutabilis. Sed materia metaphisica potest ibi esse. Sed forte philosophi nihil locuti sunt de materia spiritualium sed tantum de materia corporalium quae scilicet transmutabilis est. Quod etsi quandoque nominent materiam intelligibilem, haec tamen non pertinet ad propositum, quia illa est mathematicorum, prout scilicet consideratur tantum in abstractione."

³⁶ Or at least it is not mentioned in any of the English master's published writings.

³⁷ On the ignorance of Avicbron's role as the source of the theory of universal hylomorphism and on the use of Augustine, see Donati, "La discussione," 217–18.

³⁸ See the discussion contained in S. Thomae de Aquino *De substantiis separatis*, chaps. 5–8, S. Thomae Aquinatis *Opera Omnia* (Rome, 1969), 40:D 48–56.

process described by Avicbron: according to him matter is diversified even in itself, because in its different manifestations at different levels of reality it undergoes a process of degeneration, from its most perfect manifestation in spiritual reality to its most imperfect manifestation in generable and corruptible corporeal reality.³⁹ These two different versions of the theory of universal hylomorphism are also documented in the medieval reception of the theory. Kilwardby provides evidence of the debate in his *De ortu scientiarum* and in his commentary on book 2 of the *Sentences*. He examines the problem of whether the different kinds of material substances—the sublunary corporeal substances, the celestial corporeal substances, and the spiritual substances—are composed of the same type of matter, or whether they are composed of different types of matter. In the terminology used by Kilwardby, the problem is whether matter is common in a univocal way (*univoce*) to the various kinds of substances or whether it is present in them in a way that is fundamentally equivocal.⁴⁰ He presents two positions on the problem of the unity of matter; one of these maintains that matter is essentially identical in all material beings, while the other maintains that matter is essentially different. According to another advocate of the theory of universal hylomorphism, the Franciscan Bonaventure, these two positions express two different points of view—the metaphysical and the physical: based on the consideration of the different physical behavior of the various types of substance, physics attributes different types of matter to them; metaphysics, on the other hand, attributes one and the same type of matter to them irrespective of their physical differences. As the result of different approaches, for Bonaventure these different positions are compatible with one another, though the metaphysical viewpoint is regarded as a more accurate description, reaching a deeper ontological level.⁴¹ In

³⁹ Cf. Brunner, *Platonisme et Aristotélisme*, 47–61.

⁴⁰ In *DOS* Kilwardby does not clearly distinguish this problem from another question that is conceptually different, that is, whether matter in the various material individuals and in the various parts of the same individual is numerically identical or numerically different; however, they are distinguished in *Sent.* 2. For a clear definition of the two problems, see Bonaventurae *In Sent.* 2. dist. 3, pars. 1, a. 1, q.2, in *S. Bonaventurae Opera Theologica Selecta*, editio minor (Florence 1938), 2:82, “Quaeritur de illa materia (*sc.* spiritualium) utrum sit eadem cum materia corporalium. Non loquor de identitate secundum essentiam numerallem, sicut Socrates senex est idem sibi puero secundum substantiam; sed loquor secundum identitatem naturae communis, ut sicut omnes anuli de auro dicuntur habere eandem materiam per naturam sive essentiam, cum tamen numeraliter varietur et alia pars secundum substantiam sit in uno, alia in alio.”

⁴¹ Bonaventure, *In Sent.* 2, d. 3, pars. 1, a. 1, q.2, pp. 85–86.

Kilwardby's view they are mutually exclusive theories, but he does not take a position on them and describes them as equally probable.⁴² He limits himself to explaining the basic elements of each and examining the relative arguments.

Introducing a distinction that seems to be common in the English tradition,⁴³ Kilwardby argues that two different aspects are identified in the discussion of the problem of the unity of matter: the unity of matter can be considered from the point of view of the *esse* of matter, its existence, or from the point of view of its essence. Since it does not exist without form, matter when looked at from the point of view of the *esse*, is considered not in itself, but in its conjunction with form. Consequently, according to Kilwardby, it is evident that at the level of *esse* the identity or difference of the matter is dependent finally on the identity or difference of the form to which it is linked: matter is numerically identical when the form to which it is joined is numerically one, it is identical according to the species when the form is specifically identical, it is identical according to the genus when the form to which it is joined is identical according to the genus. Given that all material substances come under a single genus, the *genus generalissimum* of substance, when considered in its conjunction with form the matter of the different types of material substance thus possesses generic unity:

For the resolution of these problems it must be noted that absolutely prime matter, with which we are dealing, can be considered in two ways: according to the essence and according to being (*esse*). I say it is according to essence when it is considered in itself and for itself, completely stripped of all form; according to being, when it is considered in conjunction with form. When it is considered according to being, it receives unity and plurality because the form is one or many. Thus, if it is considered in conjunction with an individual form, it is either one or many according to the number, as an individual is one according to the number and [several] individuals are many according to the number. If it is considered in conjunction with a specific form, it is either one or many according to the species, as are the forms correlated with it. In these two ways, on the other hand, matter considered according to being cannot be one in all things, since there is not one single individual, nor one single species found in all things either. However, if it is considered in conjunction with the form of the most general genus, then it is generically one just like that form, and in this way it can be one

⁴² Robert Kilwardby, *Sent.* 2, 16:59.

⁴³ This distinction is discussed fully by, e.g., Roger Bacon in the *Communia Naturalium* (1260s); cf. *Rogeri Baconi Liber Primus Communium Naturalium*, pars. 2, chap. 3, ed. R. Steele (Oxford, n.d.), 54–57; cf. also below, n. 46.

in all things just like the most general form in the category of substance. Therefore, if we consider prime matter according to being, it can be said to be one in all species and individuals of substance, however not one according to number or species, but one according to genus.⁴⁴

The situation is different if matter is considered according to its essence, that is to say, in itself and independently of its conjunction with form. On the problem of the oneness of matter from the point of view of essence there are, according to Kilwardby, two opposing views.⁴⁵ One holds that matter is essentially identical in all material beings; it affirms that matter in itself is one and that any differentiation comes to it from form, and, therefore, belongs to it according to its *esse*.⁴⁶ The other affirms that the matter of the different types of substance is also different in itself and according to its essence. While Kilwardby does not take one side or the other, his presentation of the arguments for the respective solutions is not without interest. Two problems in his explanation are philosophically more significant than the others. One is the problem of homogeneity in the category of substance. The position taken by those supporting the thesis of oneness is based on the idea of a substantial homogeneity between the logical plane and the real plane, previously encountered in Avicbron's identification of matter with genus. Here the belief is that certain characteristics are univocally predicated of the different types of substance and that this logical homogeneity must have as its foundation a real homogeneity, in the homogeneity of the principles of the different types of beings. Both the accidental and the essential characteristics are taken into consideration. According to the position discussed here, accidental characteristics such as discrete quantity apply univocally to all types of substance. At a more fundamental level, both corporeal beings and spiritual beings come under the *genus generalissimum* of substance. So if the genus of

⁴⁴ *DOS*, 31, 276–77:101.9–27.

⁴⁵ *DOS*, 31, 278–80:101–2; *Sent.* 2, 16:59–60. In the *DOS* the question of essential identity is equated with the question of numerical identity; thus Kilwardby, in formulating the two solutions, speaks of numerical identity and diversity.

⁴⁶ A version of this theory is put forward by, e.g., William of Clifford, an English commentator writing around the middle of the thirteenth century, in his commentary on the *Physics*; see Guillelmus de Clifford, *Sententia cum quaestionibus super Physicam*, Cambridge MS, Peterhouse, 157, 1, fol. 50rb, “Ad hoc dicendum quod dupliciter contingit considerare materiam, scilicet aut secundum suam essentiam et substantiam puram aut secundum esse eius, quod quidem esse est inclinatum ad formam. Si primo modo consideretur, tunc pono materiam univoce participari ab intelligentiis et corporibus et similiter a corpore superiore et inferiore. Si secundo modo . . . ideo secundum illud ipsius esse non est pure univoce in omnibus istis, immo diversimode. . . .”

substance is univocally predicated of the different types of substance, it must be admitted that their principles are also homogeneous and therefore their matter as well.⁴⁷

While this argument is based on the idea of a fundamental similarity between the logical plane and the real plane, the basis of a classic response is the separation of the two planes. This separation is expressed by the distinction between two different viewpoints in the consideration of genus, that of logic and that of the real sciences, physics and metaphysics: while logic is focused on concepts, physics and metaphysics are focused on reality. According to this solution, then, considered inasmuch as it is common to such fundamentally different planes of reality as corruptible corporeal reality, incorruptible corporeal reality and spiritual reality, the genus of substance is predicated univocally from the logical point of view but not from the physical or the metaphysical. In other words, this solution affirms that genus possesses a conceptual unity, because the notion corresponding to it is one and the same. However, in line with the Aristotelian idea of a fundamental heterogeneity in the three levels of reality—sublunary reality, celestial reality, and spiritual reality⁴⁸—it denies that the genus of substance possesses a real unity based on the identity of its constituent principles, especially matter. This conclusion is founded on the consideration that on the physical or the metaphysical plane these various types of beings possess fundamentally different properties. One well-known user of this distinction is Thomas Aquinas; he adopts it in defense of his view that while spiritual substances are immaterial, both sublunary bodies and celestial bodies are material, but the matter of the two kinds of bodies is essentially different. According to what Thomas says, the hypothesis of essentially different matters is not incompatible with the fact that both kinds of beings belong to the same genus: the genus of *body*. In effect the genus *body*, because it is common to sublunary bodies and celestial bodies, possesses a logical unity, but not a real unity, since we are looking at two fundamentally different types of beings, one corruptible and the

⁴⁷ Kilwardby, *Sent* 2, 16:59, “Tertio quaeritur an materia corporalium et spiritualium sit univoca. Quod sic videtur. Aristoteles in X Metaphysicae: Quae communicant idem genus, communicant eandem materiam. Ergo quae communicant idem genus univoce, et materiam univocam. Sed corporalia et spiritualia univoce communcant idem genus, scilicet substantiam; aut si non, pura aequivocatio erit quando praedicatur substantia de corpore et spiritu; ergo etc. Item accidentia oriuntur et causantur a materia secundum Aristotelem in X, ergo accidens univocum a materia univoca. Sed in corporalibus et spiritualibus est accidens univocum ut numerus; ergo etc.”.

⁴⁸ E.g., *Metaph.*, 10, 10, 1058b26–1059a10.

other incorruptible. Hence, in this case belonging to one and the same genus does not imply the possession of a matter that is essentially identical. Robert Kilwardby introduces the same kind of solution in his commentary on book 2 of the *Sentences*, in the context of his discussion of the theory of universal hylomorphism:

To the first objection the response must be: when he says that spiritual substance and body have the same genus in common, this is true from the viewpoint of logical consideration. Consequently, just as there is one genus in corporeal beings and spiritual beings according to the notion, not in Reality, so it is with matter as well.⁴⁹

A second issue central to the discussion of the problem of the unity of matter concerns the foundation of the distinction: how is it possible to speak of essentially different prime matters? At the root of this problem is a basic metaphysical principle: the foundation of every distinction is a form or, more generally, an act. But since prime matter in itself is absolutely formless and absolutely potential, there cannot be inherent in it any principle of distinction; consequently, considered in itself and independently of the different forms existing in it, it must be identical in the various material beings.⁵⁰ This is a classic theme in the debate on the problem of the unity of matter and one of the central arguments for the unity theory, whether matter is extended to all substances created, in conformity with the theory of universal hylomorphism, or it is extended to all corporeal substances, in other words, to sublunary bodies and celestial bodies. A meaningful formulation of this argument is offered, for example, by the Augustinian Giles of Rome: like Thomas, he extends hylomorphic composition to sublunary and celestial bodies, but maintains that their matter is essentially identical. In his view, the hypothesis of several prime matters that are essentially different is incompatible with the notion of prime matter understood as absolute potentiality.

⁴⁹ Kilwardby, *Sent. 2*, 16:60.39–42. See also Thomas Aquinas, *Summa theologiae*, Ia, q.66, a. 2, ad 2um (Turin-Rome: 1952), 324, “Praeterea, Philosophus dicit, in V Metaphys., quod illa quae sunt unum genere, sunt unum in materia. Sed omnia corporalia conveniunt in genere corporis. Ergo omnium corporalium est una materia. . . . Ad secundum dicendum quod si genus consideretur physice, corruptibilia et incorruptibilia non sunt in eodem genere, propter diversum modum potentiae in eis, ut dicitur X Metaphys. Secundum autem logicam considerationem, est unum genus omnium corporum, propter unam rationem corporeitatis.” On the position of Thomas Aquinas, see Thomas Litt, *Les corps célestes dans l’univers de saint Thomas d’Aquin* (Louvain-Paris, 1963), 44–90.

⁵⁰ *DOS*, 31, 288:105; *Sent. 2*, 16:59.

Matter *per se* is pure potentiality. But act is that which distinguishes; so, take away the act and you will take away all distinction, as the philosopher proves in book 9 of *Metaphysics*. And since the matter of the heavens is pure potentiality and the matter of these lower [bodies] is pure potentiality, if they were freed of all form, this matter and that would have no distinction principle, since distinction cannot be present in pure potentiality.⁵¹

This argument is not unknown to the supporters of the theory of essentially different matters, who propose solutions of various kinds. Two paradigmatic solutions on the metaphysical level come from two advocates of the theory of the hylomorphic composition of sublunary and celestial bodies: Thomas Aquinas and Henry of Ghent. Thomas adheres to the principle that the foundation of any distinction is an act and a form. However in his view this proposition can be reconciled with the thesis of two essentially different prime matters. His solution is based on the idea of the intrinsic correlation between potentiality and act. Believing that the nature of matter consists in potentiality and that potentiality is essentially correlated with act, he maintains that the matters of the two types of bodies are essentially distinct from one another—that is to say as potentialities—because they are potentialities oriented towards different forms and actualities: one is a potentiality oriented towards receiving the forms of sublunary bodies, while the other is a potentiality oriented towards receiving the forms of celestial bodies. His view is in direct contrast with the rival view of a matter that is one and in itself undifferentiated, that is, capable of receiving all material forms without distinction:

It is to be said that, since potentiality is said in relation to act, being in potentiality is different due to the very fact that it is related to a different act, as sight is to color and hearing to sound. So due to this very fact, the matter of a celestial body is different from the matter of an element, because it is not in potentiality towards the form of the element.⁵²

The solution put forward by Henry of Ghent, on the other hand, is based on renouncing the thesis of the absolute potentiality of matter: it presupposes attributing to matter a degree of actuality, albeit minimal. Henry in fact justifies the distinction of sublunary matter and celestial matter

⁵¹ The passage is contained in Giles of Rome (Aegidii Romani), *Quaestiones de materia caeli* (1280s) cf. Aegidius Romanus, *Quaestiones de materia caeli*, q.2 (Venice, 1500; reprt., Frankfurt am Main, 1982), fol. 88vb. On Giles's position, see Silvia Donati, "La dottrina di Egidio Romano sulla materia dei corpi celesti: Discussioni sulla natura dei corpi celesti alla fine del XIII secolo," *Medioevo* 12 (1986), 229–80.

⁵² Thomas Aquinas, *Summa theologiae*, Ia, q.66, a. 2, ad 4um, p. 324.

by affirming that these matters, taken in themselves, are not absolutely potential entities, but each possesses an actuality of its own by virtue of which it is distinct from other things:

And that which they assume, that distinction and difference is by virtue of the act or form, something that a matter in itself does not possess, it is to be said that even though matter does not in itself possess the act of form, it nevertheless possesses the act of its essence and of [its] existence, because it is an effect produced by God, not pure nothing, but something that in its essence and in its existence is different from the existence of the form and from its essence, although in the composite on the act of its existence it is suitable to receive the act of form, because form is the act of the composite and of the matter in the composite.⁵³

In explaining the viewpoint of those who support the pluralist position, Kilwardby formulates a solution that is different from both Thomas' and Henry's. This solution, unlike Henry's, remains faithful to the idea of matter as a reality that is absolutely potential. Unlike the solutions of both Thomas and Henry, it rejects the idea that any distinction has as its principle an act and a form; it affirms that act and form constitute the basis of distinction in composite beings, but that the principles are distinct in themselves. In particular, the distinction of the different types of prime matter is described as a distinction according to degree. Kilwardby believes that the phenomenon of the *intensio* and *remissio* of qualities provides the model; in his view, one and the same form—for example the quality of whiteness—is inherently distinguished by greater or lesser intensity. In the same way, the different types of material are intrinsically distinguished according to their greater or lesser purity. Although Kilwardby does not concern himself with explaining this solution in its metaphysical principles, in his analysis the *intensio* and *remissio* phenomenon seems to offer the model for a type of differentiation—that of degree—that is not based on the extrinsic imposition of a formal principle of diversification onto a reality not diversified in itself, but rather is intrinsic in character:

The second [opinion] however, answers the first [argument] that although there is no diversity or formal difference between two absolutely denuded matters, nevertheless it does not follow that they are the same thing. In fact they differ according to the degree of the same essence. Just as one whiteness

⁵³ The passage is contained in Henry's *Quodl.* 4 (1279/80); cf. *Henricus a Gandavo, Quodl.* IV, q.16, in: *Quodlibeta...Henrici a Gandavo* (Paris, 1518; reprt., Leuven: 1961), 1:cxxxiv. On Henry's position, see Donati, "La dottrina di Egidio Romano sulla materia," 248–52.

is lighter and another darker, so a matter is purer and more subtle than another, however much each is matter and an essence that is only potentially a being. When we say however that every difference and every distinction is by virtue of a form, it is only to be understood in forms and things that possess a form. Indeed, in what way could form be different from matter if there were no difference other than by virtue of a form? In effect it would follow that matter has infinite forms and it would not be possible to postulate a prime form.⁵⁴

Matter and Quantity: Quantity in the Metaphysical Structure of Substance

Aristotle does not systematically address the problem of the relationship between matter and quantity. The subsequent philosophical tradition, on the other hand, gives this subject an important place in the analysis of the metaphysical structure of material substance. In the Neoplatonic tradition, for example, a central role is attributed to the notion of three-dimensional extension: in this tradition the idea that three-dimensionality is the first formal determination of matter and the principle of corporeity is very common.⁵⁵ Especially significant for the thirteenth-century debate on the relationship between matter and quantity, however, are the discussions in the Arab philosophical tradition concerning the first corporeal form. Rejecting the idea of the dimensions as the first formal determination of matter, Avicenna describes the first corporeal form, *forma corporeitatis*, as a formal determination belonging to the category of substance existing in prime matter prior to dimensions; in his view, it consists in the capacity to receive the dimensions.⁵⁶ Averroes's theory of indeterminate dimensions is a response to Avicenna's theory: returning to the positions of late Antiquity, Averroes maintains that the first formal determination of matter, and the formal principle of corporeity, is a form belonging not to the category of substance but to the category of quantity, that is to say indeterminate dimensions or indeterminate three-dimensional extension. Fundamental to the position taken by Averroes is the idea that matter in itself is one and undivided and its principle of division is quantity: therefore, in matter, if a form belonging to the category of substance were to

⁵⁴ DOS, 31, 292:106.3–13; cf. also 31, 285:103.33–104.24; *Sent.* 2, 16:60.37–38.

⁵⁵ Cf. S. Donati, "The Notion of Dimensiones indeterminatae in the Commentary Tradition of the Physics in the Thirteenth and in the Early Fourteenth Century," in *The Dynamics of Aristotelian Natural Philosophy from Antiquity to the Seventeenth Century*, ed. C. Leijenhorst, Ch. Lüthy, and J.M.M.H. Thijssen (Leiden: 2002), 189–223, esp. 189–90.

⁵⁶ Avicenna Latinus, *Liber De Philosophia prima*, 2:2, 71.35–72.46.

precede dimensions, this substantial form would be inherent in matter as indivisible and unextended.⁵⁷

The philosophical tradition to which Robert Kilwardby belongs has some points of contact with the positions set out above, as well as some elements of difference. One idea it has in common with the Avicennian position is that quantity, being an accident, cannot be the first formal determination of matter. The substrate of an accident according to this opinion is substance composed of matter and form; therefore, it presupposes not only matter, but also substantial form. Typical of this tradition, however, is the way it understands the relationship between discrete quantity (number) and continuous quantity (extension). According to a widely held view in the thirteenth century, discrete quantity presupposes continuous quantity, because it is produced by division of the continuous and is not an entity really distinct from continuous quantity, but is the same reality considered from a different point of view. Discrete quantity is not really distinguished from continuous quantity, but only conceptually. One consequence of this thesis is that continuous quantity can exist only in beings that possess continuous quantity: corporeal beings.⁵⁸ On the contrary, according to the position supported by Kilwardby, discrete quantity is a determination that is really distinct from continuous quantity, or extension, and ontologically precedes it. While Kilwardby, like Avicenna, maintains that extended quantity is introduced into matter by the substantial form of corporeity, in his view discrete quantity, which is ontologically more fundamental than extension, is a property introduced into matter by the most basic substantial form, the form corresponding to the *genus generalissimum* of substance, *substantialitas*. As proof of this conclusion Kilwardby advances the view according to which number is a characteristic common to corporeal and spiritual substances. Since the

⁵⁷ Averroes, *Sermo*, 1:3ra–5rb; Averroes, *De substantia orbis* (trans. Hyman), 39–79.

⁵⁸ This concept is clearly formulated, for example, in the commentary on the *Physics* by Giles of Rome (before 1275); see *Aegidii Romani Commentaria in octo libros Physicorum Aristotelis* (Venice: 1502; reprt., Frankfurt am Main, 1968), fol. 68vb, “Dicendum quod numerus de quo hic loquimur est species quantitatis; unitates ergo componentes talem numerum pertinent ad genus quantitatis . . . Nihil enim invenimus in genere quantitatis quod possit dare rei quod sit quid unum nisi quantitas continua; realiter enim, nisi vellemus fingere, non possumus dicere quod unum quod est principium numeri sit aliquid aliud quam continuum; non tamen sub eadem ratione est unum et continuum. Quia ergo idem realiter a seipso separari non potest, unitates componentes numerum a continuis separari non possunt; nihil enim aliud sunt huiusmodi unitates nisi continua intercisa; si ergo impossibile est separari numerum ab unitatibus, impossibile est separare ipsum a decisione continui”; cf. also fols. 68vb–69ra.

only form common to these two types of substance is the form of the *genus generalissimum* of substance, it is this form which introduces discrete quantity into matter:

From this it seems that we can deduce the cause of number in things: the form by virtue of which each thing possesses the being of substance, a form which first of all arranges absolutely prime matter as the most general [form]. Since number belongs to corporeal and to spiritual nature, this seems to be by virtue of some common cause, not only material and receptive, but also through some common form that produces the numerical distinction. In fact, form alone distinguishes, and there is no form common to spiritual substances and bodies except the substance, which is the most general [genus]. And if this is true, it is clear that number follows the form of the most general [genus] in the category of substance, and the continuity or size follows the form of the body inasmuch as it is a body.⁵⁹

The theory illustrated here enjoys widespread approval in the English tradition of the mid-thirteenth century; it is also supported by Roger Bacon, for example.⁶⁰ Scholars have pointed out the Platonizing tendencies in this type of theory.⁶¹ The idea, already encountered several times, of a strict correspondence between the conceptual plane and the real plane is a fundamental assumption here as well: in order to be true, our conceptual structures must have a direct equivalent in reality. In this view, then, the process of abstraction on which the mathematical sciences are based is completely uniform with the structure of Reality. Thus it is not only asserted that in general the mathematical sciences can consider quantitative characteristics leaving aside qualitative characteristics, because ontologically quantity precedes quality. It is also held that arithmetic can consider number leaving aside extension, because discrete quantity is in reality a different entity from continuous quantity and ontologically precedes it. This point is clearly expressed by Kilwardby in his *De ortu scientiarum*: “As number precedes size and is simpler than size, so arithmetic precedes geometry and is simpler than it.”⁶²

⁵⁹ DOS, 25, 208:80.19–29; cf. also 29, 246:92.23–30.

⁶⁰ Cf. Roger Bacon, *Questiones supra libros octo Physicorum*, 99–100.

⁶¹ Cf. James A. Weisheipl, OP, “Albertus Magnus and the Oxford Platonists,” *Proceedings of the American Catholic Philosophical Association* (1958): 124–39.

⁶² DOS, 25, 200–207:77.26–80.18, “Eodem modo se habent ad invicem substantia et accidens, similiter numerus et magnitudo, ut patet, et quantitas ad qualitates activas et passivas. . . . In his enim omnibus prius potest absolvi a posteriori per intellectum, etsi sint in eodem, et ipsum dico prius quod est natura prius, scilicet a quo non convertitur consequentia. . . . Hinc patet responsio ad id quod iuxta hoc quaerebatur. Abstrahere enim est, cum plures formae materiae simul insunt secundum ordinem prioris et posterioris,

Averroes's theory of indeterminate dimensions is also interpreted in line with the metaphysical perspective described above, that is, the idea of accident as a reality which presupposes both of the principles that make up substance: matter and form. Robert Kilwardby is familiar with Averroes's theory; following a schema that is common in mid-thirteenth century philosophy, he interprets it, however, in a concordist sense, adapting it to Avicenna's theory of the *forma corporeitatis*.⁶³ In contrast to Averroes's doctrine, the indeterminate dimensions in Kilwardby's interpretation are not the first formal determination of matter, but are consequent upon the substantial form of corporeity. However, they precede the various specific substantial forms. According to Kilwardby, Averroes speaks of indeterminate dimensions because corporeity, in introducing extension into matter, does not give it fixed measurements; but these are conferred upon the dimensions by the specific forms:

Each dimension, can, by its nature as dimension, be extended ad infinitum, but it is determined and delimited through physical form, and perhaps this is what Averroes is saying—that dimensions in matter are indeterminate and are delimited by form... Based on the infinite nature of dimensions mentioned previously, it is clear that the constitutive difference of the body as such is a substantial form which expands matter in an indeterminate manner and does not delimit it, but the termination and the surface come about through the physical differences that constitute the species of bodies.⁶⁴

The Problem of the Divisibility of Matter

One fundamental principle of Averroes's theory of indeterminate dimensions is the idea that matter is one and undivided and the principle of divisibility is extended quantity. The same idea is the basis of the theory, supported for example by Thomas Aquinas and widespread in the thirteenth century, that the principle of individuation of material substances

priorem intelligere sine posteriori... Ad quartum dicendum quod scientiae mathematicae, quae sunt de quantitate continua et quae sunt de discreta, uno modo sunt paris abstractionis et alio modo imparis. Quia enim geometra adeo abstrahit magnitudinem ut ipsa abstrahi potest, et arithmeticus numerus adeo ut potest... potest dici quod geometra et arithmeticus aliquo modo abstrahunt a pari... Sed quia natura numeri est absolutior et abstractior ac remotior a materia quam magnitudo, potest dici et vere quod imparis abstractionis sunt, quia subiecta quae considerant imparis sunt simplicitatis et absolutionis... Item, quia quibus inest magnitudo, inest et numerus et non e converso; inest enim spiritibus numerus sed non magnitudo. Sicut igitur numerus prior et simplicior est magnitudine, sic arithmetica quam geometria."

⁶³ Cf. Donati, "The Notion of Dimensiones," 197–200.

⁶⁴ *DOS*, 24, 183:71.20–72.5.

is *materia signata quantitate*: this role is assigned to extended quantity because it is considered the principle of the division into parts belonging to the same species.⁶⁵ In the thirteenth-century philosophical tradition, we also find other views. Common among the English writers of the middle of that century is the idea that while quantity—or more precisely, dimensions—are the formal principle of the extension of matter, matter in itself and independently of quantity is, nevertheless, divisible into parts; this intrinsic divisibility of matter into unextended parts is more fundamental than the divisibility introduced in matter by extended quantity and constitutes the precondition for it.⁶⁶ The influence of the theory of the intrinsic divisibility of matter is also documented in Kilwardby. In his *De ortu scientiarum* and in the commentary on book 2 of the *Sentences* he presents two opposite positions. One of these postulates the absolute unity of matter. According to this theory, matter considered in itself and according to its essence is not only homogeneous in all natural beings, it is also numerically one. The conjunction with different forms does not cause it to be multiplied in itself and according to essence but only according to *esse*, so that a single and identical essence is wholly present in all material beings:

On the other hand, when [matter] is considered according to essence, its conjunction with form is taken away and so it is considered in itself. And people's opinions about matter considered this way are twofold. One view is that it is numerically identical in all things, in such a way that if you denude the matter in me and the matter in you of all form—and in the same way the matter of any body and any spiritual substance—what is revealed once all forms have been removed is not different essences or different substances, but the same thing according to essence, having neither more nor

⁶⁵ See, e.g., *S. Thomae Aquinatis Super Boetium De trinitate*, q.4, aa. 1–2 (Rome-Paris: 1992), 119–26.

⁶⁶ See S. Donati, "Materie und räumliche Ausdehnung in einigen ungedruckten Physikkommentaren aus der Zeit von etwa 1250–1270," in *Raum und Raumvorstellungen im Mittelalter (Miscellanea Mediaevalia)* 25, ed. J.A. Aertsen and A. Speer (Berlin: 1998), 17–51. See, for example, the exposition of the theory of intrinsic divisibility contained in the Questions on the *Physics* by the English master Geoffrey of Aspill (before 1260); cf. Galfridus de Aspill, *Quaestiones super Physicam*, MS Oxford, Merton College, 272, fol. 98va, "Aliter dicitur, et mihi videtur quod melius, dicendo quod materia prima habet partem et partem, nec est eadem pars materiae primae in duobus individuis sive in duobus partibus diversis alicuius continui. Unde ponunt quod, sicut est partibilitas in materia, ut in potentia, sic sunt infinitae partes in materia. Et ita est alia partibilitas materiae a partibilitate quantitatis, actualiter tamen extensio materiae non est nisi ab extensione quantitatis. Unde isti ponunt quod nihil unum et idem numero potest reperiri in diversis individuis."

less, but a simple essence in potentiality towards all forms. And this essence, when it receives specific and individual forms, is not multiplied according to essence, but only according to being. And this multiplication of matter is none other than a certain replication of the same essence, and the essence does not become larger or more numerous but its being becomes more numerous. Thus nothing is increased according to essence, but only according to being. These people do not suppose that matter has substantially different parts in different things or in different parts of the same thing, but that the entire essence of matter is wholly everywhere, different according to being.⁶⁷

The second position, on the other hand, affirms that in itself and according to its essence, matter is numerically different both in different individuals and in different parts of the same individual. In other words, prime matter, considered in itself, possesses substantially different parts; however, these parts, being in themselves devoid of formal determinations—in particular of extended quantity—considered in themselves are potential and unextended, and they become actual and extended only insofar as they are joined to formal determinations.

The second opinion supposes that [matter] is substantially different in different things and also in different parts of the same thing, and that it is not one except according to some kind of analogy. Indeed, since two individuals belonging to the category of substance are completely different and are essentially different from one another, and likewise different species, those who support this view are not able to see how something numerically one in itself according to essence can be part of things that are so different. . . . Hence, these people say that absolutely prime matter has parts that are substantially different, one under the other and wrapped in one another, not sensibly but intelligibly. . . . And when this matter acquires forms, those forms extract the parts of the matter that are under one another and confer actual being on those things that were previously potential.⁶⁸

The theory of the numerical unity of matter is a logical development of the principle already known, according to which the basis of any distinction is always an act and a form; lacking any foundation of distinction, considered in itself and according to its essence, matter can only be absolutely without plurification and thus numerically one.⁶⁹ In the English

⁶⁷ *DOS*, 31, 278–79:101.28–102.6.

⁶⁸ *DOS*, 31, 280:102.7–22.

⁶⁹ *Sent.* 2, 15:54.13–55. 29, “Item exuamus per intellectum corpus aliquod et spiritum aliquem ab omnibus formis. Illud ergo quod remanet utrobique, aut est idem numero aut non. Si sic, habes propositum. Si non, ergo distincta sunt. Sed omnis distinctio est per

philosophical tradition of the mid-thirteenth century, the theory of intrinsic divisibility has both physical and metaphysical connotations. In a physical context it is generally used in the analysis of quantitative changes and, in particular, of rarefaction and condensation: it is used to introduce the idea—foreign to the Aristotelian tradition and necessary for defining the ideas of rarity and density—of a *multum* and a *paucum de materia*, which are different from and more fundamental than extension.⁷⁰ In Kilwardby's exposition, however, the metaphysical approach is dominant. At the metaphysical level, naturally, the basic problem is that of individuation. Fundamental in this view is the idea of the primary nature of the individual: it is believed that the individual cannot be constituted by aggregation, by means of individual elements aggregating with universal elements, but that all its components must be individuals.⁷¹ In Kilwardby's exposition, the problem that is the focus of attention is one of the assumptions of the thesis of numerical oneness of matter, that is, the idea that the same reality, in this particular case, matter, although it is numerically one, is present in bodies that are numerically different. This idea is presented as metaphysically untenable. According to a consideration also found in Roger Bacon, a firm supporter of the thesis of divisibility, to argue for numerical unity of matter in the different material bodies is equivalent to assigning to matter the property of ubiquity, a characteristic that cannot be the province of any creature but belongs only to God. Putting the problem another way, the sense of the argument seems to be as follows: it is not possible to think that the numerical plurification of matter is the

formam, quia, ut dicitur IX Metaphysicae, 'actus dividit.' Ergo non sunt omnino nudaе illae materiae, quod est contra hypothesim... Item Commentator super XI Metaphysicae dicit quod materia prima est una numero, quia non habet in se pluralitatem formarum individualium ex quibus est in rebus multitudo numeralis."

⁷⁰ See Donati, "Materie und räumliche Ausdehnung," 28–39.

⁷¹ This idea is well illustrated by an argument in an anonymous commentary on the *Physics*, probably English in origin, from c.1250–70; cf. Anonymous, *Quaestiones super Physicam*, MS Merton Coll., 272, fol. 123va, "Quae vero reciproce non generantur materiam numero diversam participant, ut hic ignis et ille aer. Similiter est de eisdem specie; huius enim aeris et illius, similiter Sortis et Platonis alia et alia est materia numero; si enim esset in eis eadem materia numero, cum conveniant in forma, essent simpliciter eadem. Si ergo imaginemur materiam primam componi cum forma prima et ex hoc composito uno numero descendendo per differentias generis omnia generari, falsissima est imaginatio. Si vero imaginemur quod materia huius individui primo recipiat formam generis et fiat unum compositum numero, secundo corporeitatem unam numero, et sic per descensum, quousque receperit formam speciei completivam, tunc recta est imaginatio. Similiter etiam intelligendum est de materia Platonis. Et in huiusmodi processu semper resultat unum numero diversum per essentiam in diversis."

result of its existence in the different individual substances, or that it is due to its combining with individual elements; on the contrary, in order to explain this existence in individual substances, it is necessary to assume that matter in itself is numerically diversified:

If matter is numerically one in all things and wholly according to its essence in single things, as the first opinion states, then either it is God, something it is loathsome to say, or else a creature is like God in this, that it is present everywhere wholly according to essence, something that is absurd, as it appears, especially in a creature that is very weak and at the greatest possible remove from the divine being.⁷²

The advocates of the theory of numerical unity have not let this type of reasoning go unanswered. They point out that the numerical unity proper to matter is not that of an individual substance existing in act, but rather that of an absolutely potential being; more precisely, in the case of matter numerical unity is understood only in a negative sense, that is only in the sense that there is no element of distinction whatsoever. Whereas in individual substance, which possesses numerical unity in the proper sense, ubiquity is a characteristic that is incompatible with the creatural condition, it is not incompatible with a type of unity as weak as that of matter.⁷³ In his *De ortu scientiarum* Kilwardby does not take the side of either of the two alternative positions, but in the commentary on book 2 of the *Sentences* he seems to be saying that the theory of the numerical multiplication of matter is to be preferred.⁷⁴

The Notion of Physical Matter

By separating the notion of matter into a physical notion and a more general and metaphysical one, matter understood in the sense of a physical

⁷² DOS, 31, 297:108.7–12. For Roger Bacon's position, cf. *Rogeri Baconi Liber Primus Communium Naturalium*, pars 2, c. 3, p. 55.20–57.7.

⁷³ DOS, 31, 301:108.28–109.8, "Respondetur autem ad hoc ab his qui primam positionem tenent. Ad primum sic, quod non est inconueniens aliquam creaturam in hoc Deo assimilari quod sit ubique tota per essentiam, sed distinguendum est quod creatura quae est res existens in actu non potest hoc habere, sed illa quae est res existens in potentia potest. Et hoc confirmant per Averroem super XI Metaphysicae dicentem quod unum in numero potest inueniri in pluribus, et hoc quidem non intelligitur in eo quod est in actu. In eo autem quod est in potentia dicere est quod est unum numero et commune pluribus, quia non habet differentias in se in actu quibus differat in singulis individuis. Haec sunt verba eius quibus videtur velle quod materia et universale et omnino quod est in potentia et non in actu potest esse simul totum in pluribus."

⁷⁴ Robert Kilwardby, *Sent.* 2, 15:54–58.

principle becomes a metaphysically complex reality that includes additional elements apart from prime matter. In the English philosophical tradition, around the middle of the thirteenth century, there are two distinct strategies in the debate on physical matter: one is centered on the idea of a matter already endowed with form, a notion labeled here as “formed matter”; the other is centered on the notion of an active potency of matter. Some authors adopt one strategy or the other; others link the two strategies: Kilwardby belongs to the latter group.⁷⁵

The theory of *materia formata* or formed matter identifies the substrate of substantial change as a matter already imbued with the most basic formal determinations, for example corporeity and extension. This theory is based on the observation that although generation and corruption are changes concerned with the sphere of substance, ontologically the core of a being, nevertheless, some fundamental formal characteristics, for instance substantiality, corporeity, and extension, are common to the substance passing away and the generated substance. Hence, those who support the theory of *materia formata* argue that in substantial change these characteristics are not corrupted and then regenerated, but remain numerically identical like prime matter. The opposing position is that in substantial change all formal determinations are corrupted, so that the permanent substrate is made up of prime matter alone; in the generated substance the shared formal determinations do not remain numerically identical, but are regenerated as identical only according to the species.⁷⁶ The thesis that the substrate of substantial change is a corporeal and extended matter is also supported by Kilwardby; but one element characterizing his position in contrast to that of other supporters of the theory of *materia formata* is the idea that corporeity and extension are not in themselves sufficient to introduce matter into the universe of becoming; a further element is required, and that is active potentiality:

In every . . . change of one substance into another substance it is necessary that there be a matter acting as subject, [a matter] that remains identical according to substance in the entire transformation, and this matter is corporeal substance. In fact, the resolution does not take place except as far as the part of the whole that is shared (*symbolum*). When air is changed into fire, the difference by virtue of which the air is air falls back into its

⁷⁵ Another supporter of this position is Roger Bacon; Donati, “La discussione,” 218–30.

⁷⁶ Within the mid-thirteenth-century English philosophical tradition this position is supported, for example, by Geoffrey of Aspall; Galfridus de Aspall, *Quaestiones super Physicam*, MS Merton Coll., 272, fol. 100ra–b.

potentiality, and the difference by virtue of which fire is fire bursts forth from its potentiality. But the form of the genus, that is [the form] by virtue of which each of the two things is a body, always remains and is not changed into an opposite form, and this form in itself constitutes the subject of the dimensions and, in general, of magnitude. Thus, the substance composed of matter and corporeal form, which is the body in the category of substance, always remains according to the subject.... Hence, corporeal substance, which is the matter and subject of the mathematical beings, pregnant with the said potentialities directed towards acts of physical bodies, is physical prime matter.⁷⁷

The doctrine of an active potentiality in matter, or an “inchoative” existence of form in matter, is foreign to the Aristotelian tradition, belonging rather to the Augustinian tradition. In the thirteenth century it was one of the doctrinal elements characterizing so-called Augustinianism, as distinct from Thomist Aristotelianism: the denial of the active potentiality of matter is one of the most vigorously refuted views in what is regarded as the manifesto of the Augustinian tradition opposing the innovations of Thomist Aristotelianism, in other words, the letter from Robert Kilwardby to his fellow Dominican Peter of Conflans. The theory of the active potentiality of matter is associated by some of its advocates with the Augustinian doctrine—Neoplatonic in origin—of the *rationes seminales*, the doctrine according to which at the time of Creation God introduced into matter, at an inchoative stage, the forms of all natural beings that would be generated after Creation. Kilwardby, along with Roger Bacon, is among the authors who explicitly link the notion of active potentiality of matter to the notion of the *rationes seminales*.⁷⁸ The notion of the active potentiality of matter is widespread in mid-thirteenth-century English

⁷⁷ DOS, 29, 244–48:92.4–93.17; see also Kilwardby, *Epistola Roberti Kilwardby Archiepiscopi Cantuariensis ad Petrum de Conflato Archiepiscopum Corinthi*, ed. Franz Cardinal Ehrle, S.J. “Der Augustinismus und der Aristotelismus in der Scholastik gegen Ende des 13. Jahrhunderts,” *Archiv für Literatur- und Kirchengeschichte des Mittelalters* (1889), 603–5, reprt., F. Ehrle, *Gesammelte Aufsätze zur englischen Scholastik* (Rome: 1970), 26.2–7, “Constat, quod intellectus invenit corpus dimensiones habens, sed nulla differentia specifica terminatas. Istud est fundamentum omnium transmutacionum, in quo dicit Aristoteles nichil esse distinctum. Et istud est fundamentum omnium transmutacionum naturalium, que fiunt in substantia, et hec est materia prima naturalis.” On the notion of symbolon, that characteristic common to different types of substance that survives when one substance is changed into another—for example the quality of humidity, which is common to air and water—see H.H.J. Joachim, ed. *Aristotle, On coming-to-be and passing-away (De generatione et corruption)*, rev. ed. (Oxford, 1922; reprt., New York: 1970), 220–21.

⁷⁸ *Rogeri Baconi Liber primus Communium naturalium*, pars 1, dist. 2, c. 4, pp. 77–86, in particular p. 84; DOS, 30, 260:97.27–98.4; *Epistola*, 28.1–15.

Aristotelianism,⁷⁹ although the well-known supporters of the theory in the sense of an inchoative form include Albert the Great.⁸⁰ The notion of the active potentiality of matter and inchoative form is, however, firmly rejected by later authors such as Thomas Aquinas and Giles of Rome; in the last decades of the thirteenth century the number of its followers is markedly reduced thanks to the spread of Thomistic Aristotelianism.⁸¹

Kilwardby discusses the notion of the active potentiality of matter in *De ortu scientiarum* and, above all, in the letter to Peter of Conflans. In its fundamental lines Kilwardby's doctrine is that of the contemporary English philosophical tradition. Behind the theory of the active potentiality of matter lies the need to justify the distinction between natural motion, which is based on a principle intrinsic to what is changeable, and violent motion, which is founded exclusively on an extrinsic cause; the active potentiality of matter is the active principle inherent in the mutable, which in natural change cooperates with the external agent: set in motion by the external agent, it sets off the change from within:

You know that natural motion differs from violent [motion]. Violent motion in fact has an external principle, without the patient contributing the slightest force, in other words, without cooperating with the moving principle. Indeed, although natural motion has an external principle, it [the patient] nevertheless contributes to the motion, and in some way cooperates so that the motion will occur. Otherwise, every motion would be violent. Thus, if some substances are generated and corrupted naturally, there must be something in the thing subject to the motion that cooperates naturally with the mover. This is the active potentiality of matter, which when it is touched by the power of the mover, which penetrates deeply into the thing moved, is strengthened and, set in motion, moves, . . . stimulated, stimulates. . . . Furthermore, according to the Philosopher, nature is the principle of something and the cause of motion and rest in that in which it exists *per se* and not by virtue of concurrence. Hence, when something is generated naturally, there is not only an external principle of motion, but also in the thing itself that is changed there is a principle of motion. But that which is a principle of motion seems to be active. So in the thing that is changed there is something active which cooperates with the generating principle. . . .⁸²

⁷⁹ This is what emerged from research into the English commentary tradition of the *Physics*; see Donati, "La discussione," 219–27.

⁸⁰ B. Nardi, "La dottrina d'Alberto Magno sull'inchoatio formae," *Rendiconti della classe di Scienze morali, storiche e filologiche dell'Accademia dei Lincei* 12, ser. 6 (1936): 3–38.

⁸¹ Donati, "La discussione," 220.

⁸² *Epistola*, 24.26–25.22.

The central problem in the theory of active potentiality is the natural generation of a new form in matter. According to a schema widely documented in the English writers of the mid-thirteenth century, the notion of active potentiality is used in order to avoid two opposing theories, both considered equally incorrect. One is the thesis that the new form is completely *ab intra*, that is, it is produced from the essence of matter or already exists in matter; the prototype of this view is Anaxagoras's doctrine of the *homoimeries*—according to which there are particles of everything in all physical beings, but they are not perceptible because of their smallness—a theory described by medieval writers as the doctrine of *latitatio formarum*.⁸³ Representing the extreme opposite is the theory that form is given completely *ab extra*, that is, produced in a violent way, either by creation or according to the Avicennian information model; it is introduced into matter by a *dator formarum*. In contrast to these two opposite theories, the supporters of the theory of active potentiality of matter generally maintain that the new form is *partim ab intra* and *partim ab extra*. To explain this fact they postulate, along with the passive and receptive potentiality of matter, an active potentiality in matter which, when stimulated (*excitata*) by the action of the external agent, acts on matter and is changed into the new form. The schema Kilwardby uses in his argument is slightly different from the one just described: the only alternative he considers to the theory of active potentiality of matter is the hypothesis that the forms are *ab extra*, either because they are produced *ex nihilo* by the external agent, or because they move from the matter of the agent to that of the patient, or else because they are conferred by a *dator formarum* in which they preexist immaterially.⁸⁴ Against these

⁸³ See, e.g., Thomas Aquinas, *Quaestiones disputatae de potentia*, q.3, a.8, ed. P. Bazzi et al. (Turin: 1949), 60–61.

⁸⁴ *Epistola*, 26.7–27.6, “Quaero igitur, utrum in isto dimensionato, quia est fundamentum ceterorum naturaliter fiendorum, sint originaliter forme simplicium miscibilium et miscendorum consequenter, aut non. Si non, ergo quando inducuntur iste forme specificorum corporum, aut creantur ex nichilo, aut imprimuntur ab aliis transmigrando, aut sunt datores habentes eas extra materiam, qui dant eas. Si detur primum, tunc nichil generatur nisi per creacionem, et tunc, cum forma redeat [redat, ed.] corumpendo in illud, unde processit generando, redibit in pure nichil, contra quod satis superius demonstratum est. Si detur secundum, tunc forma migraret de corpore in corpus, et a materia in materiam. Pono ergo unum elementum in actu et tria alia in potencia materie. Agat autem elementum quod est in actu ut producat [product, ed.] sibi simile de materia, que est in potencia. Unde ergo venit forma generanda? Constat [constant, ed.] secundum yposesim non nisi a generante, quia non est aliud elementum in actu. Ex quo sequitur, quod a materia generantis transeat forma in generatum, cuius eciam contrarium esse videtur. Item, si migrat a materia sua, ut se imprimat alteri materie, tunc cessat esse, ubi erat. Sed forma

various incorrect hypotheses Kilwardby upholds the thesis of an active principle inherent in the patient, its active potentiality, which by virtue of the stimulus of the external agent sets off the change that leads to the production of the new form. "Thus it necessarily follows that the original notions of all the bodies that will consequently be generated are present in the above-mentioned foundation, and I call these active powers, which are naturally brought to the act by the action of the generating thing."⁸⁵

Ontologically, active potentiality is understood as a different entity from matter, which in itself is a receptive and absolutely passive reality. More precisely, active potentiality is understood as an entity that is almost formal in nature, or an as yet imperfect stage of the form that will be generated from it due to the action of the external agent. It is well known that Albert the Great describes the formal but as yet imperfect nature of active potentiality using the term *inchoatio formae*. In the English philosophical tradition the expressions *forma diminuta* and *forma incompleta* are widely used. One of the main theoretical difficulties in the theory of the active potentiality of matter is clarifying the nature of the difference between this imperfect and preexisting form in matter and the complete form, the realization of which constitutes the end of generation. This difficulty is at the base of some of the principal objections put forward by later authors to the theory of the active potentiality of matter.⁸⁶ The supporters of the theory of the active potentiality of matter are also aware of this difficulty, and they propose various tentative solutions. One theory, adopted for instance by Roger Bacon, explains the ontological status of incomplete form assigned to active potentiality by identifying it with generic form: just like active potentiality, generic form, which Bacon too understands as a form different in Reality from specific form, is a formal stage that is imperfect and potential in relation

cessando esse in materia in qua erat, corrumpitur secundum omnes philosophantes. Ergo migrando non transit in aliam materiam, sed corrumpitur. Si tertium detur, idem inconveniens sequetur aut maius, quia videtur, quod dator haberet penes se formas corporales vere extra corporalem materiam."

⁸⁵ *Epistola*, 27.6–9.

⁸⁶ See, e.g., the objections raised to the theory of *inchoatio formae* by the Parisian master Boethius Dacus in his commentary on the *Physics* (before 1270); *Boethii Daci Quaestiones super libros Physicorum*, ed. G. Sajó (Copenhagen: 1974), 194–95, "Et istam inchoationem dicebant aliquem gradum formae generandae. Sed illud non videtur, quia forma quae non potest intendi et remitti, ut substantialis, non potest esse incompleta: vel nihil eius vel quaelibet eius est in materia. Non enim potest haberi aliquem gradum formae in materia, cum ipsa non potest remitti. Si ergo non esset possibilis generatio, nisi oporteret aliquid esse ipsius formae in materia, impossibilis utique esset generatio. . . ."

to the complete form. More precisely, Bacon identifies active potentiality with the most general form in the category of substance, *substantialitas*. However, the role of active potentiality is not performed by *substantialitas* considered according to its entire field of application, or insofar as it is common to corporeal and incorporeal beings, but rather insofar as it is common only to natural beings, that is corporeal beings; these are in fact the only beings for which it makes sense to speak of matter intended as a physical principle, and consequently of the active potentiality of matter.⁸⁷ Bacon's position, with its reduction of a physical principle such as active potentiality to a logical principle, genus, is a typical demonstration of the tendency to equate the plane of being with the plane of logic, previously remarked in the discussion of the theory of universal hylomorphism. This equation, however, is absent in other versions of the theory of the active potentiality of matter, which do not accept the identification of this potentiality with generic form. On the other hand, these formulations clearly show the difficulty of defining exactly the ontological status of active potentiality or *forma diminuta*. The English commentator Geoffrey of Aspall offers a clear example of this difficulty when, in underlining the formal nature of active potentiality, he limits himself to describing it as "*aliquid de essentia formae*."⁸⁸ We find the same stance taken by Robert Kilwardby. According to the analysis he presents in the letter to Peter of Conflans, active potentiality is a reality of a formal kind (*aliquid formae*); in his description he limits himself to specifying that it is not differentiated from the form generated according to essence, but only as an incomplete stage as opposed to the complete stage:

If it is said that forms are produced starting from the aptitude of matter, either this aptitude says something—albeit in an incomplete way—of a formal kind (*aliquid formae*) from which [the form] must proceed, or else it adds nothing real to the essence of the matter. If the former, it is conceded what I want, which is that this aptitude is the original potentiality of the form. If the latter, then matter and form are not differentiated according to essence and in that case the bodies are not composite. Moreover, philosophers do not posit that something proceeds from nothing, but according to them everything that comes into being proceeds from something as from

⁸⁷ Rogeri Baconi *Questiones supra libros octo Physicorum Aristotelis*, 64–67.

⁸⁸ Galfridus de Aspall, *Quaestiones super Physicam*, MS Merton Coll., 272, fol. 100va, "Quaeritur consequenter utrum potentia activa sit forma aliquo modo. . . . Solutio sive rei veritas problematis talis est, quod ista potentia activa quae adicitur materiae ad hoc quod recipiat formam est aliquid incompletum quod non meretur aliquo modo nomen formae in actu; est tamen aliquid de essentia formae."

an original principle (*ex alio originali*). Therefore, since it does not proceed from nothing or from the being of matter, properly speaking, it must necessarily proceed from something that exists in matter, not in act, but in potentiality. This, on the other hand, is active potentiality, which is something of it [of the form] from which, as from an original principle, the form is generated and from which it is derived; and before being generated it has the name of potentiality, given that it is not in act, but in potentiality. When it is generated, however, it has the name of form and act. And considered in one way and in the other it differs according to notion, like complete and incomplete, but not according to essence.⁸⁹

Although the notion of the active potentiality of matter, in its most specific aspects, has its roots in Augustinian Neoplatonism rather than in the Aristotelian tradition, its advocates believe that the idea is genuinely Aristotelian. It is inserted within the Aristotelian doctrine of the principles by means of the notion of privation. According to this line of reasoning, seemingly introduced in the tradition of the commentaries on the *Physics* by Roger Bacon,⁹⁰ the third element of the Aristotelian triad of natural principles, privation, cannot indicate only the absence of a formal determination (*caerentia formae*). These authors base their argument on the idea that the function of physical principle cannot be assigned to a pure nonbeing. Hence if Aristotelian privation were nothing more than the absence of form, it could not perform the role of principle of natural beings. To be able to really perform the function of principle, it must also denote a positive element (*quid positionis*). This positive element is equated with the active potentiality of matter: according to these authors, the privation described by Aristotle in the *Physics* denotes an entity that is formal in nature and therefore really different from matter, but existing in accordance with a manner of existence as yet incomplete, and, consequently, lacking.⁹¹ Other commentators question the soundness of this interpretation. It is pointed out, for example, that in the Aristotelian doctrine of the principles of change, privation is a principle *per accidens*, which Aristotle traces back to only one of the two *per se* principles of

⁸⁹ *Epistola*, 27.10–26.

⁹⁰ Rogeri Baconi *Questiones supra libros octo Physicorum*, 57–67, 73–76, 89–91.

⁹¹ See, e.g., Galfridus de Aspall, *Quaestiones super Physicam*, “Habitio quod privatio aliquid ponat, quaeritur nunc secundo quid ponat. . . . Solutio sive rei veritas problematis est talis, quod privatio ponit aliquid quod est in genere substantiae, non tamen sicut aliquid ordinatum in genere, sed sicut aliquo modo principium ordinabilis in genere. . . . Unde mihi videtur quod res respondens privationi non est aliquid aliud quam potentia activa diminuta, et hoc quia potentia activa diminuta nominat caerentiam formae cum aptitudine ad eandem et similiter privatio.”

natural beings—matter and form—namely, only to matter. Consequently, the idea that the ontological foundation of privation consists in an entity of a formal nature such as active potentiality is incompatible with Aristotle's doctrine of the principles.⁹² Among those who advocate identifying the active potentiality of matter with privation is Robert Kilwardby:

So privation which is the principle of the thing that must be generated in order for it to be generated and insofar as it is generated cannot be pure nothing. That which is nothing in fact is neither cause nor principle of nothing. . . . And since the term *privation* sometimes denotes action and sometimes passion, here it is not intended in either of these senses but in the manner of possession (*habitus*) and rest, that is [in the sense of something] not having the perfection which is proper to it. And this, if you consider it thoroughly, is what I previously called active potentiality, which is called potentiality because it is ordered towards an act, [it is called] active because it is something of the form, and, therefore, in a way it acts together with the transforming principle when it is supported by it. And this same thing is called a privation because it does not possess the perfection that is its due, by virtue of which it is apt to move itself to act. And, therefore, when this potentiality passes into act, privation ceases to exist and the composite of matter and act is constituted. Once these things are understood, it is clear how privation is the third principle of natural beings and that it is not a pure nothing, but is something imperfect that is concreated with matter, tending towards act when it is assisted by an external agent.⁹³

If we now consider the two theories just discussed, the theory of *materia formata* and the theory of the active potentiality of matter, in their philosophical approach, they demonstrate a clear realistic aptitude. A general ontological presupposition of the theory of *materia formata* is the theory of the plurality of substantial forms. In order for the generic characteristic of corporeity to remain in the substantial change while the specific characteristics are generated and corrupted, they must be really

⁹² Cf., e.g., Anonymus, *Quaestiones super Physicam*, MS London, Wellcome Historical Medical Library, 333, fol. 21va, "Alii aliter dicunt quod privatio hic dicitur forma incompleta existens in materia, quae per transmutationem vadit ad complementum et fit postmodum forma completa informans materiam. Et prout est sub suo primo esse, scilicet sub esse incompleto, appellatur potentia activa in materia. . . . Ista similiter positio non potest sustineri, quia sequitur quod privatio non coincidit cum materia, sed cum forma, cum tamen debeat coincidere cum [materia] per Aristotelem. Assumpta ostenditur, quia forma non coincidit cum materia; sed haec privatio forma est, licet incompleta; ergo haec privatio non coincidet cum materia, sed cum forma coincidit, quoniam ista forma incompleta fit eadem per essentiam cum forma completa, quoniam completum et incompletum non diversificat essentiam; coincidit ergo cum forma."

⁹³ *Epistola*, 29.16–30.22.

different forms; it is necessary for genus and species to differ not only on the conceptual plane, as different notions, but also on the real plane, because they are based on really different entities. The tendency towards ontological realism, however, is also present in the theory of the active potentiality of matter. As can be clearly seen, this aptitude is particularly apparent in the version of the theory adopted by Roger Bacon, who identifies the *forma diminuta* associated with active potentiality as the form of the most general genus; thus, just as in the theory of *materia formata*, he presupposes among his ontological assumptions the theory of the plurality of substantial forms. The realistic aptitude is also present, albeit in a more subtle way, in the more sophisticated versions of the theory of active potentiality: in this case, too, the *forma diminuta* seems to be conceived as an entity in some way different from the complete form, even though the authors considered here find it difficult to define its ontological status precisely, and like Robert Kilwardby and Geoffrey of Aspall seek refuge in vague descriptions of the *aliquid de natura formae* kind.

Conclusion

This study discusses Kilwardby's doctrine of matter, examining some of its essential points: the problem of the field of application of the notion of matter, the relationship between matter and quantity, the notion of physical matter. Kilwardby's doctrine has been examined against the background of the English philosophical tradition of the mid-thirteenth century. The discussion on matter clearly shows that Kilwardby belongs to this tradition: the essential elements of the view he argues for is widely documented in the English philosophical tradition of this period. Indeed, he presents himself as the expositor of the *opinio communis*, and on a subject he considers controversial—the unity of matter—restricts himself to recording the various opinions without taking a position.

On the philosophical level, the view adopted by Kilwardby is distinguished by its strongly metaphysical connotations. These connotations come to light in the discussion on spiritual matter, and constitute a clear difference not only from Aristotle's original doctrine, but also from the further developments by Averroes, where the approach by contrast is eminently physical. The discussion on the notion of physical matter, meanwhile, and also the analysis of the nature of quantity, point to a general philosophical feature of Kilwardby's doctrine: the tendency towards ontological Realism. As confirmed by a broad survey of English philosophical

literature around the middle of the thirteenth century, this general inclination towards ontological Realism is also a well-documented philosophical trend in the English tradition.⁹⁴

When Kilwardby's doctrine is seen from a historical point of view, it is clear that his adherence to theories like universal hylomorphism, the plurality of substantial forms modeled according to the logical order of predication, and the active potentiality of matter reveal the influence of philosophical traditions somewhat removed from the Aristotelian, such as those of Avicenna and the so-called medieval Augustinianism; they justify its classification as a manifestation of the eclectic Aristotelianism, strongly influenced by Neoplatonism, that is considered typical of the reception of Aristotle around the middle of the thirteenth century.⁹⁵

⁹⁴ Cf., e.g., Cecilia Trifogli, *Oxford Physics in the Thirteenth Century (ca. 1250–1270): Motion, Infinity, Place and Time* (Leiden: 2000), 271–73.

⁹⁵ On the “eclectic Aristotelianism” classification, see F. Van Steenberghe, *La philosophie au XIII^e siècle* (Louvain: 1991), 169–76.

ROBERT KILWARDBY ON THE THEORY OF THE SOUL
AND EPISTEMOLOGY

José Filipe Silva

Robert Kilwardby wrote extensively on logic, grammar, and theology, but his contribution to the history of medieval thought has long been overshadowed by his role in the 1277 Prohibitions of Oxford. Although questions involving this event will not be addressed in this chapter, I intend to show that Kilwardby's action is motivated by a critical doctrine of the soul, its *potentiae* and powers. I argue that Kilwardby holds the view, throughout his works, that human beings are constituted by a plurality of substantial forms, that prime matter is not pure potentiality, and that the human soul has a dual origin.

No account of Kilwardby's doctrine of the soul would be complete without a survey of his theory of knowledge. Thus, in section 2, a general outline of sense perception is offered, focusing on its active nature and, in section 3, a presentation of intellectual cognition, with special emphasis on Kilwardby's effort to reconcile Aristotle and Augustine, whose philosophical positions he explicitly recognizes as diverse but compatible.

The Composite Nature of the Soul

Robert Kilwardby defines the soul as the principle of life in animated beings,¹ accounting for its operations, which in the case of human beings amount to taking nourishment, growth, local motion, sensation,

¹ Kilwardby, *Quaestiones in librum secundum Sententiarum*, ed. Gerhard Leibold (Munich: 1992), 78, 216.35 (hereafter *Sent.* 2). See also Kilwardby, *Notule super librum Sex Principiorum* (hereafter *NLSP*), 401.1–4, “Dubitatur postea de anima hominis, utrum sit forma uel non, et quia illud quod res est actu id quod est, est forma illius; anima autem est illud per quod est animatum id quod est, igitur anima est forma animati” (all translations, unless otherwise noted, are mine). See also Robert Kilwardby, *OP, De ortu scientiarum*, ed. Albert G. Judy, *OP* (Toronto: 1976) (hereafter *DOS*); and Kilwardby, *Quaestiones in librum primum Sententiarum*, ed. J. Schneider (Munich: 1986), 68, 201.88–91 (hereafter *Sent.* 1). Each work is abbreviated and followed by number of the question or paragraph, page number.line number (e.g., *Sent.* 1, 1, 2:34).

and understanding.² Under this general definition of the soul we find, however, that the different aspects correspond to different parts: the human soul is constituted by many *potentiae*—Kilwardby generally refers to these as *potentiae*, but also *formae* and *essentiae*—each one of them having many powers, and together they make one soul, which is the form of the human body (*una forma humani corporis*).³

The instance where Kilwardby formulates most clearly his theory of the human soul is found in *Epistola* 5, about the principle of life in the embryo. There are, he says, three views (*opinionones*) on the soul, its substance, and its *potentiae*: according to the first, the rational soul is a substance, simple (*simplex*) in essence, which performs the operations of vegetation, sensation and understanding.⁴ According to the second, the rational soul is a composite of matter and three essentially distinct *potentiae* or forms which inhere in the matter, and of which the vegetative and sensitive are naturally generated in plants and animals, whereas in human beings they are created together with the intellectual *potentia*.⁵ According to the third theory,⁶ which Kilwardby adopts as his, the human soul is a rational substance composite of three *potentiae* or substantial forms (vegetative, sensitive, and intellectual), which differ essentially from one another.⁷

² Kilwardby, *NLSP*, 402.12–13.

³ “Anima humana constat ex multis potentiis, quia continet vegetativam, sensitivam et intellectivam, et quaelibet harum habet in se potentias plures. Et hae omnes congregatim faciunt unam animam humanam quae est una forma humani corporis,” *Quaestiones in librum tertium Sententiarum*, vol. 1, *Christologie*, ed. E. Gössmann (Munich: 1982) (hereafter *Sent.* 3), 2:63, 268.87.90. The soul is “the mover of the body and its form or act” (“Est enim anima motor corporis et est forma sive actus eius”), *Sent.* 3 160:443.54. See also *Sent.* 2, 78:216.35, 66:462.27–9, and *NLSP*, 404.5–10.

⁴ Kilwardby, *Epistola Roberti Kilwardby Archiepiscopi Cantuariensis ad Petrum de Confecto Archiepiscopum Corinthi*, ed. Franz Cardinal Ehrle, SJ. “Der Augustinismus und der Aristotelismus in der Scholastik gegen Ende des 13. Jahrhunderts,” *Archiv für Literatur- und Kirchengeschichte des Mittelalters* (1889), 603–5, reprinted, F. Ehrle, *Gesammelte Aufsätze zur englischen Scholastik* (Rome: 1970), 5, 35.08–14 (hereafter *Epistola*).

⁵ *Epistola* 5, 38.14–23. Two mistakes in which both positions concur are (1) to hold that the same soul-kind has in human beings a different origin than in nonrational animals; (2) to hold that the three forms are created and infused at the same time—which cannot be the case if each form is to dispose matter in an appropriate manner to the higher form. For Kilwardby, the origin of the *potentiae* of the soul must be dual and successive.

⁶ “Hec est posicio tercia de anima humana et tribus eius potenciis, que plane philosophica est usque huc et fidei christiane consona,” *Epistola* 5, 41.01–02.

⁷ “Intelligere debetis, quod una est anime rationalis substancia in homine, non tamen simplex, sed ex partibus composita. Vegetativa enim, sensitiva et intellectiva partes sunt essentialiter differentes, et secundum Philosophum, et secundum Augustinum”; *Epistola* 5, 42.23–7. See also *Epistola* 5, 39.24–7 and 44.18–24; and *DOS*, 199:77. This, Kilwardby claims, is the view of Aristotle and Augustine.

The vegetative and sensitive *potentiae* are naturally generated,⁸ while the intellectual *potentia* is created by God⁹ and infused in each being at a certain stage of development.¹⁰ The three coexist only *postquam est homo*, that is, when the embryo is completely formed and receives the *ultima forma*.¹¹

The vegetative and the sensitive are qualified as the principle of life.¹² The vegetative *potentia* is responsible for the operations of nourishment, generation, and growth (*nutrire, generare, augmentare*).¹³ The sensory part of the soul is the perfection of the animal,¹⁴ and as a form, “works and acts continuously by flowing into the body, which is matter in relation to it,” holding together, preserving, and organizing the body.¹⁵ The attention (*attencione*) of the soul is due to the need of preservation of the body, which the soul uses as its instrument for knowing sensible objects.¹⁶ The intellectual soul is the actuality of no body part because,¹⁷ contrary to the vegetative and sensitive souls, it does not require bodily organs to perform its operations.¹⁸ It does, however, require the sensitive body (the organic body as informed by the sensitive soul) as the source of information concerning material objects—which cannot be acquired except through sense perception. The intellectual soul is the act of the sensitive body (*corporis humani sensitivi actus*) in the sense of being its perfection,¹⁹ and is related to the sensitive body as the sailor to the ship (*sicut nauta navi*). The intellectual soul gets access to an already constituted body, moves it, and separates from it when corrupted (*De ortu*

⁸ *Epistola* 5, 39–40.26–07.

⁹ *Epistola* 5, 40.22–24.

¹⁰ Robert Kilwardby *Declaratio 43 quaestionum*, in *Le “De 43 Questionibus” de Robert Kilwardby*, ed. Hyacinthe-François Dondaine (1977), 34, 37.900–902; hereafter *D43Q*. See also *Sent.* 1, 64, 187–8; *Sent.* 1, 65, 189–91; *Sent.* 1, 66, 192–93; *Sent.* 1, 67, 194–98; and *Epistola* 5, 41.5–7.

¹¹ *Epistola* 5, 44.11–14. Christ is the exception; he started to exist as a human being immediately with no succession of forms; *Epistola* 7, 52.9–11; *Sent.* 3, 1:19, 85.42–3).

¹² *D43Q* 34, 38.947–48.

¹³ *Epistola* 5, 36.2.

¹⁴ “Sensitivum est perfectio animalis et actus et forma *Epistola* 5, 36.13–4.

¹⁵ “Ut autem intelligatur eius sententia, nota quod spiritus sensitivus, eo quod forma est, continue operatur et agit influendo in corpus quod est materia, et hoc continendo, uniendo, saluando et ordinando illud”; *De spiritu fantastico*, 99, in Robert Kilwardby OP, *On Time and Imagination, part 2*. trans. Alexander Broadie (Oxford: 1993); hereafter *DSF*.

¹⁶ *DSF*, 101, 76.24–7.

¹⁷ *DOS*, 10, 56:27; *Sent.* 2, 82, 232.23–24, *Sent.* 2, 82, 233.41–44.

¹⁸ *DOS*, 10, 54:27. The intellect operates even better separated from than united with the body, but this only refers to the knowledge of spiritual objects; *Sent.* 2, 8, 29.38–39).

¹⁹ *Epistola* 5, 41.20–2; *Sent.* 3, 2:63, 267.42–44, “ultima forma compositi naturalis dicitur forma et actus et complementum aliarum formarum quae sunt in illo.”

scientiarum 10, 56).²⁰ The expression “sicut nauta navi,” of Neoplatonic origin,²¹ is used by Kilwardby to grant a certain degree of transcendence (separability) of the intellectual soul with respect to the vegetative and sensitive souls—which, according to Aristotle, says Kilwardby, cannot exist without the body (*De ortu scientiarum* 10, 55).

According to Kilwardby, when something comes into being (*exit in esse*), the form of the newly generated thing can neither come *ex nichilo* (otherwise there would be creation), nor from another thing as its generator, because if something gives its form to another thing, it ceases to be (*cessat esse*).²² Thus, it must come from the aptitude of matter.²³ Kilwardby claims that the matter the parents transmit to the offspring is impregnated with what he calls active potencies, which he identifies with the Augustinian seminal reasons.²⁴ They are active because they strive for form, and to strive is some kind of action.²⁵ They are potencies because before being generated they are potential, not actual; and they are something of a form in the sense of being related to the future actual form of the being as the undetermined and incomplete (*confusa et incompleta*) to the complete.²⁶ According to Augustine, followed by thirteenth-century theologians, such as Bonaventure and Kilwardby,²⁷ God created in one instant

²⁰ DOS, 10, 56:27. In *De spiritu fantastico* 30 (62.06–08), the same metaphor is used to describe how the intellect uses the senses as a ship to bring sense data. However, in the *Sent.* 2, 55.1 (160.82–86), Kilwardby compares the human soul moving the body as a form, whereas the angelic soul can only be thought of as the mover of an assumed body *sicut nauta in navi*.

²¹ See B.C. Bazán, “Thirteenth Century Commentaries on *De anima*: From Peter of Spain to Thomas Aquinas,” in *Il commento filosofico nell'occidente latino (secoli XIII–XV)*, ed. G. Fioravanti, C. Leonardi, S. Perfetti (Turnhout: 2002), 130.

²² *Epistola* 2, 26–27.

²³ Not from the being of matter (*nec de esse materie*); otherwise, matter and form would not be distinct by essence (cf. *Epistola* 2, 27.14–15, 19–20). The nondistinction is prohibited in the proposition 14 of *in naturalibus*, Oxford 1277.

²⁴ *Sent.* 2, 85, 239.49. See also DOS, 260:97; DOS, 261:98; DOS, 20:17, *Epistola* 5, 39–40.24–27. According to Silvia Donati, the existence of active potencies in matter seems to be accepted almost unanimously by the English commentators between 1240 and 1270 (see “La discussione sulla materia nella tradizione di commento della *Fisica*: Commentatori inglesi degli anni 1240–1270 ca.,” in *Il commento filosofico nell'occidente latino (secoli XIII–XV)*, 185–232, esp. 219–27).

²⁵ “Cum ergo appetere sit aliqua accio, et accio universaliter est forme, sequitur quod materia habeat forme, per quod appetit eam. Et hec est potencia activa”; *Epistola* 2, 25; see also *Epistola* 2, 27; *Sent.* 1, 60, 171.37–39.

²⁶ *Epistola* 2, 28.16–22; *Sent.* 2, 45, 135.54–55.

²⁷ *Epistola* 4, 32. See also *Epistola* 1, 22, and 5, 39–40; *D43Q* 26, 31.721–31). See José Filipe Silva, “Robert Kilwardby on Celestial Motion,” *Mediaevalia Philosophica Polonorum* 36 (2007): 90–119, esp. 111–16, for references.

the first individuals of each species and with them the seminal reasons of everything that is to come throughout the times.²⁸ For Kilwardby, God creates directly and instantly (*immediate*), *de nichilo*, the creatures that include the rational souls, matter without any specific forms, and seminal reasons.²⁹ Seminal reasons enter into the picture in order to explain how the species are perpetuated, that is, how a man generates a man and a horse generates a horse.³⁰

According to Kilwardby, then, in beings that generate from seed, there is something (*aliquid*) that is separated (*decisum*) from the (specific, not personal) nature of the parents to the substance of the fetus.³¹ This something is “the first subject of life” (*primum subiectum vite*), the radical substance of the body that first receives the action of the soul.³² Together with it there comes from the father the spermatic body (*corpus spermatis*) that is mainly a byproduct of transformed food (*de superfluitate cibi alterati*) used as nourishment for the conceived being and protection for the seed,³³ and the corporeal spirit.³⁴ The corporeal spirit is called the power of the principle of life (*uirtus principii uite*)³⁵ because it is responsible for educing from the semen the principle of life, that is, the vegetative and sensitive *potentiae*.³⁶

The principle of life is, through the action of the formative power (the corporeal spirit) and with the help of heat (celestial and animal), educed

²⁸ *Sent.* 2, 63, 179.24–26. See also *D43Q* 15, 21.370–71; *Sent.* 2, 85, 240; *D43Q* 26, 28.661–66, *Sent.* 1, 85, 240; *Sent.* 2, 61, 176.132–33, and *Sent.* 2, 85, 240. On the distinction creation and making, see *Sent.* 2, 61, 174.71–75.

²⁹ *Sent.* 2, 138, 372.283–85. On the four kinds of being of created things, see *Sent.* 2, 85, 240.

³⁰ *D43Q* 7, 17.267–68. The fact that the process is explained in terms of natural generation requires an agreement in species of the generator and the generated; *Sent.* 2, 45, 135.47–49.

³¹ *D43Q* 34, 37.914–16. See also *Sent.* 2, 85, 239.46–47 and *Sent.* 2, 94, 257.38–45; *DSF*, 129, 84.27–31; and 132. The father is the active principle of generation, the mother the passive principle of generation; see *Sent.* 1, 37, 120.25–27).

³² *Epistola* 4, 32.10–12.

³³ *D43Q* 34, 37–38, 925–31. Kilwardby denies that generation is made completely from the superfluity of food (*Epistola* 4, 33.01–05), otherwise, he argues, the son would be cognate with the aliment of the father, not the father itself (*Epistola* 4, 31.16–18). Whereas in *D43Q*, Kilwardby distinguishes between the stuff-like body (the spermatic body) and the seminal principle, in *Sent.* 1, 85, he calls both *semen*.

³⁴ *D43Q* 34, 38.931–32.

³⁵ “Spiritus autem ille dicitur uirtus principii uite, quia natura ipso utitur ad principium uite producendum,” *D43Q* 34, 38.949–50.

³⁶ “ut intelligatur principium uite illud quod primo inducitur et ab intra producitur, scilicet uegetatiua et sensitiua,” *D43Q* 34, 38.947–48.

from the potency of the conceived being (*de potentia intima concepti*).³⁷ But for the principle of operation to be educed, matter must first be disposed in an appropriate manner (*mediante mixcione vel complexione ordinata*).³⁸ Nature, through the corporeal spirit, organizes the matter of the semen, first in an appropriate manner for the vegetative *potentia*, through which the offspring is alive and able to perform the operations necessary for the preservation and foment of life, nutrition, and growth;³⁹ then, from matter perfected by the vegetative soul, the corporeal spirit educes the sensitive *potentia* and the being is able to perform the operations of sensing and moving.⁴⁰ With the eduction of the sensitive soul, that is, when the process of natural generation is completed, the corporeal spirit ceases to be (*soluitur quando functus est officio suo*).⁴¹ However, the sensitive body, that is, the body informed by the vegetative and sensitive *potentiae*, is complete only upon the reception of the intellective soul,⁴² which comes from outside (*ab extrinseco*).⁴³ When the body is fully formed (*effigiatur*), that is, in an appropriate manner to receive (*suscipere*) it,⁴⁴ the intellective soul is created by God and infused in the sensitive body as its perfection and completion.⁴⁵

The intellective *potentia* is created as a *hoc aliquid*, able to subsist separated from the body *quasi personaliter*.⁴⁶ Let us consider this for a moment. According to Kilwardby, everything that subsists *per se* apart from God is composed of a material principle (*quod est*) and a formal

³⁷ *D43Q* 34, 37.916–18.

³⁸ *Epistola* 5, 39–40.28–04. See *Sent.* 2, 87, 243.09–10; but especially *Epistola* 7, 52.01–03, “Item, *caro et actus eius* universaliter opere nature producitur de potencia elementorum mixtorum,” (emphasis added). For the notion of *complexion*, see Philip L. Reynolds, *Food and the Body: Some Peculiar Questions in High Medieval Theology* (Leiden: 1999), 106–8.

³⁹ *D43Q* 34, 37.920–24.

⁴⁰ *D43Q* 34, 37.933–41; see also 34, 38.949–50; *Epistola* 5, 40.2–5; and *Sent.* 2, 87, 243.16–17 “natura distinguit partes semini et distinctas format et in illis totum corpus effigiat.”

⁴¹ *D43Q* 34, 38.962–63.

⁴² *D43Q* 34, 35–6.866–69. See also *Epistola* 5, 36.19–24; *Sent.* 2, 81, 229.51–52; 230.80–82.

⁴³ “sed intellectiua exterior uenit opere diuino”; *D43Q* 34, 37.901–2; also *Sent.* 2, 81, 228.26–27, “Item Aristoteles II *De animalibus*: Intellectus ab extrinseco intrat, quia ipse solus habet esse diuinum.” Cf. Aristotle, *De generatione animalium*, 2.1, 736b21–29.

⁴⁴ *D43Q* 34, 35–6.866–69.

⁴⁵ *D43Q* 34, 37.920–24; 38, 950–52.

⁴⁶ “Et ideo creata est potentia intellectiva tamquam hoc aliquid potens quasi personaliter subsistere post corporis separationem”; *Epistola* 5, 40.22–24. For an introduction on the discussion whether the soul is *per se* a person, see *Epistola*. Edouard Wéber, *La personne humaine au XIII^{ème} Siècle* (Paris: 1991), 57–60, 78–79, 499.

principle (*quo est*).⁴⁷ The intellective soul is, therefore, composed of matter and form,⁴⁸ although not the matter of generable and corruptible things, which Kilwardby calls “natural” or “physical prime matter” (*materia prima physica* or *naturalis*);⁴⁹ the soul is a composite of *materia metaphysica*—that which underlies (*subsistit*) the spiritual form—and is defined as potential being (*esse potentiale*).⁵⁰ The existence of matter as a metaphysical constituent of spiritual beings is necessary to account for change, accidents, but especially for individuation (*individuat*).⁵¹ In his Parisian period, though, he justified individuation through matter,⁵² in the *Quaestiones* individuation is the result of the action of form (*actio formae*) and the receptivity of matter (*passio materiae*), or matter as the passive cause and form as the active cause.⁵³

The rational soul is not, however, on its own, a person, either when conjoined with the body or when separated,⁵⁴ because it fails to comply with Kilwardby’s three criteria for personhood: to be a thing of a rational nature, to exist in act, and not to be a part of anything else.⁵⁵ The rational soul fails the last criterion because it is not the only essential part of the

⁴⁷ “et quia quod est et quo est denotant duo principia compositi scilicet materiale et formale,” *Sent.* 1, 60, 171.53–55. See also *DOS*, 30, 256:96, “Aliter dicitur communiter materia illud quod est, sicut forma illud quo est, prout dicitur quod omne per se subsistens citra Deum habet aliquid quod est et quo est, et illud quod defert formam et substat ei.” The same text is found in *Sent.* 2, 14, 51–2.24–34. See also *DOS*, 30, 255:96; *DOS*, 31, 265:99; *DOS*, 31, 268:99; *Sent.* 1, 35, 90.339–40. Although Kilwardby refers to a *materia spiritualis*, he usually does so in the context of presenting the view of others, not associating himself with such view; cf. *Sent.* 1, 80, 257.66–70. The single exception is *Sent.* 2, 16, 60.32.

⁴⁸ *DOS*, 31, 265:99.

⁴⁹ *DOS*, 39, 248:93; *DOS*, 250:943 (for *physica*); *DOS*, 31, 320:114, and *Epistola* 2, 24; 26 (for *naturalis*). This natural or physical matter, common to all changeable things, “does not exist stripped from corporeity and always has some form in act and several in potency” (“Et haec nunquam denudatur a corporeitate et semper habet aliquam formam in actu et multas in potencie”) *Epistola* 2.24.12–13.

⁵⁰ *Sent.* 2, 14, 52.35–42. Substance is the *genus generalissimus*, of which corporeal and incorporeal are species.

⁵¹ “Et videtur quod materiam habeat, quia sine illa non est individuat, et in talibus spiritibus est individuat,” *DOS*, 31, 266:99. See *DOS*, 31, 266–69.

⁵² See Patrick Osmund Lewry, “Robert Kilwardby’s Writings on the *Logica vetus* Studied with Regard to Their Teaching and Method,” (PhD diss., Oxford University, 1978), 250–54.

⁵³ “Est igitur tam materia quam forma causa individuationis, sed materia causa receptiva, forma activa”; *Sent.* 2, 17, 64.103–4. See also *Sent.* 2, 17, 65.129; *Sent.* 3, 18, 39.98–99. The perfect individuation (in the sense of making the individual complete in its kind) takes place with the *species specialissima*; *Sent.* 2, 17, 67.187–90).

⁵⁴ *Sent.* 3, 18, 40.114–18.

⁵⁵ *Sent.* 1, 35, 89.288–90. See also *Sent.* 1, 35, 86.214–15, 216. The fourth is only related with the soul of Christ. See Richard Cross, *The Metaphysics of the Incarnation: Thomas Aquinas to Duns Scotus* (Oxford: 2002), 138.

person,⁵⁶ the other being the sensitive human body. The human intellectual soul is created not to exist on its own but “to be the act of a body,”⁵⁷ and this appetite or inclination is not accidental but rather belongs to the essence of the human soul.⁵⁸ For Kilwardby, this “unibility” is an essential feature of the human soul that distinguishes it from the angelic soul,⁵⁹ and helps in explaining the transmission of original sin.⁶⁰

The intellectual *potentia* is the perfection or “accomplishment of human life” (*potentia uite humane consummatio*)⁶¹ because the embryo remains not specified up to the moment when it receives the intellectual *potentia*,⁶² becoming a sensitive human body.⁶³ The sensitive body (the body informed by the sensitive *potentia*) is rendered determinate by the intellectual form, as its *forma completiva*, making it a member of the human species.⁶⁴ Only together, body and soul make one thing actually existing (*fit unum in actu*), as neither of them is complete without the other.⁶⁵ The intellectual form relates to the lower as their *complementum*, making

⁵⁶ *Sent.* 1, 35, 90.325. See also *Sent.* 3, 1 10, 51.43–44; *DOS*, 31, 316.112.

⁵⁷ “Si quis autem obiciat, quod ex duobus in actu non fit unum in actu, et ideo ex corpore sensato, quod iam est in actu, et intellectu, qui creatur ens actu, non potest fieri naturaliter unum, respondendum est, quod neutrum est complete in actu, quia corpus hominis, licet sit actu sensitivum, tamen illud sensitivum est talis generacionis, quod non complet materiam perfecte, sed disponit ad intellectivam. Intellectus quoque, licet creetur ut hoc aliquid, non tamen creatur, ut sic maneat per se, sed ut sit corporis humani sensitivi actus”; *Epistola* 5, 41.14–22.

⁵⁸ *DOS*, 37, 358.127. Appetite (*appetitus*) here means natural inclination, as anything tends to its perfection, rather than a volitional act implying rational assent. The intellectual *potentia* cannot desire otherwise (*Sent.* 2, 8, 28.9, “Item iste appetitus unionis est naturalis, quia non potest eam non appetere.”).

⁵⁹ “haec unibilitas est differentia essentialis faciens hominem differre ab angelo”; *Sent.* 2, 7, 26.06–07; 26.10, and 79, 224.21–23. See also *Sent.* 2, 6, 23.22–23, and 8, 33.125–26; *Sent.* 3, 1 10, 50.14–16.

⁶⁰ *Sent.* 2, 160, 443.59–62. Kilwardby denies traducianism as the rational soul is created by God, but attributes to the union body-soul the cause of transmission; see *D43Q* 33, 36.872–78.

⁶¹ “Intellectus uero res diuina est, per quod intelligitur quod non est decus cum spermate ad principium uite producendum, sed est potentia uite humane consummatio”; *D43Q* 34, 38.950–52.

⁶² *Epistola* 5, 44.12–17.

⁶³ “quia corpus hominis, licet sit actu sensitivum, tamen illud sensitivum est talis generacionis, quod non complet materiam perfecte, sed disponit ad intellectivam”; *Epistola* 5, 41.17–20.

⁶⁴ “cum nihil sit in specie sine forma et perfectione propria”; *Sent.* 3, 2 63, 266.09–10. In the case of human beings this is the *rationalis potentia*, inasmuch as the completion of the other forms; *Sent.* 3, 2 63, 268.96–97.

⁶⁵ *Epistola* 5, 41.14–15. See n708.

one soul which is one form.⁶⁶ In that sense, Kilwardby's way of defining the relation between *potentiae* is probably best explained as dispositional or functional pluralism,⁶⁷ which holds that the lower *potentiae* are incomplete determinations that dispose matter to receive a superior form or determination.⁶⁸ The relation between a lower *potentia* and a higher *potentia* within the composite (unity) is that between the one which perfects and the one which is perfected.

I know, however, that one man has one form, which is not simple, but rather composite of many [*potentiae* or forms], having a natural order to one another, and without which no man can be perfect, the last of which, completive and perfective of the whole aggregate, is the intellect.⁶⁹

Once infused, the intellective *potentia* connects naturally to the other *potentiae*,⁷⁰ and this binding is similar to the way a quadrilateral, which contains two triangles, becomes a pentagon with the addition of another triangle.⁷¹ The addition of a new triangle to the existing square does not eliminate the existing figures, but rather complements them, in the same way as in the case of the soul the form that supersedes the previous ones (the intellective *potentia*) does not corrupt them, and the vegetative and sensitive *potentiae* continue to be responsible for their operations. For Kilwardby, each substantial form is a part of the human soul, differing in species according to (the operations of) the type of life (*modos vitae*) it determines, and as such is irreducible to any of the other forms.⁷²

⁶⁶ *Sent.* 3, 2 63, 268.96–97. The rational soul names the whole of the human soul because it is the noblest part; *Sent.* 3, 1 9, 46.83–86.

⁶⁷ See Roberto Zavalloni, *Richard de Mediavilla et la controverse sur la pluralité des formes: Textes inédits et étude critique* (Louvain: 1951), 312–14; and J.P. Zenk, "Henry of Wile: A Witness to the Condemnations at Oxford," *Franciscan Studies* 28 (1968): 215.

⁶⁸ This pluralist principle holds for all the things: for Kilwardby every individual is constituted by a plurality of forms; see *Epistola* 7, 50, but esp. *Sent.* 2, 17, 65–66.147–56. A form is genus in comparison to those forms that are posterior and species to those that are prior. Kilwardby applies the same principle to his syllogistic theory; see P. Thom, *Logic and Ontology in the Syllogistic of Robert Kilwardby* (Leiden: 2007), 56–75.

⁶⁹ "Scio tamen, quod unus homo unam habet formam, que non est una simplex, sed ex multis composita, ordinem ad invicem habentibus naturalem, et sine quarum nulla perfectus homo esse posset, quarum ultima, completiva et perfectiva tocius aggregati, est intellectus"; *Epistola* 7, 53.13–17.

⁷⁰ *D43Q* 34, 38.939–41.

⁷¹ *D43Q* 37.902–5. The same example is given at *Epistola* 5, 42.9–13. See Aristotle's *De anima*, 2.3, 414b28–32; see J.K. Ward, "Souls and Figures: Defining the Soul in *De anima* ii 3," *Ancient Philosophy* 16 (1996): 113–27, and Thomas Aquinas, *Summa theologiae*, 1:76.3–4 (for a very different reading).

⁷² *Sent.* 2.1.2 63, 268.94–96, (see nn4 and 95).

The human being perceives by a different form from the one by which it understands.⁷³ Whereas the sensitive form operates only through corporeal organs, the intellective form performs its operations without the assistance of the body; therefore, those operations, being so different in nature, cannot belong to the same substantial form. In Kilwardby's own words: "I do not see in what way different operations do not proceed from different *potentiae* rooted in different essences."⁷⁴ According to Kilwardby, when actions or operations are such that they do not depend on one another and can be separated according to their subject and being (*secundum subiectum et esse*), then, different actions, such as sensing and understanding (*sentire et intelligere*), must correspond to different essences or *potentiae*.⁷⁵ Having argued for a distinction of *potentiae* based on the origin and the diversity of operations, Kilwardby holds nevertheless that the plurality of *potentiae* does not threaten the unity of the soul because those *potentiae* are parts of the same soul.⁷⁶ His position is clearly formulated in *Epistola* 6:

If the rational soul is a substance, and that substance is a form, ergo, [the rational soul] is a form; ergo, [the rational soul] is simple. I do not understand these words in any other way. But it does not follow: if it is one form, ergo it is simple. For, all composite things have unity, but not simplicity.⁷⁷

This passage is meant to show that a simple thing is one but that the converse does not hold, that is, that a thing can be composite and still be

⁷³ *Epistola* 7, 50.19–23; and *Epistola* 5, 43–44.18–05, "Ecce quid dico: intelligit homo per intellectivam formam aut potenciam, et non per sensitivam vel vegetativam."

⁷⁴ "Ad hoc dicunt quidam quod anima rationalis sit una simplex essentia differens solum secundum operationes quae cum intelligit dicitur intellectiva, quando sensit sensitive, quando vegetat vegetativa. Eadem tamen est in essentia. Sed et hoc non videtur verum, quia non video quodo diversae operationes non procedunt a diversis potentiis radicatis in diversis essentiis"; *Sent.* 2, 8, 29.40–42. For other examples of the adoption of this criterion, see H.M. Beha, "Matthew of Aquasparta's Theory of Cognition," *Franciscan Studies* 20 (1960): 183–204, and Emily Michael, "Averroes and the Plurality of Forms," *Franciscan Studies* 52 (1992): 155–57.

⁷⁵ *Sent.* 1, 61, 175.63–65. See also *Sent.* 2, 8, 29–30.31–53, where Kilwardby claims that an opposite view can be found in the *De spiritu et anima*, chap. 10, which he takes as not being Augustine's.

⁷⁶ *Sent.* 1, 61, 173.15–16.

⁷⁷ "si anima rationalis est una substancia et illa substancia est forma, ergo est una forma; ergo simplex. Aliud non intelligo de verbis istis. Sed non sequitur: si est una forma, ergo simplex. Omnia enim composita habent unitatem, non tamen simplicitatem"; *Epistola* 6, 46–7.25–03. Article 12 of the 1277 Oxford Condemnations reads, "Item quod vegetativa, sensitiva et intellectiva sint una forma simplex." *Chartularium Universitatis Parisiensis*, 4 vols., ed. Henrich Denifle and Émile Chatelain (Paris: 1889–97), 559n474.

one. Things can be simple or composite in concretion, extension, power, or substance. Kilwardby argues that the soul is simple in concretion (*in concrecione*) because as a spiritual substance it is simple in the sense of not being divisible and not being extended;⁷⁸ and in extension (*in extensione*) because the soul is whole in each part of the body (*in qualibet parte corporis tota*) due to its spiritual nature, conjoined with its power.⁷⁹ On the other hand, the soul is composite in regard to power (*potencia seu virtute*) because it has different powers directed to different actions and objects;⁸⁰ and in substance (*in substancia*) because it is composed of essentially different principles ordered to one another.⁸¹ Kilwardby brings forward an operative distinction between powers, and an essential distinction between *potentiae*.⁸² The human soul is composed of three natural *potentiae* (*potentiis connaturalibus humane anime*)⁸³ which are substantial parts of the naturally subsistent thing.⁸⁴ Each substantial form⁸⁵ has certain powers (*virtutes*) through which it performs its operations.⁸⁶ Powers are defined with respect to their operations (which in turn are defined by their objects).⁸⁷ The different powers that belong to the same essence are ordered to each other (*ordinantur ad invicem*) and differ only by different manners of operation.⁸⁸ Imagination, common sense, and memory are powers of the sensitive soul, while memory, intelligence, and will are the powers of the intellective soul (the powers of the *potentiae* are powers of the soul). These powers (*potentiae activae*) belong *by reduction* to the genus substance and are the same with the soul, which is a rational

⁷⁸ *Epistola* 6, 46.16–9; see also *Epistola* 6, 46.10–12 and *Sent.* 2, 54, 156.22–28.

⁷⁹ *Epistola* 6, 48; see also *Sent.* 2, 17, 70–71.304–8; and Robert Kilwardby, OP, *Notulae super librum Praedicamentorum*, ed. Alessandro D. Conti, 17, 132.22–24; hereafter *NLP*. The same argument—the spirituality as the cause of the soul's capacity of being whole everywhere in the body—is repeated in *Sent.* 2, 78, 217.80–82.

⁸⁰ *Epistola* 6, 45–6.23–04. See also *Sent.* 2, 139, 373.32–33.

⁸¹ *Epistola* 6, 45.18–22.

⁸² *Sent.* 3, 2 63, 268.87–88.

⁸³ *D43Q* 34, 37.899–900.

⁸⁴ *Epistola* 5, 43.18–20.

⁸⁵ “Non ergo intelligatis de vegetativa, sensitiva et intellectiva tamquam de tribus accidentibus, sed tamquam *de tribus formis substancialibus* unum totum continentibus”; *Epistola* 5, 44.05–08 (emphasis added).

⁸⁶ *Sent.* 1, 59, 169.117–19; *Epistola* 6, 46.2; *Sent.* 2, 79, 224.13 and 137, 362.80–82. In *Sent.* 2, 139 (375–76.97–101), Kilwardby applies the term *potentiae totalis* to the substantial *potentiae*, and *potentiae partiales* to the powers of the *potentiae*.

⁸⁷ *Sent.* 3, 2 33, 129–30.28–29.

⁸⁸ *Sent.* 1, 61, 174.41–46; see also *Sent.* 1, 60, 171.41–43.

incorporeal substance;⁸⁹ that is, although to be and to operate are not the same, they are both effects of the same form, as the same tongue both tastes and speaks.⁹⁰ Having argued for the composite nature of the soul, Kilwardby must now explain how the essentially different parts of the soul together make one soul, that is, what makes the soul to be a *compositional unity*.

Kilwardby argues that the soul forms a unity in a way similar to how different things are present in an aggregate.⁹¹ In the same way as the body is one, although it is constituted by an ordered series of forms,⁹² the soul is a substance composed of three essentially different parts which through a natural order and *colligatione* make one soul, the form of a living thing (*una forma viventis*).⁹³ There are parts in the soul as there are members in the body:⁹⁴ these include the homogeneous (or, like-natured) parts such as flesh, bone, nerves, blood,⁹⁵ and heterogeneous (or, dissimilar) parts such as eyes, feet, all of which have a form of their own (*quorum nulla est sine vera et propria forma*).⁹⁶ An individual human being is constituted by a plurality of forms (*innumerabilibus formis repertis in homine*)⁹⁷ which nevertheless make *one* being.⁹⁸ Composite things have unity that is the result of the natural inclination the many things that constitute it have

⁸⁹ *Sent.* 1, 59, 168.74–79. The powers of the rational soul are neither accidents nor distinct from the soul itself; cf. *Sent.* 1, 60, 172.77–81. See Bonaventure, *Commentaria in Quatuor Libros Sententiarum* 1, d. 3, pars 2, a. 1, q.3.

⁹⁰ “Similiter loqui et gustare sunt diversa, et tamen causantur ab eadem lingua medianibus diversis potentiis eius”; *Sent.* 1, 60, 172.75–76. See also *Sent.* 1, 60, 172.69–72; *Sent.* 2, 2, 9.44–47; and *Sent.* 1, 71, 207.55–64.

⁹¹ *Sent.* 2, 8, 30.59–62. See also *Epistola* 7, 53. Graham J. McAleer, “Was Medical Theory Heterodox in the Latin Middle Ages?” *Recherches de Théologie et Philosophie Médiévale* 68, no. 2 (2001): 356, traces the conception of the human being as an *aggregatum* back to Galen.

⁹² Not a *corpus simplex*, but one where the essentially different parts are naturally ordered, so as to constitute one body; *Epistola* 7, 53.19–23. See also *Sent.* 3, 2 33, 130.38–46. In *Sent.* 2, 78, 217.58–61, arguing against Averroes’s monopsychism, Kilwardby claims that although the different organs have a form of their own, they are parts of one and the same body and are connected to a main organ, which spreads life to all them; similarly, the soul is one with respect to these parts but not to different bodies.

⁹³ *Epistola* 7, 53.23–27. See also *Epistola* 5, 43.6–8.

⁹⁴ “Sed sicut hec sunt membra in corpore, sic ille sunt partes in anima,” *Epistola* 5, 43.3–4.

⁹⁵ Homogeneous (*homogeneis*) bodies are those in which the whole and the part are of the same nature; e.g., a part of bone is bone. See *DOS*, 10, 58:28.

⁹⁶ *Epistola* 7, 50.09–11.

⁹⁷ *Epistola* 7, 50.19–23.

⁹⁸ *Sent.* 2, 17, 65.147.

to one another, an *ad invicem unitatem*.⁹⁹ The *mutuas inclinationes* justify the *unum naturaliter*,¹⁰⁰ but the question remains as to what motivates this natural inclination. For Kilwardby, and under the authority of Augustine, “the whole of the rational soul in all the powers essentially desires to be united with the body, and this as its natural perfection, *since this rational soul is born to know everything*.”¹⁰¹ The soul has a natural desire and inclination to be united with the body (*appetitus et inclinatio naturalis ad uniendum cum corpore*) in order to fulfil its natural perfection,¹⁰² the knowledge of sensible things, which cannot be acquired except through the use of the senses, that is, through the body.¹⁰³ This union is mediated, as the intellective *potentia* is united to the sensitive, the sensitive to the vegetative, and the vegetative *potentia* to the body.¹⁰⁴ Body and soul together form one living human being.¹⁰⁵

Kilwardby’s position is at odds with the so-called theory of the unity of forms (*unitate formarum*), a theory which he considers, in the only place he addresses this opposite view, impossible and unintelligible.¹⁰⁶ The series of philosophical and theological arguments advanced by Kilwardby in the seventh article of his *Epistola ad Petrum de Confecto* against such a view can be systematized in three kinds of proofs:

⁹⁹ *Sent.* 3, 1 1, 05.64–66; *Sent.* 3, 1 9, 44.28–30.

¹⁰⁰ *Epistola* 5, 41.22–23. See also *Sent.* 2, 8, 32.116–17, *Sent.* 3, 1 6, 31.59–62.

¹⁰¹ “Quod si verum est, patet, quia secundum Augustinum tota anima rationalis in omnibus potentiis essentialiter appetit uniri cum corpore, et hoc ad naturalem sui perfectionem, quia ista anima rationalis nata est cognoscere omnia”; *Sent.* 2, 8, 32.109–11, (emphasis added). Ellen M.F. Sommer-Seckendorff, *Studies in the Life of Robert Kilwardby*, *OP* (Rome: 19370, 153–54), has argued that for Kilwardby the union is accidental from the point of view of the intellective *potential* (see *DOS*, 10, 53:26), which would configure a change in Kilwardby’s position. My reading is that Kilwardby says, in the *DOS* (and, I add, in *Epistola* 5, 40.15–19) that this union is accidental only from a functional point of view, i.e., the human rational soul does not need any bodily organ *for its operations*; but, from the point of view of the essence, the rational human soul is created so as to be united with the sensitive human body; see *Sent.* 2, 7, 27.30–31; *Sent.* 3, 1 10, 53–54.106–8.

¹⁰² “Et sic in tota anima est appetitus et inclinatio naturalis ad uniendum cum corpore et hoc ut sic assequatur perfectionem suam naturalem, scilicet cognitionem sensibilium, quod sine corpore non potest”; *Sent.* 2, 8, 32.117–19.

¹⁰³ “Tamen sic facta est ut non possit cognoscere corporalia nisi per sensum nec sentire potest nisi per organum corporeum”; *Sent.* 2, 8, 32.11–13, and *Sent.* 3, 1 46, 201–2.220–30.

¹⁰⁴ “Et ergo assequatur perfectionem suam quam naturaliter appetit, scilicet scientiam corporalium, necesse est animam intellectivam uniri corpori tanquam organo. Appetit ergo intellectiva sensitivae uniri et sensitiva vegetativae et vegetativae corpori”; *Sent.* 2, 8, 32.114–16. See also *Sent.* 2, 8, 132–33.120–24.

¹⁰⁵ “Potentia animae apprehensiva et corpus faciunt substantialiter et vere unum. Et ideo est supremum in corpore et aliquod infimum in potentiis apprehensivis, quorum unione ex corpore et anima fit vere unum”; *Sent.* 1, 68, 202.130–32.

¹⁰⁶ *Epistola* 7, 49–54.

1. *The intellective form, as a perfection, cannot corrupt what it perfects* (the human body informed by the vegetative and sensitive *potentiae*).¹⁰⁷ The same point can be extended to animals, regarding the sensitive form, and to plants, regarding the vegetative: if the supervenient (*adveniente*) form corrupts the previous forms, the thing ceases to be (*cessat esse*).¹⁰⁸
2. *The intellective form cannot alone account for the diversity of operations*: the intellective form cannot be responsible for operations such as sensation or nutrition.¹⁰⁹ In that case, also, the intellective form being responsible for all the operations, the Aristotelian principle that the diversity of objects implies the diversity of actions and forms would be false.¹¹⁰ Furthermore, if the intellective form is responsible for the operations of the vegetative and sensitive forms, and these are univocal in human beings and other animals,¹¹¹ why do animals lack the intellective form?¹¹²
3. *There must exist a form of corporeity for both philosophical and theological reasons*: In the same way as there is a vegetative form responsible for the vegetative actions and a sensitive form responsible for sensing, there must be a form of corporeity by which a body is a body.¹¹³ Otherwise, Christ would not have assumed (*assumpsit*) human nature without assuming a body because human beings are made of rational soul and flesh (*homo consistit ex anima rationali et carnem*).¹¹⁴ Flesh here means everything that constitutes the human body:¹¹⁵ the elements arranged into mixtures, and these are further organized into the more complex matter of which (the parts of) the body is made (*in mixto*

¹⁰⁷ *Epistola* 7, 50.14–16.

¹⁰⁸ *Epistola* 7, 53.01–10.

¹⁰⁹ *Epistola* 7, 51.01–04.

¹¹⁰ *Epistola* 7, 51.05–06.

¹¹¹ “*Obiecta enim sunt univoca et acciones univoce sunt, ergo potencie sunt univoce*”; *Epistola* 5, 35.23–24. However, in some places Kilwardby brings forward the argument that the sensitive cognitive powers must somehow be different in humans and in animals because in human beings they must prepare the images acquired through sense perception for the mind (*mens*); see *DSF*, 44, 139, 140.

¹¹² *Epistola* 7, 51.09–14.

¹¹³ *Epistola* 7, 50.19–23.

¹¹⁴ *Epistola* 7, 51.18–21. See also *Sent.* 3, 1 8, 36.3–7. Christ assumed the human nature, not the human person; *Sent.* 3, 1 8, 129–30. Human nature supervenes on the already constituted divine person; *Sent.* 3, 1 14, 68.43–48.

¹¹⁵ “*et per carnem intelligo, quicquid ex parte carnis subintelligitur*”; *Epistola* 7, 51.20–21. See also *DOS*, 35, 204:79.

mixtione humanae complexionem).¹¹⁶ Flesh is part of the human substance and cannot be accounted for by the intellect (*intellectus*) together with matter stripped from any form (*materia denudata a formis*).¹¹⁷ Therefore, “it is necessary that there is a form of flesh other than the intellect.”¹¹⁸ Also in the Eucharist (*in sacramento altaris*), the bread and wine are transubstantiated into the body and blood of Christ, not into his soul; therefore, a form other than the rational soul must account for the body.¹¹⁹ And finally, the form of corporeity accounts for the resurrected body, which cannot take place if the body is corrupted into nothing.¹²⁰ A body is matter informed by the universal form,¹²¹ by the form of corporeity,¹²² and by the specific form of that kind of body, together with their active and passive qualities.¹²³ The dead body, separated from the soul, is reduced to its basic constituents (the original reasons or the matter common to the elements) and is reassembled by divine intervention in order to be reunited with the soul. The reassembly is the work of God, and made in an instant, not dependent on human intervention.¹²⁴

Kilwardby concludes his argument by saying that corporeal and spiritual forms can have a certain unity, but that it would be false and impossible to argue that there is a complete unity of forms (*unitas formarum omnimoda*)—that one and the same form exercises the diverse species of actions directed to different species of objects—and that he neither knows nor even understands such a position.¹²⁵ Against this view, Kilwardby claims that the soul is a composite unity, constituted of three substantial forms that inform the matter of the soul and that together make the form of a living thing, which, together with the body (also composite

¹¹⁶ *Sent.* 2, 87, 243.09–10; but esp. *Epistola* 7, 52.01–03, “Item, *caro et actus eius* universaliter opere nature producitur de potencia elementorum mixtorum” (emphasis added).

¹¹⁷ *Epistola* 7, 52.05–06.

¹¹⁸ “Unde oportet, quod ibi sit alia forma carnis, quam intellectus”; *Epistola* 7, 51.26–27.

¹¹⁹ *Epistola* 7, 52.19–26. See P.J.J.M. Bakker, *La raison et le miracle. Les doctrines eucharistiques (c. 1250–c. 1400)* (Nijmegen: 1999). For Kilwardby, see 178–79.

¹²⁰ “Et si hoc, non resurgit idem corpus hominis, quod moritur”; *Epistola* 2.20, 17–18.

¹²¹ *DOS*, 31, 246:92.

¹²² *DOS*, 31, 246:92; *Sent.* 2, 61, 173.50–51; *Sent.* 2, 62, 178.43.

¹²³ *DOS*, 31, 248: 93; *Epistola* 2, 24.

¹²⁴ *Epistola* 5, 40, 10–15. See also *Sent.* 1, 142, 383.48–49.

¹²⁵ *Epistola* 7, 49–50, 20–03; also *Epistola* 7, 53.35–36.

of many forms) is a human being.¹²⁶ The *potentiae* of the soul relate to one another as that which is perfected to that which perfects, and their natural inclination is grounded in the soul's natural desire to know.

The final question to pose is: does the unity of the soul remain in the disembodied state? Kilwardby offers two incompatible accounts, one founded on the authority of Augustine, the other on Aristotle. In *Sent.* 2, 8, Kilwardby argues that, *for Augustine*, vegetative, sensitive, and intellective *potentiae* are simultaneously created and separated from the body,¹²⁷ and therefore the (composite) unity of the soul remains integral even when separated from the body.¹²⁸ The sensitive part of the soul is separable not *qua* sensitive, but due to its natural inclination towards the rational part of the soul.¹²⁹ (The vegetative and sensitive *potentiae* of irrational animals are generated and corrupted together with the body).¹³⁰ On the contrary, in the *De ortu scientiarum*, the *De 43 Questionibus*, and the *Epistola* Kilwardby argues that *for Aristotle* the *potentiae* that result from the work of nature and operate through the body are corrupted with the body and restored in the resurrected body by divine intervention,¹³¹ whereas the *potentia intellectiva* is separable, insofar as it is created.¹³²

Knowledge

Sense Perception

Kilwardby discusses the process of sense perception at length in his *De spiritu fantastico sive de receptione specierum*, which dates from his

¹²⁶ "Ex hiis formis corporalibus iam memoratis, et hac spirituali que constat ex multis, humanitas una resultat"; *Epistola* 7, 53.27–28.

¹²⁷ *Sent.* 2, 8, 32.101–8. In the *Epistola* (5, 40), Kilwardby refutes this view of the simultaneous creation of the vegetative, sensitive, and intellective, which here he seems to be endorsing.

¹²⁸ *Sent.* 2, 8, 32.107–8.

¹²⁹ *Sent.* 2, 8, 30–31.68–79; *Sent.* 2, 31.73–74; *Sent.* 2, 32.103–5. Kilwardby argues that the sensitive soul is incorruptible because *it is united with the intellective soul*.

¹³⁰ "In brutis autem sensibilis et vegetabilis generantur et corrumpuntur cum corpore"; *Sent.* 2, 8, 30.63–64.

¹³¹ "Item ad idem valet quod sensitivum secundum quod huiusmodi totaliter est a natura et corrumpitur—*dico secundum Aristotelem de cuius processu modo loquitur*—sed intellectiva potentia a solo creatore est, et incorruptibilis est"; *DOS*, 10, 55:27, (emphasis added).

¹³² *Epistola* 5, 41.05–13. The conclusion leaves no doubt, "Relique autem partes manifestum est ex hiis, quod non separabiles sunt."

period in Oxford (1250–61).¹³³ In the first paragraphs of this work, Kilwardby sets out the starting points of his theory of sense perception, which he assumes without discussion.¹³⁴ First, the soul (*anima*) has two parts responsible for knowledge, the superior (*mens*) or intellectual (*intellectualis*) and the inferior (*spiritus*) or sensory (*sensualis*).¹³⁵ The *spiritus* is the part we have in common with the other animals,¹³⁶ and is responsible for sense-perception and for appetitive movement.¹³⁷ (It must be noted that Kilwardby is not terminologically consistent, and *spiritus* is used to refer both to the soul as a whole, or to any of its parts; similarly, *anima* is used sometimes to refer to the mind only).¹³⁸ Second, the sensitive and imaginative parts are one in essence, differing only in mode and function: the same part is *sensitiva* in the presence of the sensible object and *imaginativa* in its absence.¹³⁹ Third, the body is the instrument of the soul, which in turn is its ruler. The sensory soul knows sensible things through itself and primarily (*per se et primo*), whereas the body knows through the soul. (This point, of Augustinian influence, sets the tone for Kilwardby's theory of perception, characterized by the active nature of the soul.) Fourth, according to both Aristotle and Augustine, says Kilwardby, sensible things are known insofar as their species, or likenesses, or images, are

¹³³ See M.-D. Chenu, "Le 'De Spiritu imaginativo' de R. Kilwardby, O.P."; *Revue des Sciences Philosophiques et Théologiques* 15 (1926): 507–17, and Patrick Osmund Lewry, "Robert Kilwardby On Imagination: The Reconciliation of Aristotle and Augustine," *Medioevo* 9 (1983): 12–18.

¹³⁴ "Hec ad evidenciam subsequentiam sine disputatione prelibata sint," *DSF*, 4, 56.24–25.

¹³⁵ *DSF*, 87, 74.11–13. See also *DSF*, 257, 115.01. These two parts are essentially distinct. (See *Sent.* 1, 61, 175.63–9; *Sent.* 1, 64, 188; *Sent.* 1, 65, 189–91; *Sent.* 1, 66, 192–3; *Sent.* 1, 67, 194–8.)

¹³⁶ *DSF*, 2, 85. See also *Sent.* 1, 35, 90.328–31, and *Sent.* 1, 64, 187–88.23–26; *Sent.* 2, 8, 29.44–45. On the Augustinian *spiritus* as the part of the soul that receives the likenesses of sensible objects, see *DSF*, 1; *Sent.* 2, 37, 119.64–66; *Sent.* 3, 2 22.3, 84.69–70. See also Augustine, *De genesi ad litteram* 12.9.20; Nemesius of Emesa, *De natura hominis*, ed. G. Verbeke and J.R. Moncho (Leiden: 1975), 70–71; Johannes de Rupella, *Tractatus de divisione multiplici potentiarum animae*, ed. P. Michaud-Quantin (Paris, 1964), part 2, 54.151–53, p. 133.

¹³⁷ *DSF*, 99, 75.34. On *D43Q* 8, 18.291–92, Kilwardby distinguishes between the *spiritus sensitivus* as that which is responsible for sensitizing the body and the *spiritus motivus* as that which is responsible for motion, both having their origin in the brain; to these, must be added the *spiritus vitalis*, whose origin is the heart (*D43Q* 24, 27.580).

¹³⁸ A clear example can be found in *Sent.* 1, 39, 125.45–58. Here Kilwardby holds that the term *spiritus* refers both to something corporeal, something incorporeal, and even to God. On the same imprecision in Augustine, see G. O'Daly, "Anima, Animus," in *Augustinus-Lexicon*, ed. C. Mayer et al. (Stuttgart: 1986–94), 1:315–17; and M.-D. Chenu, "Spiritus: Le vocabulaire de l'âme au XII^e siècle," *Revue des Sciences Philosophiques et Théologiques* 41 (1957): 209–12.

¹³⁹ *DSF*, 2, 55–56.26–12; 52, 66.29–30.

present in the knower.¹⁴⁰ With these starting points in hand, Kilwardby starts his investigation of the process of sense perception, focusing on two questions: the origin of our knowledge of sense objects and how sensible species transit from the organs of the proper senses to the organ of the common sense.

For Kilwardby, there is no knowledge of sensible things without and prior to the use of the senses,¹⁴¹ that is, the soul is completely empty before sensation.¹⁴² We have access to extramental sensitive things only through the reception (*per receptionem*), in the organ of the senses, of the species of the corporeal things,¹⁴³ a point which both Aristotle and Augustine seem to agree upon. What they disagree on is whether the efficient cause of sense perception is the external object (Aristotle) or the sensory soul itself which makes *in* itself (*in semetipsa*) and *from* itself (*de semetipsa*) the images of sensible objects (Augustine).¹⁴⁴ The *De spiritu fantastico* is aimed at providing a conciliatory solution to these two explicitly contrasting accounts.¹⁴⁵

According to Kilwardby, the object generates and emits *per viam naturae* the species or likenesses of itself,¹⁴⁶ reaching the sense organ (*irradiet a se speciem suam per quam tangat oculum*).¹⁴⁷ The species of sensible things are described as “*spiritual* lights that are produced from corporeal forms by radiation so that the forms may be revealed.”¹⁴⁸ The generated

¹⁴⁰ In *DSF*, Kilwardby takes species, likenesses (*similitudinibus*), or images (*ymaginibus*) to mean the same; *DSF*, 4, 56.18–24. See also *QLI* 89, 280.70. However, on the difference between *imago* and *similitudo*, see *Sent.* 2, 77.3, 211–12.28–38: *Similitudo* requires a formal conformity or conformity of nature, whereas *imago* does not.

¹⁴¹ *DSF*, 23, 59.35–60.2. See also *Sent.* 1, 4, 11.4–5; *DSF*, 6, 8, 23; *DOS*, 2, 84:220; *Sent.* 3, 1 44, 188.60–62.

¹⁴² *DSF*, 23, 59.33–35. This includes also intellectual cognition of sensible objects (see *DSF*, 25, 60.29–30; *Sent.* 1, 62.1, 178.46–49; *Sent.* 1, 89, 281.97–102; *Sent.* 2, 37, 119.42–43; and *Sent.* 3, 2 24.3, 84.90–91).

¹⁴³ *DSF*, 76; *Sent.* 2, 37, 119.84–85. Only corporeal things can be sensed; *DSF*, 35, 63.19–20.

¹⁴⁴ *DSF*, 80, 72.21–28. See also *DSF*, 134, 86.8–9. See Augustine, *De trinitate*, in *Corpus Christianorum*, series latina, vol. 50 (Turnhout: 1968), 9.3.

¹⁴⁵ Question three of the *DSF*, about this topic, runs (including the *dubitaciones*) from paragraph 41 to 218, by far the longest of the treatise.

¹⁴⁶ *Sent.* 1, 35, 83.97–100. See also *Sent.* 2, 77, 212.41–59. On the limited representational power of the species, see *Sent.* 1, 89, 280.75–77. See also *DSF*, 96; and *Sent.* 3, 1 44, 188.71–78.

¹⁴⁷ *DSF*, 57. See also *Sent.* 1, 69, 193.35, and 89, 279.28–29.

¹⁴⁸ “species sensibilium non immutant nisi secundum incessum rectilineum, eo quod sunt *lumina spiritualia a corporalibus formis ad sui ostensionem per modum irradiacionis genita* *DSF*, 152, 90.24–26. Kilwardby mentions three types of light, which are connected with the three types of cognition or vision: bodily light, imaginative or spiritual light, and intellectual light; *DSF*, 25–6, 36, 43, 46, 164, 212; *Sent.* 1, 4, 11.18–20; *DOS*, 27, 85:222. See

species first move the medium and then the sense organ.¹⁴⁹ To take the prototypical case of vision—the most noble sense¹⁵⁰—the species of color (*species coloris*) is present in the illuminated medium,¹⁵¹ and then in the sense organ.¹⁵² Kilwardby argues that both color and light are objects of vision:¹⁵³ color as the material object and light (*lumen*) as the necessary condition for making something visible.¹⁵⁴ Light is perceived only as conjoined with (*in collatione*) the illuminated object.¹⁵⁵

As Kilwardby denies any visual ray theory,¹⁵⁶ the meeting point of species and sensory soul is the sense organ.¹⁵⁷ When the sensible species arrive at the sense organ, there is a “certain touch and resistance” (*quidam tactus et resistencia*) between the *intencio sensus* and the *species*

Augustine, *De genesi ad litteram*, 12.7.16. In paragraph 171 Kilwardby quotes Augustine's *De musica* (6.5) where he claims that the instrumental spirit is in a purer state in the eyes, which makes it “something luminous”; see also *Epistola* 5, 41–2.25–03.

¹⁴⁹ *DSF*, 57, 68.11–13, and 189–90. See also *Sent.* 1, 61, 173.30–31. The medium is a body; *DOS*, 17, 122:49.

¹⁵⁰ *DOS*, 18, 126:50–51. On the relation of vision and perspective, see *DOS*, 11, 77–78, and in particular, whether the rays of light, irradiating from the object, move in a straight line or not, see *DOS*, 17, 121–22.

¹⁵¹ *DSF*, 153.

¹⁵² *Sent.* 1, 35, 83.96–99. The object acts through its active qualities; *DOS*, 7, 25:19. See also *DOS*, 17, 119:49.; *Sent.* 1, 68, 190.32–39; *Sent.* 2, 68, 191.68–69.

¹⁵³ *Sent.* 3, 2 5, 18.25–30. See also *Notule Libri Prisciani De accentibus*, ed. Patrick Osmund Lewry, 126.157–58; cf. Alhazen, *Perspectiva* in *Opticae thesaurus: Alhazeni Arabis libri septem nunc primum editi; eiusdem liber De crepusculis & nubium ascensionibus: Item Vitellonis Thuringopoloni libri X*, ed. Friedrich Risner (Basel: 1572), 2:18, p. 35; see also A.I. Sabra, “Sensation and Inference in Alhazen's Theory of Visual Perception,” in *Studies in Perception: Interrelations in the History of Philosophy and Science*, ed. Peter K. Machamer and Robert F. Turnbull (Columbus: 1978), 163; and David C. Lindberg, “Alhazen's Theory of Vision and Its Reception in the West,” *Isis* 58, no. 3 (1967): 321–41. Color is a certain manner of being of light that results from light being mingled with a diaphanous body (“Colour enim fit ex admixtione lucis igneae cum diaphano terminato. Cum enim haec admiscuntur, fit quidam modus lucis essendi qui colour dicitur”), *Sent.* 2, 68, 190.34–37, and *Sent.* 2, 68, 190.45–47. Light is the cause and color is the effect; *Sent.* 2, 138, 369.182–86.

¹⁵⁴ *Sent.* 2, 78, 216.53–54. In *Sent.* 1, 61 (174.57–58), Kilwardby distinguishes between *lucere*, the absolute action of light with respect to no object and *illuminare*, which is the same action but insofar as it affects an object. On light as an efficient cause, see *Sent.* 2, 68, 38–39, and *Sent.* 2, 137, 360–61.29–34; *Sent.* 3, 2 22, 75.224, and *Sent.* 3, 2 63, 270.150–54.

¹⁵⁵ *Sent.* 3, 2 26, 190–204. Cf. Alhazen, *Perspectiva* 1:14, p. 7.

¹⁵⁶ Kilwardby does not hold any extramission or projection theory, although he recognizes that to be Augustine's position. However, he claims Augustine's extramission theory should be understood as meaning only that the spirit, being luminous, is “diffused through the eyes,” becoming somehow luminous (cf. *DSF*, 172–75). In *Sent.* 1, 89, 278.22–3, Kilwardby refers to, and immediately dismisses, the extramission theory (“quod corporalis fit per emissionem radiorum ad rem loco distantem”): we know through the species we receive from the things themselves.

¹⁵⁷ *DSF*, 55.

sensibilis; otherwise, the sense organ would not undergo any change (*motus*) or affection (*passio*).¹⁵⁸ The kind of being affected which takes place in sensation is alteration, defined as a new disposition perfecting an existing one.¹⁵⁹ The organs must have dispositions similar to those of the medium, although the species move differently in the medium (*ad uas*) and the sense organ (*in uas*). In the case of sight, Kilwardby claims the eye should be somehow luminous,¹⁶⁰ being so through the presence of the corporeal sensitive spirit.¹⁶¹ This luminosity of the eye complements the exterior light, rather than replace it.¹⁶² Neither the medium nor the sense organ takes the quality of the species that moves it, that is, the eye receives the species of whiteness without becoming white.¹⁶³

Sense and object must meet in “a suitable matter,” which is accordingly different for the different species.¹⁶⁴ Kilwardby is not very clear about the nature of species but at least he is explicit about the existence of two kinds of species generated by sense objects: there are material species, such as the species of sound and smell, and spiritual species, including the visual species, color. Whereas sound and smell move by airwaves, color and light move in a straight line that “can be reflected and broken but not bent.”¹⁶⁵ Here, the “visual intention” and the “visible species” (*intentio uisus et species uisibilis*) must meet directly, facing each other.¹⁶⁶ “Spiritual” here must not be taken as nonphysical, as the species of color are corporeal, albeit of a special kind. The criterion for distinction seems to be that a species is spiritual if it is not subject to the motions of the medium (*De spiritu fantastico*, 190; see also 153).

Once the species have been received in the organs of the proper senses it is necessary to explain how they go from there to the organ of the common sense, in order for this power to apprehend and judge all sensible things while still present.¹⁶⁷ Kilwardby offers two admittedly overlapping accounts (*De spiritu fantastico*, 184–85), with the introduction of the

¹⁵⁸ *DSF*, 190.

¹⁵⁹ *DSF*, 61.

¹⁶⁰ *DSF*, 191.

¹⁶¹ *DSF*, 179.

¹⁶² *Epistola* 5, 41–42.25–03.

¹⁶³ *Sent.* 1, 92, 292.13–14.

¹⁶⁴ *DSF*, 188. See also *DSF*, 153, and 190, 100.7–9.

¹⁶⁵ *OI*, 188, p. 118; *DSF*, 190. See also *DOS*, 17, 123:50; *D43Q* 2, 12.93. Kilwardby says rays of light are not lines because lines belong to bodies, and light is not a body; *DOS*, 17, 122:49.

¹⁶⁶ *DSF*, 190. Cf. *Sent.* 1, 69, 195–96.115–29.

¹⁶⁷ *DSF*, 155; 272–80.

distinction between the corporeal sensitive spirit and the incorporeal sensitive spirit.¹⁶⁸ According to the first, the images are transmitted to the organ of the common sense (located in the brain *and* in the heart) by the corporeal spirit.¹⁶⁹ The corporeal spirit (*spiritus corporeus*), which is the mediatory instrument of the sensory soul controlling and moving the body,¹⁷⁰ is made of subtle materials such as fire and air,¹⁷¹ and divides into vital spirit, generated in the heart, and animal spirit, made in the brain from the purified vital spirit.¹⁷² Although Kilwardby calls the whole of the physiological mechanism an “organ of sense,” the corporeal spirit is the organ of sense in a primary sense; while the organs of proper senses, nerves and ventricles, are the organ of sense in a secondary sense.¹⁷³ According to this physiological process, the sensible species are carried by the corporeal sensitive spirit, through a corporeal pathway up to the frontal ventricles in the brain, occupied by imagination and common sense.¹⁷⁴

According to a second process, the sensory soul (here named “incorporeal vitalizing sensitive spirit”) is in a permanent tensional state, paying attention to everything that happens with the body. When the organ of sense is affected by an exterior object, the *spiritus sensitivus* must move the sense organ according to the ways this has been affected.¹⁷⁵ This movement is justified by the necessity of protecting the sense organ which can be injured and destroyed, for instance by the excess of light.¹⁷⁶ During this (counter)motion, the sensitive spirit makes itself similar to

¹⁶⁸ *DSF*, 182, 97:17–18.

¹⁶⁹ *DSF*, 184. For the two seats of the organ of the common sense, see *DSF*, 266, 280. From the point of view of the apprehension, the organ of the common sense is primarily the brain, because it is the more spiritual and peaceful organ; *DSF*, 284. From the point of view of the desiderative power the heart is primarily that organ (since it is the source of the heat necessary to cause motion, *DSF*, 285). See J.R. Veenstra, “The Subtle Knot: Robert Kilwardby and Gianfrancesco Pico on the Imagination,” IN *Imagination in the Later Middle Ages and Early Modern Times*, ed. L. Nauta and D. Pätzold (Leuven: 2004), 12.

¹⁷⁰ *DSF*, 174; see also *DSF*, 168, 94:13–16, and 179, 217. Kilwardby points out, in the *DOS* (7, 25:19), that any substance does not act directly but through some instrument, in the same way that the soul uses the tongue as an instrument for speaking. See also *Sent.* 3, 16, 30:39–41.

¹⁷¹ *DSF*, 174, 95:31–34; see also 176, 179, 180, and pseudo-Augustine, *De spiritu et anima*, PL 40, 1:33, 802–3; also Hugh of St. Victor’s *De unione spiritus et corporis*, 37–55, in A.M. Piazzoni, “Il ‘De unione spiritus et corporis’ di Ugo di San Vittore,” *Studi Medievali* 21 (1980): 884–85.

¹⁷² *DSF*, 270, 119:1–6.

¹⁷³ *DSF*, 168–73 and 181.

¹⁷⁴ *DSF*, 201, 103:24–26.

¹⁷⁵ *DSF*, 100, 76:12–15.

¹⁷⁶ *DSF*, 101, 76:25.

what was impressed in the sense organ,¹⁷⁷ and the result of this act is the formation, in the soul, of an image of the sensible thing.¹⁷⁸ The image in the soul is not the same as the one in the sense organ.¹⁷⁹ The image is the result of the natural power of the soul to become like (*assimilatio*) the object.¹⁸⁰ The image is not something left by the object,¹⁸¹ “in such a way that what is bodily acts upon the spirit,”¹⁸² but something made by the soul “in itself and from itself” (*in et de semetipsa*).¹⁸³ This image can be considered materially, in which case it means that from which it is made (*de qua*), the substance of the soul; and formally, with respect to its nature as an accident inhering in the soul (*in qua*),¹⁸⁴ as the image is relative to that of which is the likeness.¹⁸⁵ Less constrained by the material limitations of the corporeal spirit, the sensory soul is simultaneously whole in every part of the corporeal *spiritus vivificatus*, informing this spirit with the image just made. Kilwardby illustrates the process with the example of many lines terminating in a central point. The corporeal spirit is like all those lines, spread throughout the body. The incorporeal vitalizing spirit is at the same time everywhere in the corporeal spirit and in contact with all the points of each line.¹⁸⁶ Kilwardby justifies the need for the psychological process by saying that the soul must motivate its instrument, the corporeal spirit, for the action of moving the body, which is done by the soul impressing the image of the external object in the corporeal spirit.

Therefore, according to Kilwardby, sensing implies two contrary motions: one, from the sensible object towards the sense organ; the other, the soul directing its attention and reacting to the affection of the sense

¹⁷⁷ *DSF*, 121, 82:17–19.

¹⁷⁸ *DSF*, 185, 98:13–7.

¹⁷⁹ *DSF*, 118.

¹⁸⁰ *DSF*, 103, (see n860 below).

¹⁸¹ *DSF*, 112, 79–80:36–02.

¹⁸² “Si autem velit Philosophus quod res aliqua irradietur a sensibili, et haec transeat per organum sensus, et inde uniatur spiritui, tamquam corpus sic agat in spiritum, et species in spiritu sit aliud essentialiter a spiritu et ab extra ei immisum, non videtur concordare”; *Sent.* 1, 68, 202.125–28.

¹⁸³ *DSF*, 80, 72:21–6; also 134, 86:8–9. For the Augustinian character of the terminology, see José Filipe Silva, “Robert Kilwardby on Sense Perception,” in *Theories of Perception in Medieval and Early Modern Philosophy*, ed. Pekka Kärkkäinen and Simo Knuutila (Dordrecht: 2008), 87–99.

¹⁸⁴ “Sic ergo ymagines corporum in se et de se: in se, si formaliter considerentur; de se, si materialiter,” *DSF*, 135, 86:27–28.

¹⁸⁵ *DSF*, 142, 88:18–25. See also *DSF*, 94.

¹⁸⁶ *DSF*, 185, 98:13–30.

organ.¹⁸⁷ A third motion is required to complete the process because no object has yet been perceived. Therefore, sense perception takes place in three moments:

1. The affection of the sense organ (*affectio organi*) by the sensible species irradiated from the sensible object (*ab obiecto sensibili*). The result of this motion is the impression of the sensible species in the sense organ.¹⁸⁸
2. The soul involves itself with the species received in the sense organ (*conuoluendo se cum illa*), which results in the production by the soul of an image or likeness (*similitudo*) of the sensible species.¹⁸⁹ According to Kilwardby, the sensory soul forms the image by natural instinct (*instinctu naturali*).¹⁹⁰ Perception is possible due to the soul's intentional state with respect to the affection of the organ. When human beings sleep, the sense organs continue to be impressed by the species from sense objects; however, this impression, without the attention of the soul, does not give rise to any act of perception.¹⁹¹
3. The sensory soul turns upon itself and sees itself as being similar (*reflectendo aciei uidet se talem*) to the species of the sensible object.¹⁹² When the soul turns its eye upon itself, the soul sees the sensible object through the image made by itself in and from itself¹⁹³—the soul “does not distinguish one image from the other.”¹⁹⁴ The immediate object of

¹⁸⁷ *DSF*, 112, 79:30–36; see also 151, 90:16–19.

¹⁸⁸ *DSF*, 103, 77:21–22; see also 96–97.

¹⁸⁹ *DSF*, 166, 93:29–31; see also 121, 82:17–19 and 185, 98:13–17. Kilwardby makes clear he is talking about the sensory, not the rational, part of the soul (see *DSF*, 140, 88:09–13, answering to the objection raised in *DSF*, 84), in which he departs from Augustine.

¹⁹⁰ *DSF*, 128, 84:19–23.

¹⁹¹ *DSF*, 203, 104:24–27.

¹⁹² *DSF*, 103, 77:28–31.

¹⁹³ *DSF*, 126, 83:29–33. Note: Kilwardby uses the expression *acies animi*, both to refer to the eye of the mind, which only humans have, and to “the eye of that soul we have in common with the other animals”; *Sent.* 1, 62.1, 181.116–17. The awareness of the image of the object is an operation of the sensory soul, and not of reason, “intencio animi et spiritus sentiens et acies eius idipsum sunt realiter, quia id quod animus—et dico animum qui communis est nobis et bestiis”; *DSF*, 109, 79:18–20.

¹⁹⁴ “Nec discernit ymaginem ab ymagine, scilicet illam quam fecit sensibile in organo et quam ipse in se conuoluendo se cum ymagine inuenta in organo. Tamen, cum sint coniuncte et simul, ut ita dicam, conuolute uel applicite, per illam que formata est in spiritu uidetur illa que formata est in organo, utraque tamen sentitur et simul, sed exterior per interiolem”; *DSF*, 104, 78:5–10.

perception is the external thing,¹⁹⁵ not the image by which the thing is known (*quo res cognoscitur*).¹⁹⁶

Kilwardby limits the action of the object in the process to the sense organ, stressing instead the role of the soul. Now, Aristotelians (*Aristotilici*) attempt to extend the action of the sensible thing and to claim that the sensible species moves the the medium, then affects the sense organ, and continues its action by impressing itself in the sensitive power,¹⁹⁷ as if the (sensory) soul could be acted upon by what is corporeal.¹⁹⁸ Against this, Kilwardby endorses an Augustinian active theory of perception,¹⁹⁹ claiming that the efficient cause of the images in the soul is none other than the sensory soul itself.²⁰⁰ The soul forms from and in itself images of sensible things,²⁰¹ in imitation of the species received in the sense organ (*ad imitationem imaginis receptae in sensu*).²⁰² In agreement with the ontological hierarchy of being which Kilwardby advocates as one of his starting points, nothing lower in the scale of being can affect anything higher in the same scale. As object and sense organ are on the same ontological level (both being material),²⁰³ the object can affect the organ, however, neither the object, the species, nor the sense organ can act upon the soul.²⁰⁴ The species is lower on the scale than the sense organ in which it is received (*in quo suscipitur*) and the object from which it flows (*irradiatur*), since it has an accidental nature.²⁰⁵

¹⁹⁵ *DSF*, 110–11, 79:21–26.

¹⁹⁶ *Sent.* 1, 89, 280.67–68.

¹⁹⁷ *DSF*, 70 and 78; see also 59–61, esp., *DSF*, 97; and *Sent.* 1, 35, 84.152–57.

¹⁹⁸ “Et hoc tenendo, diceretur quod non est inconueniens animam uel spiritum moueri ab organo uel sensibili, eo quod spiritus sensitiuus est in potencia ad speciem sensibilem, et organum ac sensibile habent illam in actu. Et iste actus habet ordinationem naturalem ad complendum illam potenciam. Istud forte dicerent Aristotilici, quia non uidetur ipsum aliter sensisse ex scriptis eius que ad nos hucusque uenerunt”; *DSF*, 97, 75.20–26. See also *DSF*, 62, 69, 70:28–30, and *Sent.* 1, 68, 202:125–28, “Si autem uelit Philosophus quod res aliqua irradietur a sensibili, et haec transeat per organum sensus, et inde uniatu spiritui, tamquam corpus sic agat in spiritum, et species in spiritu sit aliud essentialiter a spiritu et ab extra ei immissum, non uidetur concordare.”

¹⁹⁹ *DSF*, 98, 75:27–31.

²⁰⁰ *DSF*, 103, 77–78:32.03; see also *DSF*, 63.

²⁰¹ *DSF*, 68, 70.14–15.

²⁰² *Sent.* 3, 1 44, 189–90.103–7. He calls this the Augustinian way (*modum Augustini*).

²⁰³ *DSF*, 56, 68.05–07.

²⁰⁴ *DSF*, 57, 68:10–11, and 47–50; 52–56. The body can affect the soul only by resistance and, in the postfallen state, by subjecting the soul to bodily appetites (a punishment, Kilwardby claims, for the original sin). See *Sent.* 2, 157, 433.136–47.

²⁰⁵ *DSF*, 60, 68:27–30.

For Kilwardby, the process is best described in Augustine's terms, asserting that it is the action of the soul, converting itself and making itself to be like the image of the sensible object, that is truly responsible for perception: "this coming to be like the corporeal objects is made through coming to be like and conforming with the affection made in the sense organ by the sensed thing."²⁰⁶ Thus, sense perception is best described as the soul assimilating itself to the affection of the body (*actione animae assimilantis passioni factae in corpore*) rather than the body's acting upon the soul (*actione corporis in animam*).²⁰⁷ And, therefore, what memory retains—for further use for the powers of imagination and intellect—is the motion (*impetus*) of the soul towards the *passione corporis* and not the species themselves.²⁰⁸ Motion here means (formally) the soul's becoming like the species, and (materially) what is acquired with the motion of becoming like, that is, the image of the object (*De spiritu fantastico* 166). Perception is, then, the result of focused attention, assimilation and the awareness of the results of that selective attention and assimilation.

The object is a necessary cause of sense perception; otherwise, it could be argued that the soul makes the images of sensible objects from itself "at will" (*pro libito*).²⁰⁹ However, it is not a sufficient cause of sense perception: the impression caused by the object is limited to the affection of the sense organs, the rest being the work of the motions of the sensory active soul, that is, the soul is the *causa efficiens per se*, and the object the *causa efficiens per accidens*.²¹⁰ Kilwardby believes himself to have found here the key for reconciling the accounts of Aristotle and Augustine.

²⁰⁶ "Et si forte quaeris quid est species vel imago rei in anima secundum ipsum, videtur dicendum quod nihil aliud sit nisi anima vel mens vel spiritus assimilatus rei extra cognoscibili. Et haec forte assimilatio erga corporalia est per assimilationem et conformationem passioni factae in organo sensus a re sensata"; *Sent.* 1, 68, 202.109–12. (See also *Sent.* 3, 2 38, 145.72–74.) See S.F. Brown, "Medieval Christian Philosophy," in *Columbia History of Western Philosophy*, ed. R.H. Popkin (New York: 1999), 240.

²⁰⁷ *Sent.* 1, 68, 203.135–43.

²⁰⁸ *DSF*, 150, 89–90.01–07.

²⁰⁹ *DSF*, 78.

²¹⁰ "Similiter anima occurrens passionibus corporis per se causa cognitionis est, sensibilia et organum sensitivum accidentaliter sicut instrumentum uel instrumenta quibus utitur anima ad sui informationem"; *DSF*, 123, 82.34–36. This probably is the influence of Quata Ibn Luqa, who claims the soul to be the *causa longior* of sensation, while the (material) spirit is the *causa priorior*. See J. Wilcox, *The Transmission and Influence of Quata Ibn Luqa's "On the Difference between Spirit and the Soul"* (New York: 1985), 187. lines 533–36.

Intellectual Cognition

Kilwardby adopts the Augustinian view of the rational soul as constituted by three powers: intelligence, memory, and will (or love).²¹¹ Memory and intellect can still be grouped into the cognitive (*aspectus*) part of the soul, and will (or love) in the affective (*affectus*) part, a distinction that is probably derived from Grosseteste.²¹² The focus here is on the two powers of the *aspectus*, memory and intelligence.

Kilwardby's wish to reconcile the thought of Aristotle and Augustine is not limited to sense perception, but is also found with respect to intellectual cognition, more specifically on the subjects of the power of memory and what should be included as intellectual knowledge. According to Augustine (as understood by Kilwardby) memory is a power (*potentia*) of the soul that deals with both intellectual and sensitive objects, and which concerns the present, past, and future; while for Aristotle memory (*memoria*) is a disposition (*habitus*) of the sensitive part of the soul, distinct from recollection (*reminiscentia*), which concerns intellectual objects.²¹³ Kilwardby offers in *Sent. 1*, 62 a detailed account of the power of memory based on the different kinds of objects of knowledge, where he distinguishes between a sensory and an intellectual memory.²¹⁴

According to Kilwardby, there is a lower, *brutalis*, memory (A), which belongs to the sensory soul and concerns sensible objects;²¹⁵ and there is an higher, *rationalis*, memory which belongs to the rational part of the soul. Rational memory can be further divided into a superior and interior (B), which concerns spiritual objects, and an inferior and exterior (C), which concerns images of corporeal objects.²¹⁶ (B and C are two aspects

²¹¹ *Sent. 1*, 69–70; see also *Sent. 1*, 86.195–97, and *Sent. 1*, 36, 59–71.

²¹² *Sent. 1*, 61, esp. 176.109–17. Kilwardby argues for the nonessential distinction between these two parts of the soul, by claiming they are two aspects of the rational part of the soul. Cf. S. Kitanov, *Beatific Enjoyment in Scholastic Philosophy and Theology: 1240–1335* (Helsinki: 2006), 79. See also Simo Knuuttila, *Emotions in Ancient and Medieval Philosophy* (Oxford: 2004), 196, 210, 265.

²¹³ *Sent. 1*, 62, 177.21–3, and *Sent. 1*, 59, 167.57–61. However, in the *DOS* (10, 48:25), Kilwardby presents a different account of memory from the one in the *Sent. 1*. He distinguishes between the *recordativa* and the *reminiscitiva*, the former the sensitive memory, the latter the intellective memory.

²¹⁴ *Sent. 1*, 62.1, 179.55–58.

²¹⁵ *Sent. 1*, 62.1, 179.59–60; *DSF*, 207; Kilwardby, *NLSP* 401.39–43.

²¹⁶ *Sent. 1*, 62.1, 89–95. Kilwardby discusses the relation between the two powers of *aspectus* in terms of priority, a question that arises in Fishacre's *Sentences* commentary (cf. R. James Long, "Interiority and Self-Knowledge According to Richard Fishacre," in *Intellect and Imagination in Medieval Philosophy*, ed. M.C. Pacheco and J. Meirinhos (Turnhout: 2006), 1270. The gaze of the mind (*acies mentis*) is none other than the soul's actual thinking

of the same power [memory] rooted in the same essence [the intellectual soul] distinguished by their objects.) There is, however, a more significant difference: while the inferior rational memory and the sensitive memory receive (*suscipitur*) the images of the sensible species (or, the images of sensible objects are made through the soul's natural assimilation [*assimilatione*] to the species of the objects received in the sense organs),²¹⁷ the superior rational memory does not receive the intelligible or spiritual (*spiritualia*) eternal truths because they are already in the mind (*per se ipsa sunt praesentia*).²¹⁸ (Thus, A and C have the same objects but a different nature: C is part of the rational soul, A part of the sensory soul. But A and B differ both in nature and object.) For Kilwardby, the intellect operates with two types of cognitive objects:²¹⁹ the *spiritualia*, that is, the intelligible first and supreme truths (*primi et supremi veri spiritualis*), which include the immutable principles of geometry and arithmetic (*De spiritu fantastico* 34; *Sent.* 3, 1 44); and the images of sensible objects received from the sensitive soul (*De spiritu fantastico* 25, 140).²²⁰ The power of memory plays a pivotal role in Kilwardby's theory of knowledge: memory is responsible not only for conforming itself to the species, but also for keeping the species, and for presenting the images to the powers of imagination and intellect.²²¹

The second discrepancy between Aristotle and Augustine concerns what intellectual cognition is about.²²² In *Sent.* 3, 2 38, Kilwardby compares Aristotle's and Augustine's philosophical views with respect to the three kinds of intellectual knowledge: *communiter, proprie, magis*

(= intelligence) the image displayed by rational memory (whether superior or inferior). Memory is, thus, prior to the act (Intelligence) that memory generates—in imitation of the Trinitarian Father generating the Son—and posterior to it, keeping the result of this act.

²¹⁷ *Sent.* 1, 62, 181.134–43; see also *Sent.* 1, 35, 85.163–64, “*Memoria enim habet rem cognoscibilem in se, vel eius similitudinem qua potest intelligi.*”

²¹⁸ *Sent.* 1, 62.1, 179.80–84. (This point will be addressed in connection with divine illumination.) These objects are always present, which is not to say that they are always being thought; *Sent.* 2, 37, 121.133–69.

²¹⁹ *DSF*, 26, 61.01–03. See also *Sent.* 1, 89, 279.43–44.

²²⁰ *Sent.* 1, 62, 178.37–8. See Patrick Osmund Lewry, “Robert Kilwardby On Imagination: The Reconciliation of Aristotle and Augustine,” *Medioevo* 9 (1983): 24. The rational soul is born (*nata est*) to know things through this twofold manner (*res cognoscere duplici via*). See *Sent.* 1, 24, 84.79–95.

²²¹ *Sent.* 2, 39; *Sent.* 1, 62.1, 179.68–73.

²²² I call the attention to this aspect because Kilwardby repeats it several times in different works: *DOS*, 27 and *Sent.* 1, 4 (the text is partly the same), to be complemented with *Sent.* 1, 12 and 68, and still *Sent.* 3, 2 38.

proprie.²²³ For both Aristotle and Augustine, intellectual knowledge includes, in a broad sense (*communiter*), everything to the exclusion of sensory cognition (the *cognitio supra sensum*); properly (*proprie*) it consists, for Aristotle, in the apprehension of universals,²²⁴ whereas for Augustine it consists in the two kinds of vision performed by the intellect:²²⁵ spiritual vision (the knowledge of sensible things received through the senses by means of the imaginative power) and intellectual vision, which is about intelligible nonsensible objects (*spiritualia, non-sensibilibus*) not received through sensation, that is, God.²²⁶ Finally, whereas for Aristotle intellectual knowledge is more properly (*magis proprie*) the cognition of the principles of demonstration (*cognitio principiorum demonstrationis*), for Augustine it is the cognition of spiritual objects. Kilwardby solves the problem by claiming, as elsewhere, that Augustine is more enlightened than Aristotle in spiritual matters;²²⁷ by arguing that it is not incongruent (*non incongrue*) to read Aristotle's definition of intellectual knowledge as referring only to what Augustine defines as spiritual vision, that is, intellectual cognition made from sensory cognition (*fit ex praeexistenti cognitione sensitiva*), therefore excluding Augustine's intellectual cognition proper. Kilwardby calls this direct intellectual cognition.²²⁸ Finally, Kilwardby extends Augustine's intellectual knowledge so as to include the indirect knowledge of intelligible objects acquired through sense perception—what Kilwardby calls knowing by privation: from the knowledge of what is mutable and composite we arrive at the knowledge of the immutability and simplicity of God. Similarly, a human being is not able to see himself directly but only through his image in the mirror.²²⁹

²²³ This corresponds roughly (with the exclusion of the highest *maxime proprie scire*) to the Grossetestian distinction; *Commentarius in Posteriorum Analyticorum Libros*, ed., P. Rossi (Florence: 1981), 1.2.9–22, p. 99, of the four types of knowledge Kilwardby uses in his *NLPoS* 5, 31–2.93–102; see Debra Cannone, “Le Notule libri Posteriorum di Robert Kilwardby nella tradizione esegetica latina medievale del XIII secolo,” 2 vols. (PhD diss., University of Cassino–University “La Sapienza” of Rome, 2003–2004), 1111–24. See also I. Boh, *Epistemic Logic in the Later Middle Ages* (London: 1993), 23–24.

²²⁴ *DOS*, 4, 7:12; *Sent.* 3, 2 38.4, 144.44–51. See also *DOS*, 4, 10:13; *DOS*, 25, 196:76; *DOS*, 33, 335:119; *DOS*, 41, 379:133; *DOS*, 42, 405:141.

²²⁵ *Sent.* 2, 4, 11.18–20.

²²⁶ *Sent.* 3, 2 24.3, 83.54–56; *Sent.* 3, 2 39, 149–50.24–37. See also *DSF*, 18–9; 36, 63.30–31. *DOS*, 27, 222; *Sent.* 2, 37, 119.72.

²²⁷ “Augustinus enim proprius et strictius sumit intellectualem cognitionem quam Aristoteles,” *Sent.* 1, 4, 12.24–5. The same is repeated in *DOS*, 27, 85:222, and *DSF*, 98.

²²⁸ *Sent.* 1, 4, 11.21–22; *DOS*, 27, 223:85.

²²⁹ *Sent.* 1, 4, 12.49–55; *Sent.* 1, 4, 13.56–9; *DOS*, 27, 223–25:86.. See also *Sent.* 1, 42, 138.33–34; *Sent.* 1, 42, 139.78–79; *Sent.* 2, 77, 212.41–42; *Sent.* 3, 2 22, 73.147–64; *D43Q* 16, 23.460–62.

In what follows, concentration is on the two latter meanings of intellectual knowledge, *proprie* and *magis proprie*, apprehension of universals and cognition of the principles of demonstration. Kilwardby explicitly acknowledges that he is following Aristotle in taking demonstrative reasoning as the privileged instrument for scientific inquiry. The object of demonstrative science is necessary truth that is found both in immediate premises and in the conclusions that follow from those premises (*Sent.* 3, 2 38, 145.79–82). Demonstration consists in proceeding from one term to another through the mediation of a middle term (*De ortu scientiarum* 53, 517), which works by leading the mind to assent to the conclusion, and to make the conclusion worthy of assent.²³⁰ Whereas *intellectus* is the apprehension of the principles of demonstration, *scientia* is then the disposition (*habitus*) of the soul which assents to the conclusion obtained through demonstration.²³¹ In its highest form, a demonstrative syllogism must have as starting points true, first, immediate, and prior to, better known than, and cause of the conclusion,²³² *per se*, and necessary.²³³ Each science has its own proper set of principles as well as some common principles shared by all the sciences.²³⁴

We do not see God directly but through his effects, that is, through his image impressed in the created world. Kilwardby stresses repeatedly (e.g., *Sent.* 3, 2 38, 143.16–17) that our knowledge (*notitia*) of God is obscure and enigmatic (*obscura et aenigmatica*). True and certain knowledge is acquired only *in patria*. The terminology as well as the *speculum* example are probably taken from Augustine's *De doctrina Christiana* 2.7.11, to which Kilwardby explicitly refers to in *Sent.* 3, 2 38, 148.169–74.

²³⁰ "Simile est in visione sive cognitione intellectuali. Primo enim videtur medium, deinde per illud conclusio. Et medium ostendit se ipsum et conclusionem et movet informando mentem ut consentiat conclusioni, et etiam facit conclusionem esse dignam assensui. Conclusio autem est obiectum terminans motum huius cognitionis, et sic est ibi duplex obiectum"; *Sent.* 3, 2 5, 18–9.30–35; see also *Sent.* 1, 13, 33.2–3; *Sent.* 3, 2 5, 20.88–90. In a brief remark (*Sent.* 3, 2 1, 7.149–51), Kilwardby claims that this act of assent is the result of some kind of illumination from within the soul ("ex illuminatione aliqua ex parte virtutis apprehensivae"), a view probably derived from Robert Grosseteste. See also *Sent.* 3, 2 5, 18–9.30–5, and *DOS*, 49, 472. See S.P. Marrone, *The Light of Thy Countenance: Science and Knowledge of God in the Thirteenth Century* (Leiden: 2001), 58.

²³¹ *Sent.* 3, 2 16, 53.103–7; *Sent.* 2, 90, 283.19–20.

²³² "necesse est demonstrativam scientiam esse ex ueris, primis, et immediatis, prioribus et notioribus et causis conclusionis"; Robert Kilwardby, *NLPos*, in Cannone, "Le Notule libri Posteriorum di Robert Kilwardby," vol. 2, *NLPos*, 6, 34.8–9. See also *DOS*, 53, 503.171; *NLPos* 20, 116.4–6. These principles are not known through demonstration (*Sent.* 1, 12, 31.61–63; *NLPos* 33, 502.46–47); they are known by induction ("Et ita patet quomodo ex precognitione sensitiva fit completa cognitio principiorum," *NLPos* 33, 504.108–9; see also 33, 506.158–61.

²³³ *NLPos* 19, 110.88–90.

²³⁴ *DOS*, 53, 499.

The science that aims at investigating, through correct reasoning, what is not known from what is known, is logic.²³⁵ In this sense, Logic is the art of arts, the instrument or methodological tool of sciences (*modus scientiarum*).²³⁶ Demonstrative reasoning requires first knowing the terms, which is achieved by an act of simple apprehension; then combining those terms into a propositional form (*De ortu scientiarum* 53, 517); and finally producing the conclusion (*Sent.* 3, 2 16, 52–53.97–107). Different Aristotelian works deal with the different operations of the intellect. The *simplex sermo significativus* is the subject matter of the *Categories*; the proposition of the *Perihermeneias*; the syllogism of the *Prior analytics*.²³⁷ The same holds true for the different kinds of syllogism—the demonstrative in the *Posterior analytics*; the dialectical in the *Topics*; and the sophistic in the *Sophistical refutations*.²³⁸

Scientific knowledge is certain and necessary because it is about what always is (*De ortu scientiarum* 47, 437–38). There is no science of individual sensible things existing here and now (*hic et nunc*),²³⁹ but only of universals.²⁴⁰ However, there is a continuity between the knowledge of images of particular objects in imagination and universals abstracted from them (the cognition of the former is directed to the cognition of the latter).²⁴¹ Because everything which exists in the world outside the mind is either an individual or exists in an individual (there are no universal forms outside the mind; every form in individuals is itself individuated),²⁴² there

²³⁵ “Logica est scientia de ratiocinatione docens modum investigandi veritatem ignotam circa thesim vel circa quaestionem philosophicam,” *DOS*, 53, 523:178. See also *DOS*, 49, 468; *DOS*, 58, 578:198.; and *DOS*, 49, 475:162.

²³⁶ *DOS*, 53, 523:178. Reasoning is logic’s subject matter. (Kilwardby follows Aristotle in holding that the unity of a science requires the unity of its subject matter.) A syllogism can fail (*peccat*) in regard to form, when no conclusion follows; in matter, when the conclusion is reached through false or improbable premises but with the appearance of being probable; or in matter and form (*DOS*, 53, 510). I abstain from discussion the relation between logic as dialectic and grammar. In what follows I take logic in a wide sense, as including dialectic, rhetoric and grammar.

²³⁷ *DOS*, 53, 517–18; see also *DOS*, 47, 439, 152:1–2.

²³⁸ *NLP* *Prooemium*, 5.15–24; *DOS*, 56, 541.

²³⁹ *DOS*, 47, 438:151. See also *Sent.* 2, 18, 76.67–9; *Sent.* 2, 17, 72.365–368.

²⁴⁰ *DOS*, 47, 437:151; *DOS*, 33, 335:119.

²⁴¹ *DOS*, 47, 433; 32, 332; *Sent.* 2, 78, 218:106–8; see also *DOS*, 47, 431:150, “quia multa sunt intelligibilia quae non sunt sensibilia, sed nihil est sensibile quod non intelligibile,” (emphasis added); *DOS*, 47, 430–36; and *Sent.* 2, 18, 75.55–57, “tum quia non posset separare rationem singularitatis ab universali abstrahendo universale nisi cognosceret tam singulare quam universale.” See also *Sent.* 2, 78, 218.106–10; 219.121–22.

²⁴² “Item omne quod extra anima est, vel est individuum vel in individuo. Sed quod in individuo est, pariter cum illo et in illo individuatur. Ergo si universale extra animam est, idem est cum individuo vel aliquo individuato”; *Sent.* 2, 17, 64.90–93. See also *Sent.* 2, 18,

cannot be knowledge of universals without knowledge of particulars: "Sensation is," Kilwardby says, "the gate to human cognition."²⁴³ Universals are the result of the action of the rational soul upon the sense data.²⁴⁴ Sense impressions multiplied by memory are made into experience and "from sufficient experience [we reach] the universal."²⁴⁵ The universal is reached by the intellect considering that which is common (the *ratio uniuersalis* or *ratio commune*) to the multitude of images (or likenesses or phantasms or species) of sensible things (*corporalia*) retained by memory,²⁴⁶ without the particular circumstances of the images.²⁴⁷

In Kilwardby's commentary on the *Isagoge*, part of his set of commentaries in the *Logica vetus*, the process is explained with the agent intellect abstracting the intelligible species from the phantasms and depositing those species in the possible intellect.²⁴⁸ The intelligible species (*species intelligibilis*) are abstracted (*sublimata*) from the material circumstances

76.67–69 "universale non est per se aliquid in actu, sed subsistit per individuum et in ipso, et per esse individui est universale"; and *Sent.* 2, 78, 221.194, "Quod enim in individuo est, individuatur in illo et per illud." Every form is individuated by individuating. The same form is *secundum diversas rationes*, universal and individual (*Sent.* 2, 17, 66.159–67).

²⁴³ "sensus est porta cognitionis humane," *NLPoS* 33, 509.219.

²⁴⁴ "Haurit igitur anima rationalis a rebus extra scientiam per sensum, quasi per quoddam haustorium, quo deferuntur species sensibiles ab extra usque ad animam rationalem in qua fit universale, quod est principium scientia"; *DOS*, 4, 07:11–12. See also *DOS*, 4, 11:13. Only human beings are capable of experience (*sunt experimenti capacia*) because only human beings have rational power together with the powers of memory and imagination (*DOS*, 4, 8). For a general introduction (Kilwardby is referred to briefly), see Peter King, "Two Conceptions of Experience," *Medieval Philosophy and Theology* 11 (2004): 203–26.

²⁴⁵ "Sic igitur per sensum hauritur scientia, scilicet ut per sensum fiat memoria, et ex memoria multiplicata fiat experimentum, ex experimento sufficienti universale"; *DOS*, 4, 11:13. Also *DOS*, 4, 12:13; and *NLPoS* 33, 504.100–104. Experience is different from the universal as it is the case that only the universal is said of all the singulars of the same species (*DOS*, 4, 10:12–13).

²⁴⁶ *DOS*, 4, 11:13; *NLPoS* 33, 502; and *NLPoS* 33, 503.89–91.

²⁴⁷ "Ad secundum quod abstractio est consideratio intellectiva rationis communis in qua assimilantur simulacra eiusdem naturae non concernendo proprias et particulares rationes ipsorum simulacrorum," *Sent.* 2, 78, 222.243–45. See *DOS*, 25, 201:78. See also *Sent.* 1, 83, 262.33–35; *Sent.* 2, 17, 72.346–50, 18 and 75.49–53, and *Sent.* 2, 17, 66.159–70, "Separat tamen anima rationem individuationis quae posterior est, et considerat eam in ratione formae quae prior est, et sic facit universalitatem." See also *Sent.* 3, 2, 84, and *Sent.* 3, 78, 222.243–46. On the simplicity of form abstracted from matter, see Kilwardby, *NLSP* 400.44–45; *DOS*, 31, 303; *Sent.* 1, 53, 159.20.

²⁴⁸ Kilwardby, *Isagoge*, ed. Lewry, 241. The agent and possible intellect seem to be aspects of each individual's intellectual power which is, at times, potential and actual (see Kilwardby, Robert, OP. *Notulae super librum Porphyri*, in Patrick Osmund Lewry, OP, "Robert Kilwardby's Writings on the *Logica vetus* Studied with Regard to Their Teaching and Method," (Oxford: 1978), 240 (hereafter *NLPor*; *DSF*, 14; *Sent.* 1, 35, 83.104). Oddly enough, Kilwardby does not address the question even in his critique of Averroes' monopsychism.

of the sensory images.²⁴⁹ (In the same way as imagination is empty of any sensory images prior to sense experience, the intellect is a blank without any traces of species.)²⁵⁰ In other words, the intellect proceeds from considering the common intentions beyond the particular intentions.²⁵¹ Whatever is intelligible is intelligible due to its form;²⁵² but while through the senses we perceive this flesh, this body and this substance, we come to know the flesh, the body and the substance *secundum se* through absolute consideration—considering that which is common to the particulars without considering it insofar as it exists in the particular.²⁵³

Kilwardby's stronger argument against Averroes's monopsychist doctrine—which he takes to be contrary not only to faith but also to philosophical truth, because it is contrary to Aristotle's intention²⁵⁴—consists precisely in claiming that from the fact that different intellects think about the same thing (through its likenesses) one should not conclude that there is only one intellect. Those likenesses, however, represent the same thing, of which they are the likenesses.²⁵⁵ Both are images or likenesses of *Plato*.²⁵⁶ Therefore, Kilwardby concludes, the likenesses of the same thing

²⁴⁹ *Sent.* 2, 78, 217.72–89. The species intelligibilis is “sublimatur ab esse materiali” (*Sent.* 2, 78, 217.85–6).

²⁵⁰ Robert Kilwardby, OP, *Notulae super librum Porphyrii* in Patrick Osmund Lewry, OP, “Robert Kilwardby's Writings on the *Logica vetus* . . .” (DPhil thesis, Oxford University, 1978), 240 (hereafter *NLPor*). See also *DSF*, 14–16.

²⁵¹ *Sent.* 3, 1 44, 189.88–89. The different speculative sciences correspond to different levels of abstraction; *DOS*, 33, 135.

²⁵² *NLPor*, 361.201. And the more material something is, the less intelligible it is (*Sent.* 1, 79, 253.14–15). This leads to the conclusion that prime matter can only be known incidentally and by privation (*Sent.* 1, 79, 254.35–38). See Rega Wood, “Early Oxford Theology,” in *Mediaeval Commentaries on the Sentences of Peter Lombard*, ed. Gillian Rosemary Evans (Leiden: 2002), 289–343, at 339.

²⁵³ *DOS*, 25, 203:78–79. For Kilwardby, “every sensible is intelligible” (“omne sensibile est intelligibile,” *DOS*, 47, 430:149).

²⁵⁴ *Sent.* 2, 78, 216.49–51. René-Antoine Gauthier, *Sententia Libri de anima*, in *Sancti Thomae de Aquino Opera Omnia*, vol. 45.1 (Rome-Paris: 1984), 221–22*, argues that Kilwardby is the first known author to argue against Averroes's position; however, he dates Kilwardby's *Sentences* commentary at 1252, whereas the editors of the work give a date of 1256.

²⁵⁵ *Sent.* 2, 78, 218.102–4. The other argument is to take both matter and form (*species specialissima*) as the cause of individuation.

²⁵⁶ “Nec potes propter hanc differentiam arguere quod altera non ita complete indicat Platonem sicut reliqua vel aliquid simile, quia istae differentiae ‘haec,’ ‘illa’ omnino accidentales sunt ad indicandum Platonem. Non enim ideo indicant, quia haec est ista et illa est illa, sed quia utraque est imago vel similitudo Platonis,” *Sent.* 2, 78, 220.161–65. See also *Sent.* 2, 78, 220.177–82.

(Plato) in Socrates and in Cicero agree not in number but in species.²⁵⁷ The same, says Kilwardby, goes for the universal. The two numerically distinct likenesses of Socrates and Plato which I receive through the senses agree in their essence, that is, humanity.²⁵⁸ The universal is the *ratio essentialis convenientiae* of many images of the same nature (*similacrorum eiusdem naturae*).²⁵⁹ Now, says Kilwardby, to be the same (or, to agree) in species does not entail the unity of the soul, as would be the case if the likenesses were numerically one.

Now, one must distinguish between the formation of the intelligible species and the actual thinking of them. According to Kilwardby, the eye of the mind (*acies mentis*) only understands when turning itself (*covertit se*) to the images stored in and presented by intellectual memory.²⁶⁰ Memory makes the likeness of the cognizable thing from the *species intelligibilis* it has within,²⁶¹ and impresses this likeness on the eye of the mind, generating an act of interior vision.²⁶² The presentation of an image by memory generating an act of understanding is what Kilwardby takes to be the imitation, in the rational soul, of the relation between the divine persons.²⁶³ Memory is identified with the Father, Intelligence with the Son, and Love or Will with the Holy Spirit.²⁶⁴ The word is the act of understanding which is born from the image stored in the memory (*cogitatio est verbum natum de memoria notitia*).²⁶⁵ The Father generates the Son in the same way memory generates intelligence.²⁶⁶ The relation between

²⁵⁷ "Sic igitur patet quod simulacrum eiusdem rei sensibilis a diversis intellectum non est idem numero sed specie solum," *Sent.* 2, 78, 221.187–89. See also *Sent.* 2, 78, 220.171–72; *Sent.* 1, 83, 261.28–29, "Sicut enim particularia in aliquo conveniunt, et hoc est eis species dummodo sit essentielle illis"; and *Sent.* 2, 17, 72.340–43.

²⁵⁸ "Unde humanitas in anima tua quam abstraxisti a simulacro Sortis et a simulacro Platonis, non est una similitudo numero sed duae convenientes essentialiter in ratione humanitatis," *Sent.* 2, 78, 222:238–40; Lewy, "Robert Kilwardby's Writing on the *Logica vetus*," 244, calls this "a modal unity."

²⁵⁹ *Sent.* 2, 78, 222.237–38. See Patrick Osmund Lewry, "Robert Kilwardby on Meaning: A Parisian Course on the 'Logica vetus,'" in *Sprache und Erkenntnis im Mittelalter*, ed. J.P. Beckmann et al. (Berlin: 1981), 376–84, at 381.

²⁶⁰ *Sent.* 1, 89, 279.47–53.

²⁶¹ *Sent.* 1, 35, 84–5.152–76. See also *DSF*, 217.

²⁶² "Potest enim apprehensio dicere actualem contitutionem quae est visio vel intellectio," *Sent.* 1, 62.1, 182.155–56.

²⁶³ *Sent.* 1, 65; *Sent.* 2, 77. See Augustine, *De trinitate* (esp. bk. 5). For an introduction to the subject, see R.L. Friedman, "In Principio Erat Verbum: The Incorporation of Philosophical Psychology into Trinitarian Theology, 1250–1325" (PhD diss., University of Iowa, 1997).

²⁶⁴ *Sent.* 1, 36.1, 99.203–8.

²⁶⁵ *Sent.* 1, 35, 84.132–33. On *verbum mentis*, see also *DOS*, 48, 462–64.

²⁶⁶ *Sent.* 2, 77, 213:70–73.

powers of the soul expresses the way divine persons are related: in the same way as memory and intelligence (and will) are powers of the same rational soul, being distinct by their own operations,²⁶⁷ also the divine persons share the same essence but have their own distinct personal property (*personalis proprietate*).²⁶⁸ This personal exclusive property is their manner of origin, that is, the personal property of the Father is to only generate; the Son to be generated and to generate; the Holy Spirit to only be generated. Kilwardby intends to secure the substantial character of the powers of the soul and the identity of the powers with the soul's essence,²⁶⁹ in the same way as the divine persons do not affect the simplicity of God's essence.

Having considered how the human soul comes to know common natures, Kilwardby (following a tradition that arises from Porphyry's *Isagoge*) examines the subsistence (or being) of universals.²⁷⁰ According to the Dominican, a universal can be considered:²⁷¹ (i) according to its nature, and as such is that which exists outside the soul as the *essentialis convenientia* of individual things; (ii) according to the *ratione* by which it is universal and this either (ii') according to its existence in concretion in many individual things; or (ii'') according to its essence, by abstraction from many sense impressions of the individual things.²⁷² The universal is one beyond many (*unum preter multa*) and in all of them (*in omnibus*): according to its essence, is one beyond the multiplicity of the particulars (*secundum suam essentiam*), but according to its being (*secundum esse*)

²⁶⁷ *Sent. 1*, 67, 197.121–23. See also *Sent. 1*, 60, 171.50–52. (For the power of the will, see also *Sent. 2*, 77, 214.92–93.)

²⁶⁸ *Sent. 1*, 36, 95–8.78–193. Origin (i.e., generating and being generated) constitutes the personal property that distinguishes the divine persons. Hence, the divine persons share a common nature, not the personal properties which are incommunicable (*Sent. 1*, 35, 89.299–302). On Kilwardby's view of relations as substances, see *Sent. 1*, 35, 89.311–15; *NLP* 7; *De Natura Relationis* 24, 52–53; and *Sent. 1*, 71, 208.65–74.

²⁶⁹ *Sent. 1*, 59, 168–69.74–95.

²⁷⁰ See David Piché, *Le problème des universaux à la Faculté des Arts de Paris entre 1230 et 1260* (Paris: 2005), 165–66.

²⁷¹ *Sent. 2*, 18, 74.19–30. See Lewry, "Robert Kilwardby's Writings on the *Logica vetus*" (Oxford, 1978), 248–29.

²⁷² *Sent. 2*, 18, 74.21–23; and *Sent. 2*, 78, 221.190–91, "Et dico universale quod opere rationis et intellectus a multis simulacris similibus abstrahitur." See also *NLP* 135.493–497; *DOS*, 25, 196:76; *DOS*, 4, 10; *Sent. 2*, 17, 73.372–75; and *NLP* 105, *NLP* 105, in Cannone, "Le *Notule libri Posteriorum* di Robert Kilwardby," 1:4, 73a34–b24, *Documenti e studi sulla tradizione filosofica medievale* 13 (2002), 135, lines 493–97.

is in them as the essence of those particulars.²⁷³ Whereas (i) and (ii') are the work of nature and as such do not exist in the intellect but rather in extramental things (*in rebus extra*), (ii'') is the work of the intellect and as such only exists in the intellect (*est tantum opus intellectus et in intellectu tantum et non extra*).²⁷⁴ In that sense, the soul is superior to nature because it is able to divide (conceptually) what nature is not able to divide in being.²⁷⁵ A third way to consider universals is as exemplar and causal reasons in the mind of God;²⁷⁶ however, Kilwardby does not posit any role for divine ideas in regard to human cognition *in this life* (but see below).

According to Kilwardby, a universal is not a fiction of the soul but it has a real foundation as the essence of a spatio-temporally located individual existing outside the mind.²⁷⁷ The soul's ability to apprehend universal forms, which exist outside the mind as the essences of material objects (that is, in, not above, individuals),²⁷⁸ makes univocal predication, definition, and meaning possible. A definition expresses what a thing is, and a thing is its essence (that is, its species)²⁷⁹—there is no definition of individuals as individuals,²⁸⁰ but insofar as “they have in themselves the universal.”²⁸¹

²⁷³ “Et nota quod quamuis dixit hic Aristotiles quod uniuersale sit unum preter multa et tamen quod sit in omnibus, non tamen dixit incompossibilia, quia considerando uniuersale secundum suam essentiam, est unum preter multa; considerando autem ipsum secundum esse, in multis est,” *NLPoS* 33, 504–5.115–18.

²⁷⁴ Kilwardby identifies this as the position of Averroes, for whom “the intellect makes the universality in the things” (*Sent.* 2, 18, 74.12–13).

²⁷⁵ “quia anima maioris potestatis est quam natura, quia dividere potest in sui consideratione quae natura non potest dividere in esse”; *Sent.* 2, 18, 75.35–36. However, the universal has in the soul a diminished being (*ente diminuto*), whereas in the things outside the mind it exists according to its complete being (*ente completo*); see *Sent.* 1, 90, 289.190–92.

²⁷⁶ “Nec sunt uniuersalia ydee solum in mente diuina ut posuit Plato, quamuis sint cause formales et exemplaria uniuersalium,” *NLPor*, 245.

²⁷⁷ “Et quod infert figmentum animae tantum quod dicitur de uniuersali, scientia et deffinitione, patet quod non. Quia licet omnes formae extra animam sint individuae vel individuatae, tamen extra animam sunt formae uniuersales, non seorsum ab individuis, sed in eis, quia eadem sunt individuae et uniuersales secundum diversas rationes”; *Sent.* 2, 17, 73.376–80; *DOS*, 31, 303.110.

²⁷⁸ *Sent.* 2, 17, 73.376–80.

²⁷⁹ *Sent.* 2, 17, 68.220.

²⁸⁰ *Sent.* 2, 17, 72.352–56.

²⁸¹ “Est enim definitio rei singularis vel rerum singularium non secundum quod huiusmodi, sed secundum quod in se habent uniuersale,” *Sent.* 2, 17, 72.366–68.

Kilwardby defines truth as the conformity of a sign to what is signified.²⁸² Whereas the truth of a thing is its essence or nature,²⁸³ it is the combination and division of simple terms in the soul which is, properly speaking, true or false.²⁸⁴ The combination of intentions, which serve as subject and predicate in propositions,²⁸⁵ is true or false according to its conformity with the way the things (first intentions) the terms signify are outside the soul.²⁸⁶ (Spoken and written words signify the *passiones animae*, which are likenesses and signs of the things outside the soul.)²⁸⁷ The logician is required to have sufficient knowledge of the reality,²⁸⁸ since predication is (grounded on) the correspondence of intentions of things *in the soul* and intentions of things *in the things*.²⁸⁹

²⁸² "Item aestimo bene diffinitum sic: 'Veritas est coadaequatio signi ad signatum,'" *Sent.* 1, 45, 144.18–19. See Robert Grosseteste, *De veritate*, ed. Ludwig Baur, in *Die philosophischen Werke des Robert Grosseteste, Bishops von Lincon* (Münster: 1912), 134. Words acquire meaning by imposition ("Omnis enim sermo est vox humana imposita ad significandum secundum placitum humanum," *DOS*, 52, 488:166.). On primary and secondary signification, see *Sent.* 1, 44, 143.70–72; and *Sent.* 3, 1 16, 74.32–35.

²⁸³ *DOS*, 43, 402:140, and *DOS*, 42, 405:141.

²⁸⁴ "sicut dicitur verum et falsum in complexis, non autem in incomplexis," *NLPre* 5, 20.25–27. See also *DOS*, 35, 348:123; *Sent.* 1, 43, 139.56–58; *NLPre* 2, 12.18–22; and *Sent.* 1, 90, 284–5.60–62. Cf. Aristotle, *De interpretatione* 1, 16a10–15.

²⁸⁵ *Sent.* 1, 90, 288.163–66.

²⁸⁶ "Item quia compositio et divisio quas facit intellectus debent respicere esse et non esse rerum extra intellectum, oportet enim in enuntiationibus considerare verum et falsum, ex quo ratiocinatio quae fundatur super illas verum et falsum inquirat quae sunt ignota. Et enuntiationes non aliter sunt verae vel falsae nisi per respectum ad esse vel non esse rerum extra intellectum," *DOS*, 53, 518: 177:13–8. See also *DOS*, 58, 577:198. On the difference between *propositio* and *enuntiabile*, see Thom, Paul. *Logic and Ontology in the Syllogistic of Robert Kilwardby* (Leiden: 2007), 14. On things as first intentions and the *rationes rerum* as second intentions, see *DOS*, 48, 459:157; *Sent.* 1, 90, 288.157–61.

²⁸⁷ "Et intellige secundum quod huiusmodi, quod ipsa compositio vel enuntiabile in anima nihil aliud est quam compositio intentionis cum intentione secundum aliquem modum coniunctionis ad designandum unionem quae est in rebus extra animam quarum sunt intentiones. Et istae intentiones et earum compositiones qualitates sive *passiones animae* sunt in anima quiescentes, et eadem sunt ad aliquid ut sunt rerum signa exteriorum," *Sent.* 1, 90, 288.166–71. See also See also *NLSP* 396.17–19; *NLPre* 1, 7.24.25; *Sent.* 1, 90, 287.136–39; and *DOS*, 49, 468:160. The *passiones* are likenesses of realities, and words primarily signify the *passiones*, only secondarily things themselves; see Giorgio Pini, "Species, Concepts and Things: Theories of Signification in the Second Half of the Thirteenth-Century," *Medieval Philosophy and Theology* 8 (1999): 21–52, at 35–36.

²⁸⁸ *DOS*, 58, 577:197–98; *DOS*, 53, 519. See Alfoonso Maierù, *Terminologia logica della tarda scolastica* (Rome: 1972), 41.

²⁸⁹ "Duo in praedicatione sunt; unum modus dicendi per vocem vel componendi per mentem, aliud modus unionis vel adhaesionis significatorum in ipsa re. Et haec est causa et fundamentum compositionis in mente et praedicationis in sermone," *Sent.* 3, 1 17, 79.17–20; from this follows that "non potest esse dissonus modus componendi et praedicandi verus, ubi est dissonus modus unionis vel adhaesionis" (*Sent.* 3, 1 17, 79.26–27).

Although Kilwardby asseverates the cognitive capacity of the human soul, he also points out its limitations. In *Sent. 3, 37, De 43 Questionibus* 16, and *Sent. 3, 1 47*, Kilwardby compares human beings' cognitive powers with God's power to know everything (*omnia*).²⁹⁰ The starting point is the assumption that the creature, because created, must have a finite power (*res causata est potentiae finitae*) to know,²⁹¹ whereas God's power, as creator, is infinite.²⁹² A limited power is incapable of fully understanding that which is limitless, therefore the creature is able to understand God's infinitude only through privation, that is, recognizing the absence of limits.²⁹³ Therefore, our mind only accidentally knows the infinite.²⁹⁴ Kilwardby contrasts the creature's finite infinity with the Creator's infinite infinity.²⁹⁵ The responsibility for this limitation cannot rest on the Creator because the creature was created with full-fledged cognitive powers, but fails to possess them by the creature's sinful condition (that is, this limitation is accidental to its being created).²⁹⁶

In traditional Augustinian accounts of knowledge, this limitation is often surpassed and human knowledge is granted certainty by means of an appeal to the direct action of the divine light. We find in Kilwardby this light terminology, as in the comparison he makes between the lights of a candle as the knowledge our soul achieves by itself about sensible things (*scientia acquisita per sensus*), and in the description of God as the eternal light (*lumen aeterni*) and the immense sun (*immensi solis*). Kilwardby, however, seems to think that due to the corruption of the flesh and to *concupiscentia*, the eye of our mind is not, in this life, ready for such a light.²⁹⁷ The divine light is full of knowledge unintelligible to the human being's cognitive capacity (*ultra omnem creaturae capacitatem*).²⁹⁸ But, what is denied *in via* is admitted in the afterlife, where in a state of *beatitudine* our reason will have a perfect knowledge of both corporeal and spiritual objects through the light which flows from being face to face with God (*facie ad faciem*). In that state we will be able to know the

²⁹⁰ See Silva, "Robert Kilwardby on Celestial Motion," 99–102.

²⁹¹ *Sent. 3, 1 45*, 193.45–48.

²⁹² *Sent. 1, 89*, 280.75; *Sent. 3, 1 45*, 192.19–21; *D43Q 16*, 22.406–8; *Epistola 1*, 20.

²⁹³ "Vel dic breviter quod finitum non facit cognoscere infinitum secundum tale est nisi per privationem," *Sent. 1, 43*, 138.33–34. See also *DOS*, 24, 179.69; *Sent. 3, 1 43*, 184.125–26; *D43Q 16*, 23.460–62.

²⁹⁴ *DOS*, 24, 179.69. See also *Sent. 1, 43*, 138.32–35.

²⁹⁵ *D43Q 16*. See also *Sent. 1, 80*.

²⁹⁶ *Sent. 1, 43*, 138.53–55.

²⁹⁷ See *Sent. 3, 2 26.2*, 97.274–78.

²⁹⁸ *Sent. 3, 2 24.3*, 83.56–60; *Sent. 3, 2 26.2*, 96.263. See also *Sent. 2, 165*, 460.19.

exemplar and causal reasons (*rationes causales et exemplares*) which exist in the mind of God.²⁹⁹

Although Kilwardby is not very clear about the divine aid to surpassing the natural limitations to human cognition,³⁰⁰ he refers a number of times to the passage where Augustine quotes John 1:9, that God creates the eternal lights “that illuminate every man that comes into this world.”³⁰¹ The passage is difficult to interpret because it remains unclear whether God illuminates the human intellect at every act of cognition or whether the illumination takes place at the soul’s creation. Whereas in *Sent. 2*, 78, Kilwardby seems to tend to the former reading, claiming that God is the light (*lux exterior desuper infusa*) which makes all the things to appear and be visible,³⁰² in *De spiritu fantastico* 33–39 he seems to tend in the opposite direction. In those paragraphs, Kilwardby suggests that the images of intelligible immutable truths, like those that the liberal arts are about (such as geometrical figures),³⁰³ are infused from above.³⁰⁴ (It is necessary to bear in mind that Kilwardby denies innatism only with respect to sensible knowledge.) This reading is strengthened by what Kilwardby says in *Sent. 2*, 37, that the *intelligibilia* such as those of the liberal arts, are present in the soul from the beginning.³⁰⁵ For the rest, and in this life, human beings must count on the power of their souls alone.

Conclusion

For Kilwardby the human being is composed of two substances, body and soul, each further composed of matter and a plurality of forms. The human soul is a substance composed of matter (in the *communiter* or metaphysical acceptance) and three substantial forms, which together make *una forma viventis*. The three forms are distinguished by their operations and

²⁹⁹ *Sent. 3*, 2 24.3, 84.66–68. See José Filipe Silva “Simplicidade divina na teologia de Roberto Kilwardby,” in *A Questão de Deus na História da Filosofia*, ed. Maria Leonor L.O. Xavier (Lisbon: 2008), 1:515–25.

³⁰⁰ *Sent. 3*, 2 38.4, 145.87–91. See also *Sent. 1*, 42, 140.90–93.

³⁰¹ *DOS*, 1, 9, “cum enim humana ratio supra se et intra habeat rationes aeternas veri luminis quod illuminat omnem hominem venientem in hunc mundum.” See also *De spiritu fantastic*, 164, 92–3.34–01 (here, however, Kilwardby drops the *venientem in hunc mundum*). Cf. Augustine, *Confessiones* 7.9.13. See also *DOS*, 64, 643:220.

³⁰² *Sent. 2*, 78, 216.52–57. In this passage, Kilwardby notes that the soul has its own light.

³⁰³ *DSF*, 35.

³⁰⁴ *DSF*, 40, 64–65.37–10.

³⁰⁵ *Sent. 2*, 37, 121.133–35.

by their different origin. The unity of these three forms is analogous to a body, which is one although composed of different organs. The soul's quasi-aggregate unity is grounded on the forms' mutual natural inclination and the nature of the lower *potentiae* as incomplete disposing principles perfected by the higher intellectual *potentia*. The natural inclination of the rational soul is grounded on the soul's natural desire to know, which, in the case of sense objects, can only take place through sense experience.

Sense perception is, according to Kilwardby, centered in the active nature of the sensory soul, using both the body and the corporeal spirit as instruments for sensing (the former through the mediation of the latter). An object's influence is limited to its affection of the corporeal sense organ, and it is the soul that is the efficient cause of perception, reacting to this affection and through the motion of assimilation making an image of the extramental thing, through which it comes to know the object. Kilwardby takes for granted that the soul works correctly in assimilating itself with the species and making the image, and that therefore the cognitive content corresponds to the exterior thing. Sensation has a continuity in the intellectual level through the process of abstraction described in Aristotelian style with an agent intellect abstracting intelligible species from phantasms and depositing them in the possible intellect. The actual thinking of the species is described in Augustinian Trinitarian terms, a combination which renders evident Kilwardby's belief in a real compatibility between the Aristotelian and the Augustinian philosophy, a major basic presupposition in his thought—a view which shows how misplaced is the common view of Kilwardby as a neo-Augustinian reacting violently to the entry of Aristotle's works.

ROBERT KILWARDBY ON ETHICS

Anthony Celano

Robert Kilwardby's accomplishments reflect a master who was familiar with a broad range of ancient and contemporary philosophical and theological issues. Despite his preference for theological solutions to questions concerning human goodness, virtue, and nature, Kilwardby never completely rejected philosophical contributions to important moral questions. He indicates his admiration for the moral doctrines of the philosophers in the *De ortu scientiarum*: "Habitual virtue and its act are a great part of human perfection in this life, which nevertheless lead further (*ulterius*) and are a disposition to other virtues and a more perfect life, and should be wholly ordered to it. The doctrine, therefore, of philosophers concerning virtue in this matter is not false, but rather diminished, and therefore it is not wholly without use to Catholics to whom God has mercifully shown the complete truth concerning beatitude."¹ The question concerning the relation between the rational life explained by philosophical reasoning and the religious ideal offered by Christian authors remains an important theme in all of Kilwardby's moral works.

The university masters of the late thirteenth century engaged in extensive discussions concerning the nature of goodness, the acquisition of virtue, the primacy of the intellect or will, among many other significant ethical questions. Before these efforts, however, the process of comprehending the meaning and intent of Aristotle's moral concepts was a rather long and difficult one. An important element in this assimilation was the commentary on the *Ethica vetus* and *Ethica nova*, which comprised the first three books of the *Nicomachean Ethics*, ascribed to Robert Kilwardby. René-Antoine Gauthier has long speculated that a partial translation (books 2 and 3 of the *Nicomachean Ethics* = *Ethica vetus*) appeared at the end of the twelfth century, and another translation consisting of book 1 and the rest of the *Nicomachean Ethics* was completed around 1200,

¹ Robert Kilwardby, OP, *De ortu scientiarum*, ed. Albert G. Judy, OP (Toronto: 1976), 36, 353:125; hereafter *DOS*, followed by chapter number, paragraph number(s): page number(s) paragraph number(s) (e.g., 36, 353:125).

perhaps by Michel Scot.² Despite the existence of an entire translation, ethics held only a small part of the Arts course at Paris in the first half of the thirteenth century. In 1215 the papal legate Robert de Courçon decreed that ethics (here only the *Ethica vetus*) among various other philosophical works could serve as an option for festal lectures.³ By 1255, when philosophical works were an integral part of the Arts curriculum, only twelve weeks were devoted to four books of the *Ethics* if read with another work, and six weeks if treated alone.⁴ Although Grosseteste's complete translation with commentaries was available to the Arts masters, the decree of 1255 likely represents an established tradition of teaching at Paris. The commentary ascribed to Robert Kilwardby doubtlessly reflects the magisterial activity of a Parisian Arts master in the second half of the 1240s, and is a product of teaching regulated by the Faculty Statute of 1255.

In the first half of the thirteenth century the great moral work of Aristotle was slowly attracting attention, first by canon lawyers, then by theologians, and finally by masters of Arts.⁵ The most important witnesses to the magisterial activity concerning the *Ethics* are the six extant commentaries on "the old *Ethics*" and the examination guide for Arts students, which are preserved in a single manuscript in Barcelona. These documents together with the various introductions to human sciences form the most complete picture of the initial attempt to assimilate Aristotle's *Ethics* into the body of scientific learning in the Latin world. The commentary of Kilwardby, while more sophisticated in its treatment of Aristotle's doctrine, is closer in style and content to these earlier works than to the more complete discussions of Aristotle from the second half of the thirteenth century. As such, it is best judged as the culmination of fifty years of study on Aristotle's moral philosophy, rather than the beginning of a new phase of exegesis.

² René-Antoine Gauthier, *Ethica Nicomachea, Praefatio* (Leiden: 1974), 26, fasc. 1, pp. xv–xvi. More recently F. Bossier has argued that the entire translation of the Nicomachean Ethics in the twelfth century is the work of Burgundio of Pisa. "L'élaboration du vocabulaire philosophique chez Burgundio de Pise", *Aux origines du lexique philosophique européen: l'influence de la Latinitas*, édité par J. Hamesse (Louvain-la-Neuve, Brepols), 1997, p. 81–116.

³ *Chartularium Universitatis Parisiensis*, 4 vols., ed. Henrich Denifle and Émile Chatelain (Paris: 1889–97), 1:78n20, "Non legant in festivis diebus nisi philosophos et rhetoricas, et quadrivialia, et barbarismum, et ethicam, si placet, et quartum topichorum."

⁴ *Chartularium Universitatis Parisiensis*, no. 246, 1:278.

⁵ René-Antoine Gauthier and Jean Jolif, *L'Éthique à Nicomaque* (Paris: 1970), 1:115.

The Commentary on the Ethica vetus and Ethica nova: The Nature of Ethics

The commentary on the *Ethica vetus* and *Ethica nova* ascribed to Kilwardby is found in ms. Cambridge Peterhouse 206 (C), fols. 285ra–307vb, and partially in Prague, Czech State Library (*olim* University) 3. F. 10 (Pr), fols. 11a–11vb. The latter manuscript contains only the commentary on the *Ethica nova*, wrongly ascribed in the modern catalogue to Thomas Aquinas.⁶ The manuscript in Cambridge is a parchment codex of the late thirteenth century, whose origin is most likely English. It contains a number of Kilwardby's logical works and the unasccribed commentary on the *Ethics*. While there is no internal designation of authorship, a fourteenth-century table of contents on the flyleaf names Kilwardby as the author. The information from the flyleaf is not corroborated by Nicholas Trevet or the earliest catalogue of Dominican writings. Noticeably absent from these accounts of Kilwardby's literary activity is the commentary on the *Ethics*, but the omission is hardly conclusive. The entry from Trevet excludes many known works, and the Stams Catalogue is not always accurate. Nothing contradicts the attribution of the commentary on the *Ethics* to Kilwardby, but a deeper analysis of the work in comparison to Kilwardby's known writings may provide a stronger argument for its authenticity.

The introduction to Kilwardby's commentary provides a cursory summary of the doctrine contained in the various examinations and classifications of philosophy composed in the first half of the thirteenth century. The elementary divisions within the branches of human science represent an initial phase of understanding that led to the deeper and more sophisticated treatises produced by the university masters in the second half of the century. The commentary begins with a statement about the general topic of moral science: "the whole of moral science is primarily and principally concerned with the human good as its subject."⁷ Kilwardby's view here of the nature and goal of ethics is common, but it does resemble

⁶ Josepho Truhlář, *Catalogus codicum manu scriptorum latinorum, Pars prior* (Prague: 1905), no. 513, p. 203. The hand is late thirteenth century. Gauthier corrects the attribution of the commentary to Thomas Aquinas and provides a fuller description of the manuscript in Thomas Aquinas, *Sententia libri Ethicorum; Sancti Thomae de Aquino Opera omnia*, ed. René-Antoine Gauthier (Rome: 1969), 47.1.12*. For a description of the manuscript in Cambridge see Montague R. James, *A Descriptive Catalogue of the Manuscripts in the Library of Peterhouse* (Cambridge: 1899), 245–47.

⁷ Ms. Cambridge Peterhouse 206 (hereafter C) fol. 285rb, Pr, fol. 11rb, "Supposito quod tota moralis sciencia sit primo et principaliter de bono humano, sicut de subiecto...."

the position taken in the *De ortu scientiarum*, which considers the aim of all human actions to be the pursuit of the human good: "And so he says below (*Ethica nova.*, 1094b6–7) that this end encompasses the end of other active [sciences], since it is the end of the best activities, namely, ethics, and therefore it is the human good."⁸

Ethics is divided into two parts, which correspond to human goodness: the first part concerns the supreme human good, which is happiness; the second treats the "inferior good," virtue, which is ordered to happiness. The relation of virtue to happiness is a complicated problem for the writers of the thirteenth century. At times, the same author may view virtue as the essential constitutive element of the highest good, and at other times he may understand it to be an inferior means whereby a person is united to the supreme good. The second notion depends on the idea that in every art and doctrine there are architectonic principles that lead to the good simply. Kilwardby first relegates virtue to an end that is ordered to the superior goal of happiness. The commentators of this period have difficulty with the place of virtue in the constitution of human goodness and most often view it as a subordinate end, or a means by which the higher end is attained. The anonymous commentator on the *Ethica nova* of the mid-1240s at Paris also sharply divides virtue from happiness: "In the first part the author determines happiness; in the second part, about that which is directed to happiness, that is, about virtue."⁹ A contemporary of Kilwardby casts the problem of happiness and virtue in a different light. The "Pseudo-Pecham" considers the question of human goodness to be primarily a theological problem, even in a commentary devoted to an explication of Aristotle's *Ethics*. In the beginning of his work, he distinguishes goodness into two types: divine, which is received from God and is called happiness, and human, which is attained by a human being

⁸ DOS, 43, 408:142, "Et infra etiam dicit quod iste finis complectitur fines aliarum activarum cum ipse sit finis optima activarum, scilicet ethicae, et ideo iste est humanum bonum." Also DOS, 35, 350:123, "Scientia activa est pars philosophiae circa res humanas operativa propter aliquod humanum bonum consequendum." See also Gilbert Dahan, "Une introduction à l'étude de la philosophie: *Ut ait Tullius*," in *L'enseignement de la philosophie au XIII^e siècle: Autour du Guide de l'étudiant du ms. Ripoll 109, Studia artistarum*, vol. 5, ed. Claude Lafleur and Joanne Carrier (Turnhout: 1997), 255–79.

⁹ René-Antoine Gauthier, "Le Cours sur l'*Ethica nova* d'un maître ès Arts de Paris (1235–1240)," *Archives d'histoire doctrinale et littéraire du moyen âge*, 42 (1975): 96, "In prima parte determinat auctor de felicitate; in secunda parte determinat auctor de eo quod est ad felicitatem, hoc est de virtute."

through perseverance in pleasurable and painful pursuits.¹⁰ Happiness, the end of the best actions, is merely a means of joining human beings in a certain way to the uncreated good.¹¹ Virtue is even further removed from the highest good since it is described consistently as a means subordinate to happiness.¹² To the Pseudo-Pecham the philosopher's deliberations remain subordinate to the theological notion of true happiness, for which virtue is merely a means. How virtue may be distinct from happiness is a question untreated by the Pseudo-Pecham. While to a modern reader of Aristotle the strict separation of happiness as the end and virtue as the means may seem contrary to the Philosopher's intention, the early medieval commentators were aware that the exercise of virtuous actions could not satisfy the conditions for their understanding of the nature of happiness. They knew that a person could be virtuous in certain ways, such as courageous in battle or eloquent in discourse, but not excellent in other ways required for eternal happiness. Taken separately, the virtues may be understood merely as means to human goodness. The early commentators lacked the discussion of *phronesis*, which allowed for the unifying element in the good person's quest for happiness. Without this central notion of Aristotle's ethical theory, they could easily consider each virtue as a separate step leading to a distinct higher end of happiness. Only when the full work of Aristotle was available did commentators, like Thomas Aquinas, see the close connection between virtue and human goodness described in Aristotle's *Ethics*.

Ethics instructs human beings about the four cardinal virtues, which Kilwardby here interprets to be civic virtues instituted for the benefit of the state. Their purpose is thought to be in the interest of the citizens' regulation of external affairs. The cardinal virtues are understood here neither in the theological manner, nor in the traditional way of guiding an individual concerning the moral issues in a lifetime. Fortitude is preeminent in military matters, temperance in economic, justice in legal affairs, and prudence in deliberation about expediency. Prudence does

¹⁰ MS., Florence, Naz. *conv. soppr.* G 4.853 (hereafter F), fol. 1ra: Bonum autem duplex est: divinum, id est a deo collatum, ut felicitas . . . et humanum, id est ab homine (hominis, *ms.*) per rectas operationes cum delectatione et tristitia et cum perseverancia in hiis adquisitum.

¹¹ F, fol. 4vb, "quia felicitas sive finis optimus operacionum est medium coniungens nos quodam modo bono increato."

¹² F, fol. 1vb, "Sic moralis bonum in operacionibus determinat propter bonum virtutis sive habitus et bonum in virtute considerat prout ordinatur ad felicitatem"; F, fol. 2ra, "ergo felicitas prior erit simpliciter virtute"; F, fol. 2vb, "virtus ordinatur ad felicitatem."

not appear as the primary virtue of practical wisdom in this discussion of the cardinal virtues. The entire section seems peripheral to the central theme of individual moral goodness, as Kilwardby treats the cardinal virtues as political virtues only.¹³ This same understanding of the cardinal virtues is found in Hugh of St. Victor's *Didascalion* and is cited favorably by Kilwardby in the *De ortu scientiarum*. In his later work on the *Sentences*, Kilwardby has the benefit of a deeper understanding of book 6 of the *Nicomachean Ethics*, and gives a more accurate account of the Aristotelian notion of practical wisdom.¹⁴

Kilwardby astutely observes that the civic good and the individual good coincide. If the individual desires the attainment of his own good, he should want what is good for the state even more. The method of investigating the moral and political good should be appropriate to the type of inquiry, which here does not produce absolute certainty. The moralist need not consider his subject according to its essential nature, but rather according to the properties and conditions whereby it is best understood. The method of investigating human choice is not that which can produce scientific certainty. Even in the natural sciences, there is some uncertainty because of the constant changes in natural objects.¹⁵ Mathematics may seem to produce fixed and determined answers, but Kilwardby claims the abstract nature of mathematical objects causes a measure of doubt. He denies absolute certainty in mathematics, just as in the *De ortu*

¹³ C, fol. 286 va, Pr, fol. 2va, "Nota quod in hoc argumento potest haberi ab Aristotile que sit doctrina civilis, quia illa que instruit homines circa quattor virtutes cardinales, scilicet fortitudinem, prudenciam, temperanciam et iusticia. Per hoc enim quod dicit ipsam preordinare militarem, innuit ipsam instruere homines circa fortitudinem. Per hoc quod ordinat rhetoricam significat ipsam instruere homines circa prudenciam. Per rhetoricam enim intendit provisionem et deliberacionem de expedientibus; et hoc maxime pertinet ad prudenciam, cum sit secundum Tullium bonarum et malarum rerum utrarumque sciencia. Et iste virtutes sunt civitatis et civium respectu extraneorum. Per hoc autem quod dicit ipsam ordinare yconomicam, significat ipsam instruere circa temperanciam que est in ordinacione hominis ad se et ad propriam familiam. Per hoc autem quod dicit ipsam ordinare legem, significat ipsam instruere de iusticia que exhibit unicuique quod suum est secundum legum precepcionem; et hoc consistit in ordinacione hominis ad suos concives. Ex hiis videtur haberi que sit doctrina huius secundum Aristotilem."

¹⁴ DOS, 36, 356:126; *Quaestiones in librum tertium Sententiarum, Teil 2: Tugendlehre* (hereafter *Tugendlehre*), ed. Gerhard Leibold (Munich: 1985), q.30, p. 115.

¹⁵ C, fol. 280vb, Pr, fol. 2vb, "Et in hoc significat quod non est determinandum de ipso modo certissimo, sed penes proprietates et condiciones, et hoc est: *Dicitur autem utique* (94b12). Secundo quia quereretur aliquis quare sic determinari debet, respondet, dicens quod non in omnibus est equalis certitudo querenda; et hoc de se patet. In naturalibus enim non est omnimoda certitudo propter eorum continuam transmutacionem, nec eciam in mathematicis fit nobis talis certitudo propter allevacionem eorum a sensu, et hoc est: *certum enim* (94b14)."

scientiarum he permits only logical certitude to mathematical conclusions: “mathematics is more certain and prior in demonstration, but metaphysics is more certain and prior in explanation. . . . But because in these sciences . . . there is not any certainty except logical, it is clear that logic is most certain.”¹⁶ The method of moral science is broad and general for two reasons: there is great diversity concerning just and useful actions; the various methods humans employ to attain goodness. Kilwardby argues that Aristotle’s substitution of *just* for *good* in this section is valid because good is not considered here in relation to the individual, but rather in reference to the various relations with others in the state.

Human Goodness and the Meaning of Happiness

The specific discussion of the principal topic of ethics, the supreme human good, begins with the treatment of knowledge (*cognicio*) that addresses the arts and learning, while choice (*proheresis*) concerns the will’s actions. The best opinions on the supreme human good incorporate both areas into the discussions. All opinions agree that happiness is the name of the supreme good, and have certain elements in common. Happiness is said by almost everyone to be the highest human good. “Almost” is used because some believe that happiness refers specifically to the goods of fortune, just as ordinary speech often indicates. But the philosophers generally agree that happiness is primarily thought to be living and acting well (*bene vivere et bene operari*). Kilwardby understands *vivere* to refer to the primary act of the soul, which is the principle of life. *Operari* refers to the second act of the soul, which is the principle of action and thought.¹⁷

¹⁶ DOS, 43, 638:218, “quod mathematica est certior et prior in demonstrando, sed metaphysica certior et prior in explanando. . . . Sed quia istis scientiis . . . non est aliqua certitudo nisi ex logica constat logicam certissimam esse.” Cf. DOS, 41, 389:136 and 392:137.

¹⁷ C, fol. 287rb; Pr, fol. 2rb, “Et intellige per cognitionem theoricas omnium scientiarum; per proheresim, practicas; vel per cognitionem intelligantur ars et doctrina; et per proheresim liberi arbitrii eligenciam. Secundo, [cum dicit] *nomine quidem igitur* etc. (95a17), prosequitur intentum. Et dividitur in duas: in prima determinat de felicitate secundum opinionem aliorum; in secunda, cum dicit *rursus autem revertamur* (97a15), secundum opinionem propriam. Prima in duas: in prima recitat aliorum opiniones; in secunda, cum dicit *omnes igitur sunt* (95a29), ipsas inprobat. Prima in duas: in prima determinat convenienciam opinancium; in secunda, differenciam. Conveniencia duplex est: una ex parte nominis que est quod fere omnes philosophi et maxime excellentes conveniunt in nomine summi boni, nuncupantes eam felicitatem. Et dicit ‘pene’ (95a17), quia secundum quosdam appropriatur nomen felicitatis rebus fortune, quod patet ex sermone vulgari. Alia est ex parte rei, scilicet quod existimant bene vivere et bene operari esse idem felicitati. Et intelligit per vivere actum anime primum; per operari autem actum anime secundum, et hoc est: *nomine quidem* (95a17).”

In the *De ortu scientiarum*, Kilwardby orders all human knowledge and desire to the goal of living well: "Divine and human things are the subject of all philosophy; the pursuit of living well is the end, because all knowledge is ordered to a proper life."¹⁸

The question of virtue's relation to happiness is complicated, and confused the earliest Latin commentators on Aristotle's *Ethics*.¹⁹ One might assume virtue to be the end of the civic life, and to be happiness itself, if one were to claim honor to be such an end. Virtue, however, cannot be happiness according to the earliest commentators for two reasons: virtue is in imperfect beings and happiness is not; the virtuous may cease to act virtuously, since they are not constant beings.²⁰ The commentators of this period were misled by Aristotle's description of happiness as a perfect act. Concentrating on the word *perfect*, they argued that human virtue is subject to a variety of limitations and consequently could not be happiness. Rather than argue that virtue is the perfection in act of the soul's potential, they understood Aristotle's description of happiness to be a perfect continuous act.

Kilwardby refines his understanding of the imperfect nature of virtue by listing three possible defects associated with it: (1) one might cease the actions proceeding from a good habit; (2) sleep, which inhibits the actual exercise of virtue, is not an evil, but is a condition of the material aspect of a human being; (3) the natural demands of corporeal nature prevent the continuous exercise of virtuous activity and prohibit the identification of virtue with happiness.²¹ In the *De ortu scientiarum*, Kilwardby views the central idea in Aristotle's notion of happiness to be a "perfect act," but limits perfection to what is possible in a human life: "Nevertheless according to the ancient philosophical opinion of many, to whom Aristotle seemed to belong, who were ignorant of the eternal and blessed life of the vision of God, it [happiness] sometimes seemed to be able to be attained and possessed in this life. He [Aristotle] posited that happiness is a perfect act

¹⁸ *DOS*, 2, 3:10, "Res igitur divinae et humanae subiectum sunt totius philosophiae; studium autem bene vivendi finis, quia omnis cognitio ad honestam vitam ordinatur."

¹⁹ Anthony Celano, "Robert Kilwardby on the Relation of Virtue to Happiness," *Medieval Philosophy and Theology* 8 (1999): 149–62; Celano, "The Understanding of Beatitude, the Perfection of the Soul, in the Early Latin Commentaries on Aristotle's *Nicomachean Ethics*," *Documenti e studi sulla tradizione filosofica medievale* 17 (2006): 1–22.

²⁰ Gauthier. "Le Cours sur l'*Ethica nova*," 118, "quod aliud est esse virtutem, aliud est secundum virtutem; quamvis enim felicitas est actus perfectus secundum virtutes, non ideo [sequitur] quod virtus et felicitas sint simul, immo virtus est. . . . disponens ad felicitatem."

²¹ C, fol. 288rb; Pr 4rb.

according to virtue, which, unless I am mistaken, he posited that man has in this life, if he so perseveres, namely, acting according to perfect virtue as is possible to him. And he spoke of habitual virtues only, and not of theological ones."²² The earliest Latin commentators on the *Nicomachean Ethics* had not reached the more sophisticated level of interpretation of Kilwardby's examination of the question. They could not reconcile the description of happiness as a perfect act with their own understanding of the imperfection of human existence. The Pseudo-Pecham gives the following response to the question: "then he [Aristotle] shows that virtue is not happiness and the reason is this: virtue is characteristic of imperfect beings, happiness is not; virtue, therefore, is not happiness."²³ The later commentators developed a more accurate reading of Aristotle, when they, like Kilwardby, realized that he was describing a perfect act within the limits of a particular being's potential.²⁴

Kilwardby concludes this discussion by claiming that the virtuous person can only be called happy in the same way as one taking medicine is called healthy. For just as he is healthy in the sense of progressing towards health, so too is the virtuous person happy in the sense of moving towards happiness. The question of the contemplative life is reserved for subsequent discussions on the meaning of happiness. Kilwardby does not wish to introduce this topic to his analysis of the first book of the *Nicomachean Ethics*. He concentrates rather on the habitual virtues and understands moral virtues to be a precondition for the higher activity of contemplation. Moral virtue then contributes most to a secondary type of happiness. This reading of Aristotle is similar to the position of Albert the Great, who clearly distinguishes between *felicitas civilis* and *felicitas contemplativa* in his commentaries on the *Ethics*.

The Pseudo-Pecham analyzes the *summum bonum hominis* in a similar manner in his consideration of the relation between action and habit. He claims that Aristotle divided the end into one which is an act and one

²² DOS, 36, 352:124, "Tamen secundum opinionem philosophicam antiquam multorum aeternum et beatam vitam Dei visionis ignorantium videbatur aliquando plene posse acquiri et haberi in hac vita, de quibus videtur Aristoteles fuisse qui posuit quod felicitas est actus perfectus secundum virtutem, quem ni fallar, posuit hominem habere in hac vita, si sic perseveraverit."

²³ F, fol. 11rb, "Deinde ostendit quod virtus non est felicitas, et est ratio talis: virtus est imperfectorum, felicitas non; ergo virtus non est felicitas."

²⁴ See Albertus Magnus, *Super Ethica commentum et quaestiones libri quinque priores*, ed. Wilhem Kübel, in *Alberti Magni Opera omnia*, 14.1 (Münster: 1968), 5.

which is an operation.²⁵ In some ways the action or operation does not seem better than the act or habit, since the habit perfects the potentiality. The action, however, is a means whereby the potentiality is perfected. As a result, the habit is deemed better than the resulting act.²⁶ Because Aristotle defines happiness as an action or operation, the Pseudo-Pecham compromises in his conclusion by stating that happiness is both a habit and an operation: “a habit is called an end. And so he [Aristotle] wishes to say that there is a certain end which is only a habit such as virtue; and another end which is not only a habit but also an action, such as happiness.”²⁷ The complex relation between virtue and happiness, habit and operation seems to have caused great difficulty for the earliest commentators on the *Nicomachean Ethics*, and not until Albert’s great commentary did the Latin authors gain a better understanding of Aristotle’s moral terminology.

Like all commentators on Aristotle, Kilwardby recognizes that the rational soul is both practical and speculative in its operations. He then claims with some justification that *praxis* takes precedence over speculation.²⁸ In the *De ortu scientiarum*, Kilwardby also considers the relation between speculative and practical activities: “Thus it is clear that action or *praxis* which is in speculative [activities], is more properly called operation than *praxis* or act. Reasoning, meditation, and such actions concerning the pursuit of truth exist more according to nature than to the choice of will, and it is clear that action or activity that is in active pursuits is well named *praxis* because it is according to human choice.”²⁹ Despite the refinement

²⁵ F, fol. 4rb, “Item dividit hic finem in finem qui est actus, et in finem qui est opus, et queritur cum opus actus sit quomodo pro diversis accipitur. . . .”

²⁶ F, fol. 4rb, “dicit quod in quibusdam est melius opus quam actus sive habitus. Hoc non videtur quia habitus perficit potenciam; opus autem est mediante quo potencia perfectionem acquirit, Unde semper habitu melior quam opus.”

²⁷ F, fol. 4va, “habitus finis dicitur. Et per hoc vult dicere quod quidam est finis qui est habitus solum, ut virtus; quidam est finis qui non est habitus, sed opus, ut felicitas.”

²⁸ C, fol. 29orb; Pr, fol. 6rb, “In prima dicit quod cum anima rationalis duplex sit, scilicet speculativa et practica, ponendum est felicitatem esse circa eam que practica est. Principalior enim est praxis speculatione.”

²⁹ DOS, 44, 411:143–44, “Unde patet quod illa actio sive praxis quae est in speculativis magis proprie dicitur operatio quam praxis vel actus. Ratiocinatio enim et meditatio et huiusmodi actiones veri inquisitivae potius sunt secundum naturam quam secundum voluntatis electionem, et patet quod actio sive operatio quae est in activis bene dicitur praxis vel actus, quia est secundum humanam electionem.”

in terminology in the later work, Kilwardby retains the idea that *praxis* must include somehow speculative activities.³⁰

Kilwardby ascribes to Aristotle a doctrine that identifies three possible causes of happiness, available to all who are capable of virtuous activity. The causes are a vehement approach to virtue through learning and study, a disposition to virtue and good actions, and finally, God. The third cause is most significant here since Kilwardby is reluctant to place the supreme moral good within human powers alone. He implies that virtuous actions dispose one to the reception of happiness from God.³¹ In the *De ortu scientiarum*, Kilwardby addresses the topic in a slightly different manner. He argues that habitual virtue comprises a great part of human perfection, but it has a further purpose as a disposition to another type of virtue and a more perfect life.³² In his commentary on the *Sentences*, Kilwardby does address the question directly. When considering the question of political virtues, he goes beyond a strictly philosophical discussion. He says that habitual virtues may be considered as perfect or imperfect, or as formed or unformed. The philosophers treat them as imperfect, and as such, they are acquired through human actions. As perfect virtues they can be attained only through divine power, either immediately or after the acquisition of virtuous habits.³³ One should note that Kilwardby, when speaking

³⁰ *DOS*, 42, 394:138, "Et dicendum quod omnis operativa scientia aliquid habet de contemplatione et e converso. . . . sed tamen bene distinguuntur penes contemplationem et operationem tamquam penes fines principaliter intentos" *DOS*, 42, 393:138, "Quaero igitur quomodo distinguantur penes speculationem et praxim, cum illae quae practicae sunt sint etiam speculativa—oportet enim prius virtute speculativa contemplari quod virtute practica debemus operari—et e converso speculativae non sine praxi sunt." See also the anonymous *Accessus philosophorum VII: Artium liberalium*, ed. Claude LaFleur in his *Quatre introductions à la philosophie au XIII^e siècle. Textes critiques et étude historique* (Montreal: 1988), 183, "philosophia speculativa consistit in speculativis sive cognitione, set anima duobus modis se habet in cognoscendo substantiam rei quo ad qualitates sive modus operandi, et hoc moodo practica. Unde practica dicit actum speculativi intellectus prout exit in opus et regulatur in ipso." Also in the same work, the *Anonymi Magistri Artium Parisiensis (c. 1245) Philosophica Disciplina*, 260, "Practica dicitur que docet cognoscere bonum quod est operandum et informat intellectum practicum. Speculativa, que docet cognoscere necessarium, quod non est operandum set speculandum et intellectum speculativum informat. Licet autem sic dividatur primo, tamen in omni scientia est theorica et practica. . . ."

³¹ C, fols. 291v–292ra; Pr, fol. 8rb, "In secunda particula sic procedit. Primo dicit quod si felicitas non sit a deo penitus inmissa, sed propter quandam virtutem sit aut disciplinam aut assuetudinem, adhuc videtur esse valde divinum, et a deo procedens, et hoc est: *videtur autem* etc. (99b14) . . . Ultimo autem deus inducit elicitationem."

³² *DOS*, 43, 353:125, "Virtus enim consuetudinalis et actus eius magna pars est perfectionis humanae in hac vita, quae tamen ulterius ducit, et est dispositio ad aliam virtutem et perfectiorem vitam. . . ."

³³ *Tugendlehre*, q.27, pp. 98–99.

of habitual virtues, never claims them to constitute human perfection. The role of divine causality remains a topic in all medieval discussions of human perfection, since the prevailing understanding determined union with God to be the supreme good for human beings. Since no person could attain such an end through natural means, God must somehow be the cause of human perfection.

The Pseudo-Pecham regards the problem of divine causality as linked to the question of the two types of happiness. The first way to judge happiness is according to its essence, and so in no way does it depend on human acts, but rather on the first cause alone. The second manner considers happiness insofar as it is the act by which one is made happy or perfect, and then this act belongs to all who possess it as an efficient cause. Even as efficient cause, this act depends on us only insofar as it is received and disposes us through good actions.³⁴ The Pseudo-Pecham does not wish to attribute happiness to human actions because he understands it to be the perfection not of the composite being, but only of the separate soul.³⁵ Since happiness is distinct from virtue, human operations can only dispose one to receive happiness from an external source.³⁶

In the anonymous guide for students at Paris the question is succinctly put: "Are we the entire cause of good, as we are the entire cause of evil?" The answer seems simple, since the will is the principle of good and evil. There are, however, two ways of providing an answer to this question. The philosophical response is that we are the total cause of good and evil, but the theologians reply that we are not, because we need an infusion of divine grace, which is called *synderesis*.³⁷

³⁴ F, fol. 17ra–b, "Quod de felicitate est loqui dupliciter secundum suam essenciam et sic nullo modo dependet ab opere nostro, sed solum a prima causa; vel quo ad eius actum qui est felicitas vel perficere hominem. Sed tunc sciendum est quod actus ille est alicuius, sicut efficiens, et sic predicatur commune, et sic non dependet a nobis, vel sicut recipientis, quia sic non recipitur in aliquo nisi disponatur per operationes bonas."

³⁵ F, fol. 17rb, "Virtus est anime proprie in coniuncto secundum philosophum, sed felicitas proprie est anime separate. . . ergo non sunt idem."

³⁶ F, fol. 17vb, "Cum virtus disponat ad felicitatem, in eodem debet esse virtus et felicitas. Sed in libro sequenti auctor volens ostendere quid sit virtus, enumerat ea quae sunt in anima, non in coniuncto."

³⁷ Claude Lafleur with Joanne Carrier, ed., *Le "Guide de l'étudiant" d'un maître anonyme de la faculté des arts de Paris au XIII^e siècle: Édition critique provisoire du ms. Barcelona, Arxiu de la Corona d'Aragó*, Ripoll 109, fol. 134ra–158va (Laval: 1992), 66, no. 119 (hereafter *Le Guide*), "Utrum nos sumus tota causa boni sicut sumus tota causa mali. Et videtur quod sic. . . quia voluntas est in nobis ut principium utriusque.—Ad hoc quod dicimus quod loquendo philosophice sumus tota causa utriusque. Loquendo tamen theologice, non

A similar resolution is found in Arnoul of Provence's *Divisio scientiarum*. There he claims the good that is the end and perfection of the soul is twofold: virtue, which is accomplished by human beings; happiness, which cannot be attained by their actions, but is something to which we are joined. Arnoul argues that Aristotle speaks of the latter good in the *Ethica nova*.³⁸ For these early commentators, who understood happiness to be the perfection of the separate soul or a type of Christian beatitude, human causality could never be a sufficient response to the question of the origin of happiness.

The Ideals of Happiness and Beatitude

Kilwardby is careful to distinguish the philosophical ideal of happiness from the religious notion of perfect beatitude. He indicates that one seeks death only for the sake of another good, which must itself be beatitude, while happiness is never desired for anything other than itself. He concludes, therefore, that happiness cannot come after death. We should note that he correctly uses the term *beatitudo* to refer to a state beyond evils and misfortunes. Whether it is the imperfect beatitude of the happy man blessed by good fortune, or the perfect beatitude of the eternal life, the *beatus* enjoys constant good fortune. In the *De ortu scientiarum*, Kilwardby maintains the same distinction in terminology: *felicitas* refers to the philosophical ideal of human perfection; *beatitudo* signifies a state beyond misfortune.³⁹

sumus sufficienter ad bonum, sed oportet gratiam in nobis a Deo infundi, que a theologis sinderesis appellatur."

³⁸ Lafleur, *Quatre introductions*, 335, "Nam bonum quod est finis est perfectio anima in hac [parte] maxime consideratur. Bonum autem illud duplex est: quoddam enim est quod est ab homine operabile . . . et huiusmodi bonum est virtus; aliud est bonum quod non est ab homine operabile, set tamen per bonas operationes sibi unibile, quod est felicitas, de qua determinatur in *Nova ethica* . . ."

³⁹ DOS, 36, 352:124, "Bonum hominis spirituale tam secundum catholicos quam secundum antiquos philosophos beatitudo est, quam philosophi plurimum vocant *felicitem*, sed catholici potius *beatitudinem*. Haec secundum veritatem catholicam non potest plene haberi in hac vita mortali. . . . Tamen secundum opinionem philosophicam antiquam multorum aeternam et beatam vitam Dei visionis ignorantium videbatur aliquando plene posse acquiri et haberi in hac vita, de quibus videtur Aristoteles fuisse, qui posuit quod felicitas est actus perfectus secundum virtutem, quem, ni fallar, posuit hominem habere in hac vita. . . ."

DOS, 36, 353:125, "Philosophorum igitur doctrina de virtute quoad hoc falsa non erat sed diminuta, et ideo non inutilis est catholicis quibus Deus misericorditer plenam de beatitudinem ostendit veritatem."

Kilwardby frames the question concerning the effects of misfortune on human happiness in a logical way and asks whether a living person can truly be judged happy, or whether one must see the end before one can determine the nature of the journey. Like Aristotle, Kilwardby provides only a general answer to the problem. He concludes that we should agree that if one persists in good actions and does not change during a lifetime, then one may justly be called happy. He rightly assumes that Aristotle wanted to apply the term *happy* only to living persons.⁴⁰ Despite changing fortunes, no one is called happy because of external possessions or good luck. Happiness consists in the operation of virtuous actions, which may be affected by outside factors, but cannot be caused or destroyed by them. The final syllogism on the question is simple: virtuous actions belong to the living; happiness consists in virtuous actions; happiness, therefore, belongs to the living.⁴¹

Kilwardby correctly assumes the importance of the question concerning misfortune's effect on happiness. The Greeks considered seriously the possibility that fate could destroy the quality of a human life, and Aristotle knew that he could only provide a general description of the good life. Too many circumstances beyond human control have great impact on the way in which a life is conducted. To say that a good person does the best he can, just as a good shoemaker provides the best wares from materials at hand, does not really resolve the problem. The final determination of the commentary follows closely the distinction implied in Aristotle's text. Many good fortunes and external goods make a life more "blessed" and embellish it (*ad decorationem*). One should make good use of the benefits of fortune, but in themselves they cannot cause happiness, however much they may contribute.⁴²

⁴⁰ C, fol. 292vb; Pr, fol. 9ra, "Intendit ergo Aristotiles quod si aliquis steterit in bono, non transmutatus usque in finem vite, hic ponendus est felix; et sic videtur Aristotiles velle viventem felicem esse; et hec sit sententia eius quamvis ad aliud trahi posset. Patet ex parte qua ostendit quomodo vivens felicitabitur, et bis concludit viventem simpliciter esse felicem, et hoc est: *sed oportet finem* (00a33)." See also DOS, 36, 352:124.

⁴¹ C, fol. 293ra; Pr, fol. 9rb, "Consequenter ex iam dictis concludit viventem esse felicem quod sequitur sic: [si] felicitas consistit circa operationes virtutis; operationes autem virtutis insunt viventi; ergo felicitas viventi inest, et hoc est: *existit utique* (00b18)."

⁴² C, fol. 293ra; Pr, fol. 9rb, "Secundo illud declarat, et primo manifestat quid faciunt prosperitates ad felicitatem, dicens quod multa et magna, si possideantur cum sciencia, reddunt vitam beatiorem; innata sunt enim ad decorationem vite, et usus eorum bonus; et ex hoc significat quod felicitatem non causant, licet competencia sint felici, et hoc est: *magna vero* (00b25). Per hoc quod dicit magna potest vocari extensio in bonis exterioribus; per hoc quod dicit multa, diversitas." The response and language of Kilwardby become the common interpretation of this section in Aristotle in the later Latin commentaries.

Misfortunes may disturb the blessed life, but in themselves, they cannot take happiness away from the virtuous. Again, Kilwardby follows the implied distinction in Aristotle's text when he uses "happiness" as the proper term for the human actions that comprise moral goodness and "beatitude" as happiness with the added benefits of good fortune. With this distinction in mind, he argues that misfortunes cannot destroy virtuous activity and happiness, if they are borne well by the good person. Limiting the discussion to the Aristotelian ideal of happiness, Kilwardby correctly looks for the moral standard in the good and wise person. Such a person always acts properly in any circumstance. The happy person (*felix*) can never become wretched (*miser*) because of external calamities. Fortunes may affect the happy life, but do not cause, or destroy, it.⁴³

The summary of the notion of human happiness contains the requirement of the enduring life of virtue. One must act according to perfect virtue, have sufficient external goods, and persevere throughout a lifetime to be judged happy. The expression "perfect virtue" is taken here as a reference to the "collection" of the four cardinal virtues, which Kilwardby considers a perfect human life. Moral doctrine leads to the description of the life of such virtue. In the *De ortu scientiarum*, Kilwardby allows the philosophers to characterize a human virtue as perfect, if the adjective is understood properly: "Although the philosophers do not come to the ultimate end of a spiritual good so that they would discover the fruition of God to be the supreme human good, but remain in virtue which is ordered to that end, nevertheless they were not completely wrong when they asserted perfect virtue and a perfect act according to virtue, [which] I call habitual, to be human perfection."⁴⁴

Kilwardby's commentary contained a widely circulated variant of the *Ethica nova*. The Greek text concludes the discussion of fortune with

See Thomas Aquinas in the *Sent.* 58–59, lines 116–21, "Si bona, conferent ad hoc quod vita hominis sit beator, quia: felicitas indiget exterioribus bonis vel ad decorem vel in quantum sunt instrumenta operationis secundum virtutem; et quantum ad primum dicit quod nata sunt simul decorare vitam felicitis. . . ."

⁴³ C, fol. 293rb; Pr, fol. 9va, "Consequenter ostendit quod huiusmodi adversitates non auferunt actus virtutis, ergo nec auferunt felicitatem, per hanc rationem: actus virtutis sunt domini felicitatis; sed adversitates non auferunt actus virtutis; ergo nec auferunt felicitatem."

⁴⁴ DOS, 36, 353:125, "Et quamvis philosophi non pervenerint ad ultimum finem boni spiritualis ut invenirent Dei fruitionem esse summum bonum humanum, sed steterint in virtute quae est ad illum finem, non tamen omni modo erraverunt ponentes virtutem perfectam et actum perfectum secundum virtutem, dico consuetudinalem, esse humanam perfectionem."

the assertion that human beings can be blessed, but only as humans (μακαρίους δ'άνθρώπους: *Ethica nova*, 1101a20a1). In several manuscripts of the *Ethica nova*, this phrase is translated not as *beatos ut homines*, but rather as *beatos autem homines ut angelos*.⁴⁵ The idea that human beings could be blessed as angels led many early commentators to reformulate the interpretation of the *Nicomachean Ethics* in a decidedly un-Aristotelian manner. They discussed the possibility that the human moral good may be the perfection of the separate soul. The anonymous examination guide asks whether the body is able to receive happiness as does the soul, for the body seems to merit it as well. The resolution is a theological response, “because it is true that the body receives happiness, since the theologians assert that the soul reunites with the body after death. This is more miraculous than natural. For this is simply unnatural and so it is not asserted by the philosophers. And therefore since happiness is after death, as the author [Aristotle] demonstrates <*Ethica nova*, 1100a11>, and the philosophers do not claim the soul after death is joined to the body, then happiness naturally belongs properly to the soul alone and not to the body.”⁴⁶

The Pseudo-Pecham considers the text in the following manner: “He [Aristotle] says that men should be called blessed as angels; and so since a man is not like an angel except by reason of the soul, there should be a determination about the soul itself.”⁴⁷ Despite the corruption of Aristotle’s text, the Pseudo-Pecham does not conclude that Aristotle attributed beatitude to the separate soul itself, and correctly judges happiness to occur to the soul disposed by good actions.⁴⁸ While the Pseudo-Pecham denies that Aristotle attributed happiness to the separate soul, he makes a distinction between the philosophical and theological determinations

⁴⁵ *Ethica Nicomachea, Ethica nova*, ed. René-Antoine Gauthier, *Aristotele Latinus*, (Leiden: 1972), 26:1–3 (fasc. 2), p. 88, l.14.

⁴⁶ *Le Guide*, 59, no. 94, “utrum corpus sit natum recipere felicitatem sicut anima. . . . Et ita videtur corpus mereri sicut anima.—Ad hoc dicimus quod secundum theologos hic habet veritatem, quia ponunt animam reungi corpori post mortem. Sed hoc est plus per miraculum quam per naturam. Simpliciter enim hoc est innaturale, et ideo non ponitur a philosophis. Et propter hoc cum felicitas sit post mortem, sicut probat hic auctor, et non ponunt philosophi animam post mortem coniungi corpori, ideo proprie felicitas per naturam debetur solum anime et non corpori.”

⁴⁷ F, fol. 17vb, “Item inferius dicit quod homines beati dicendi sunt ut angeli, ergo cum homo non sit ut angleus nisi ratione animi determinatio erit per se anime.”

⁴⁸ F, fol. 18ra, “quod homines beati dicuntur esse sicut angeli, non quia beatitudo sit hominis ratione anime ut est separate.” See also Georg Wieland, *Ethica—scientia practica, Die Anfänge der philosophischen Ethik im 13. Jahrhundert* (Münster: 1981), 168n168, “anima enim per se non est cui conferatur felicitas, sed anima disposita per bonas operationes.”

of the human good: "The soul's virtue properly belongs to the composite according to the Philosopher, but happiness properly belongs to the separate soul; virtue and happiness, therefore, are not the same."⁴⁹ Virtue is dispositive only, and certain virtues that are most important for happiness are characteristic of the separate soul. He implies a distinction within virtues and subsequently within moral theory as well. Habitual virtues belong to the composite, and the intellectual virtues, which comprise happiness, are proper to the separate soul.⁵⁰

Kilwardby, although aware of the corruption, does not think Aristotle considered the possibility of beatitude for the separate soul. He reads *beatos ut angelos* not as a reference to immortal life, but rather as an indication of perfection within the realm of human potentiality. Just as angels are perfect according to their being, so too are humans in theirs. There is no discussion of eternal beatitude, or happiness, for the separate soul. Such topics are not pertinent to the science of ethics, and Aristotle did not determine such a question in any way at all. Kilwardby's response became a standard explanation of the text, '*beatos ut homines*,' and despite the corruption of his own text, he provided an insightful and accurate analysis of Aristotle's intention.⁵¹

The Relation of Virtue to Happiness

Kilwardby concludes his discussion on the supreme human good with another discussion of the relation of virtue to happiness. Kilwardby, despite his earlier remarks about virtue, claims here that virtue is an inferior good ordered to happiness. He reiterates Aristotle's definition of happiness as an act of soul according to perfect virtue and concludes that virtue needs to be considered. "Act," he argues, is to be understood as

⁴⁹ F, fol. 17vb, "Virtus est anime proprie in coniuncto secundum philosophum, sed felicitas proprie est anime separate . . . ergo non sunt idem."

⁵⁰ F, fol. 17vb, "Cum virtus disponat ad felicitatem in eodem debet esse virtus et felicitas; sed in libro sequenti auctor volens beatos ostendere quid sit virtus enumerat ea que sunt in anima, non in coniuncto ut per hoc habeatur quid est virtus, quare virtus est anime non coniuncti, ergo et felicitas."

⁵¹ C, fol. 293va; Pr, fol. 9vb, "Tercio ex hiis concludit intentum, dicens quod si vera sintiam dicta, tunc dicemus viventes esse beatos quibus supradicte condiciones conveniunt. Et addit qualiter dicemus eos beatos, ut angelos; et hoc sic intelligendum est non quia homines viventes immortales sint sicut angeli, sed quia perfecti sunt in ordine suo, sicut angeli in ordine suo. . . ." See *Sent.*, p. 60, lines 215–25. Also *DOS*, 36, 352:124, "Et [Aristoteles] locutus est ipse de virtutibus consuetudinalibus tantum non de theologis."

perfection.⁵² Although he views happiness as the perfection or actuality of the soul's potentiality, Kilwardby does not realize that the very act of perfection is the exercise itself of virtue. He subordinates virtue to happiness and makes it a means to a superior end.⁵³ In his commentary on the first book of the *Sentences*, Kilwardby also recognizes virtue as an important element in Aristotle's description of happiness.⁵⁴ Throughout his literary career, however, Kilwardby maintains the distinction between the higher contemplative virtues and the lower moral ones. As he indicates here that the intellectual virtues direct one to the Creator, he does also in the commentary on the *Sentences*: "Nevertheless since in them [the cardinal virtues] there is contemplation and the action following from contemplation, for example in faith there is the contemplation of eternal truth and the action of believing thereby produced . . . by reason of contemplation they pertain to the superior [reason] and in it they exist wholly, and as such truly are to be distinguished from action."⁵⁵ Kilwardby's commentary distinguishes human virtue, which concerns the soul, from happiness, which perfects the soul. As a result of the distinction, the moral philosopher must consider carefully the nature of the soul as it relates to the way in which virtue is acquired.

The anonymous guide for students differentiates between happiness and virtue as well. Virtue, said by some to be the primary subject of ethics because it is the means by which happiness is attained, is subordinate to happiness, the end for which all actions are performed. Happiness is the

⁵² C, fol. 294rb; Pr, fol. 10va, "dicens quod cum felicitas sit actus anime secundum virtutem perfectam, et iam determinatum sit de felicitate, nunc de virtute scrutari oportet, et hoc est: *si autem felicitas est* (02a5). Et accipitur ibi actus pro perfectione."

⁵³ C, fol. 294rb; Pr, 10va, "primo dicit quod non scrutandum hoc de qualibet virtute, sed de virtute humana, quia illud ad quod ordinatur hec virtus est bonum humanum, scilicet humana felicitas. . . ." In *DOS*, 36, 353:125, there is similar language describing human perfection, but Kilwardby realizes here that virtue is the act of perfection itself.

⁵⁴ *Sent. 1*, q.28, p. 62, "Vel forte loquitur secundum opinionem Academicorum qui dixerunt virtutes esse summum bonum, de quibus videtur esse Aristoteles in I Ethicae ponens quod 'humana felicitas est actus perfectus secundum virtutem.' Et tunc sicut nos dicimus et vere quod non est uti beatitudine, quia est nostrorum operum, sed est uti his quae sunt ad illam, sic ille dicit secundum opinionem illorum quod virtutibus non est utendum, quia sunt bonum finale hominis, sed ceteris est uti erga virtutem, ut in ea quiescat." See also *Tugendlehre*, q.27, p. 99.

⁵⁵ *Tugendlehre*, q.29, p. 112, "Tamen cum sit in eis contemplatio et actio consequens contemplationem—verbi gracia in fide est contemplatio aeternae veritatis et actio credendi inde product. . . ratione contemplationis ad superiorem pertinent et in ea sunt omnino, quantum vero ad actionem distinguendum."

most perfect good among all particular goods.⁵⁶ The author of the guide makes his position clear when he asserts that virtue is a means through which happiness is acquired.⁵⁷ As Gauthier has shown, the early medieval commentators on the *Nicomachean Ethics* saw the distinction between happiness and virtue as the rationale for the division between the *Ethica nova* and *vetus*. Virtue, which humans accomplish through their own means, is treated in the *Ethica vetus*; happiness, to which they can only be united, is discussed in the *Ethica nova*.⁵⁸

The Pseudo-Pecham claims that happiness will be simply prior to virtue, and that virtue is ordered to happiness as its prize. Virtue can only be a disposition to the supreme good.⁵⁹ He tries to provide a rationale for his strict separation between virtue and happiness by arguing that an end, which is a habit alone, differs from one which is both habit and act. Virtue is the former and happiness, the latter. An act and habit together are superior to a habit alone; happiness, therefore, is a separate end superior to virtue.⁶⁰ Like his contemporaries, the Pseudo-Pecham recognized the supreme end desired by human beings to be God. No virtuous activity was sufficient to attain such an end, and so Aristotle's *Ethics* had to be reinterpreted to allow human actions to be directed toward an uncreated good.⁶¹ He concludes that Aristotle's position on the role of virtue in happiness is poorly constructed. Aristotle, he claims, will say later that happiness is not present (*inest*) according to virtue; since it is nobler than any human good it is not present (*inest*) according to any good of man. Aristotle

⁵⁶ *Le Guide*, 4, no. 77, "Huiusmodi autem scientie virtus esse subiectum a quibusdam, quia principaliter est intentio de virtute—sicut dicunt per quam felicitas acquiritur. Potest tamen felicitas melius subiectum dici eo quod est finis propter quem omnes operationes fiunt et virtutes. In moribus enim finis principaliter movet et propter finem omnia intenduntur. . . Est enim felicitas bonum perfectissimum inter bona particularia; est enim primum bonum quod partiri non potest per essentiam suam."

⁵⁷ *Le Guide*, 55, no. 79, "ostendit quod de virtute dicendum est et quare, quia virtus est medium per quod acquiritur huiusmodi felicitas." Also p. 58, no. 90, "Sed si probantur passiones [virtutis], hoc non est propter se, sed prout est principium ad felicitatem vel medium."

⁵⁸ René-Antoine Gauthier, "Arnoul de Provence et la doctrine de la 'fronesis,' vertu mystique suprême," *Revue du Moyen Âge Latin* 19 (1963): 146. As Gauthier notes, this position is certainly not that of Aristotle.

⁵⁹ F, fol. 2ra, "ergo felicitas prior erit simpliciter virtute; fol. 2vb: Moralis philosophus principaliter intendit de felicitate, et de ea primo determinat, et quia virtus ordinatur ad felicitatem. Est autem felicitas bravium virtutis, unde virtus est dispositio ad optimum."

⁶⁰ F, fol. 4va, "Et per hoc vult dicere quod quidam est finis qui est habitus solum, ut virtus; quidam est finis qui non solum est habitus, sed <eciam> opus, ut felicitas."

⁶¹ F, fol. vb, "Felicitas sive finis optimus operacionum est medium coniungens nos quodam modo bono increato."

demonstrates badly, therefore, that it is present according to virtue or a good action of the soul.⁶² The function of virtue in the production of happiness is merely to dispose the soul so that happiness may be united to it. The young do not have sufficient good habits to allow for the dispositive and mediating process of virtue to begin; happiness, therefore, cannot be united to them.⁶³

The Meaning of Prudence

The division within the soul gives rise to a corresponding division into intellectual and moral virtues. The former are wisdom, *fronesis* and intelligence; the latter are liberty and honesty, although earlier in Kilwardby's commentary they were identified as honesty and courage. The intellectual virtues perfect the soul through the activities of speculation and understanding. The habitual moral virtues perform and inform the intellect in action. Intelligence is defined as cognition only, but wisdom is cognition with delight. *Fronesis* is a certain type of prudence and is a choice of what is previously known and desired. Honesty and liberty are not an exhaustive list, but merely examples of moral virtues.⁶⁴

Unlike Arnoul of Provence or the Pseudo-Pecham, who elevate *fronesis* to a supreme virtue, by which a human being is united to God,⁶⁵ Kilwardby does not consider it to be superior to the other intellectual virtues. While his contemporaries understood happiness to consist in a union with the uncreated good, he limits his discussion here to the concept of living and acting well. He is unaware of the central role practical wisdom (*phronesis*) has in the psychology of the moral act, since he does not have Book VI of the *Nicomachean Ethics* available to him. He sees no need for a supreme intellectual virtue uniting man to God. In the *De ortu scientiarum*, Kilwardby refers to prudence as a virtue that organizes past and present experiences with the aim of directing future actions. In this understanding, he presents a shorter version of Albert's discussion of Cicero's

⁶² F, fol. 19va, "De primo sic: Aristotiles in parte sequenti dicit quod felicitas non inest secundum virtutem; immo cum sit nobilius quolibet bono humano ostendit quod non inest secundum aliquid bonum hominis. Male ergo ostendit hoc quod inest secundum virtutem sive secundum anime bonam actionem."

⁶³ F, fol. 25vb, "Quod felicitas unitur anime mediantibus dispositis, scilicet per habitus bonos disponentes ad eius inceptionem et mediantibus operacionibus bonis quibus, quia caret puer, non potest uniri felicitas."

⁶⁴ C, fol. 295ra; Pr, fol. 11va.

⁶⁵ Gauthier, "Arnoul de Provence," 152.

position.⁶⁶ In both this early commentary and the later works Kilwardby understands prudence (*fronesis*) to be both an intellectual and practical virtue, despite Aristotle's description of it as an intellectual virtue only. Kilwardby thinks that Aristotle's classification unduly limits the scope of prudential decisions. Moral virtues pertain to more than mere speculation; and the designation, 'intellectual', must be understood in relation to the object of thought. Intelligence, wisdom and prudence, when directed toward understanding of the first being are termed intellectual; when they consider inferior objects they are not.⁶⁷ Kilwardby's commentary on the *Sentences* offers a similar view. He argues there that every virtuous habit reflects truth or goodness. When it reflects truth and goodness as truth, it is an intellectual habit of the cognitive power of the soul; when it does so as goodness, it is a practical habit of the practical potentiality of the soul: "This is why prudence sometimes is called an intellectual habit and sometimes practical: intellectual because it is speculative, practical because it considers good and evil so that it chooses and performs some action."⁶⁸ Kilwardby prefers to consider prudence as a habit of the practical intellect. Discernment, reflection and the determination of truth or falsity, which characterize prudence belong to practical activity. As such, they are ideas resulting from desires, and are properly classified under practical activity. Kilwardby claims that Aristotle's words encompass these desires. Since prudence directs speculation about actions, it concerns good and evil, or what is to be desired or avoided, rather than truth or falsity. Prudence, as practical knowledge and habit, is properly considered within the desiderative powers.⁶⁹

⁶⁶ *DOS*, 4, 8:12, "prudencia est virtus collativa praesentium et praeteritorum respectu futurorum, quod non potest esse sine memoria." See Albertus Magnus, *De bono*, ed. Wilhelm Kübel et al., *Alberti Magni Opera omnia*, 28 (Münster: 1951), tr. 4, q.2, pp. 241–52.

⁶⁷ C, fol. 295rb; Pr, fol. 11va–b, "Et sic patet divisio sufficiens virtutis intellectualis; verumptamen necesse est sic dicentes distinguere hec nomina. Intelligencia enim uno modo est habitus intelligibilium existentium apud intellectum possibilem; alio modo intellectualis affectio et cognicio primi ex habitu intelligibilium precedente. Et secundo modo est virtus intellectualis, primo modo non. Similiter sapientia uno modo est cognicio causarum in rebus cum dilectione; alio modo cognicio summi boni cum dilectione que ad precedentem subsequitur sapientiam. Et hoc modo est virtus intellectualis, primo modo non. Similiter et fronesis, cum sit prudentia in eligendo prius cognita et amata; aut hoc est in comparatione ad hec inferiora, aut ad primum. Et secundo modo est virtus intellectualis, primo modo non."

⁶⁸ *Tugendlehre*, q.30, p. 115, "Hinc est quod prudentia aliquando dicitur habitus intellectualis et aliquando practicus: intellectualis quia speculativus, practicus quia speculatur bonum et malum ut eligat et operetur aliquid."

⁶⁹ *Tugendlehre*, q.30, p. 115, "quoniam discernere et ratiocinari et verum affirmare vel negare secundum quod ad prudentiam spectant sunt speculationis practicae, et ideo sunt

Kilwardby argues that the moral virtues direct human actions with respect to inferior things and are located in the rational, not the sensitive, part of the soul. He indicates also that a consideration of three intellectual virtues is sufficient for Aristotle's purposes. He describes these virtues in a way that was common at Paris in the 1240's: intelligence is the recognition of the first being; wisdom adds the aspect of love to recognition; and *fronesis* allows the human being a measure of participation in what is already recognized and loved. As Gauthier notes, the commentators of this era had not yet fully comprehended the aim of Aristotle's *Ethics*.⁷⁰ Still greatly influenced by theological traditions, but also by Aristotle's praise of the contemplative life, they viewed the intellectual virtues as a philosophical expression of their own assumption that the primary goal of ethics was the unification of man with God. The examination guide for students summarizes these views: "Intellectual virtue exists through the contemplation and investigation of divine matters, whereby one is brought to love the first being above all. Thus, such virtue does not have to be known through some actions, but is totally spiritual, and so there is no such recognition or knowledge of its properties. Or such virtue can be said to be in those in whom divine grace is most inspired."⁷¹ While Kilwardby's commentary does not consider the intellectual virtues merely as a different way to express the need for grace, he still understands them as steps leading to love and knowledge of God.

Kilwardby, in the Commentary on the *Sentences* refines his understanding of prudence with the aid of the sixth book of the *Nicomachean Ethics*. He distinguishes between prudence, which is only speculative and described by Aristotle in book 1, and prudence, which is practical and described in book 6. The latter is a practical habit and is the same as love of the end or the true good.⁷² Despite Kilwardby's division of prudence into both a

aspectus ut affectus et ita proprie ipsius affectus. Et haec praetundunt verba Aristotelis. Similiter dicitur virtus opinative, quia dirigit speculationem opinionationis, sed respectu operationis. Similiter quando describitur, dicitur rerum bonarum et malarum vel appetendarum et vitandarum, non autem verarum et falsarum. In quo significatur quod ipsa est scientia practica et ita habitus practicus, quare in affectu proprie."

⁷⁰ See Gauthier, "Arnoul de Provence," 150–51.

⁷¹ *Le Guide*, 60–61, no. 101, "Quod virtus intellectualis est per contemplationem et inspectionem divinorum; ex qua efficitur aliquis ad diligendum Primum super omnia. Unde talis virtus non habet cognosci per aliquas operationes sed totaliter spiritualis est, et ideo non ita cognitio de eius proprietatibus neque scientia. Vel potest dici quod talis virtus est solum in illis in quibus maxime inspiratur gratia divina."

⁷² *Tugendlehre*, q.30, p. 114, "Ideo distinguendum prudentiam per illam quae est speculativa tantum et est communis bonorum et malorum et est in aspectu, sed non est virtus

practical and intellectual virtue, he is unwilling to abandon completely the earlier understanding of *fronesis* as a virtue leading to union with God: "First concerning prudence that it not only directs man concerning himself, but also to God and his neighbor. To God in heaven: Augustine says in *De trinitate* (XIV, c. 9, n. 12): 'Of prudence in heaven no good will be above or equal to God.' In life: Augustine says in *De moribus ecclesiae* (15, 25): 'Prudence is love discerning well those things by which one is led to God and away from those things by which one is impeded.'⁷³

The Question of Moral Science in the De ortu scientiarum

In the *De ortu scientiarum* Kilwardby begins his examination of science by offering first a tripartite division within the spheres of human knowledge. The first science is necessary for salvation and contains the way of living; the second teaches in part the truth of living correctly and is useful to Catholics and should be embraced by them; the third science is to be avoided since it leads one away from the proper life in order to pursue pleasures and vanities. Subsequent discussion shows ethics to fall into the second category, since it is useful to the faithful despite its inadequacy in the quest for salvation. Kilwardby also understands the opening lines of Aristotle's *Nicomachean Ethics* to offer a description of human goodness that encompasses all active pursuits of humanity. This active life is the primary subject matter for ethics. The science of ethics was instituted to preserve peace and to arrange human customs and actions in the pursuit of virtue. Because ethics promotes virtue, it should be considered superior to those sciences that produce knowledge alone.⁷⁴

The philosophical vision of human morality, limited by the ignorance of the true end of spiritual goodness, leads Kilwardby to conclude that the concentration upon virtue makes rational ethics merely a means to the

nisi per modum quo intellectuales virtutes dicuntur virtutes in fine *Ethicorum* (1103a4–6), et per illam quae est practica de qua determinat Aristoteles in VI *Ethicorum* (1140b5–6), dicens quod ipsa est practicus habitus et haec est una quatuor virtutum est est idem quod amor finis vel veri boni."

⁷³ *Tugendlehre*, q.31, p. 119, "et primo de prudentia quod ipsa non solum dirigat hominem erga se sed etiam erga Deum et proximum. Quod erga Deum in patria, Augustinus *De trinitate* lib XIV, cap. 19: 'Prudentiae in patria erit nullum bonum Deo praeponere vel aequare.' Quod in via, Augustinus *De moribus Ecclesiae*: 'Prudentia est amor bene discernens ea quibus adiuvetur in Deum ab his quibus impediri potest.'"

⁷⁴ *DOS* 53, 636:217, "Et quia de spiritualibus bonis melior est virtus scienita, quarum ethica virtutem intendit et aliae scientiam, melior est aliis ethica, hoc ordine [finium] prior."

final end of *fruitio Dei*. Aristotle's identification of goodness as a perfect act according to habitual virtue is not totally erroneous, since it designates a great part of human perfection in a lifetime, and disposes one toward a more perfect life promised in scriptures. Kilwardby locates the origin of ethical science in the natural desire for beatitude, which led human beings to seek the manner in which it can be obtained. They discovered it could not be attained without virtue, particularly those virtues that are practiced habitually. In order to know and practice virtuous actions, the philosophers posited certain rules and precepts that they thought would ultimately lead to beatitude itself.⁷⁵ The concept of beatitude unites the goal and subject matter of ethics by means of its spiritual goodness that perfects human nature.

Kilwardby is acutely aware of the distinction between the philosopher's conception of human goodness and that of the theologian. He succinctly summarizes the two ideals in the *De ortu scientiarum*: "The spiritual good for human beings according to both Catholics and the ancient philosophers is beatitude, which the philosophers often call happiness, but Catholics prefer beatitude. Beatitude according to the catholic truth cannot be fully attained in a mortal life."⁷⁶ Kilwardby correctly includes Aristotle among the many who held the philosophical opinion that happiness could be fully attained in a mortal life, because he defined happiness as a perfect act according to virtue as it is humanly possible. Kilwardby claims that Aristotle speaks only of habitual, and not of theological, virtues. This accurate analysis of the ideals of philosophy and religion reflects the most compelling issue in moral philosophy in the thirteenth century: the relation between happiness and beatitude, their causes, and the contribution of human virtues to the Christian goal of eternal beatitude. Much of late medieval moral thought addresses such questions, as does Kilwardby in his later questions on the *Sentences*.

Kilwardby realizes that Aristotle described an intellectual vision of God as an integral element to his notion of human happiness, but the ancient understanding was predicated on knowledge arising from preexisting sense cognition. Aristotle, therefore, referred only to a scientific spiritual cognition, and not to a purely intellectual vision. To those who understand

⁷⁵ *DOS*, 36, 354:125.

⁷⁶ *DOS*, 36, 352:124, "Bonum hominis spirituale tam secundum catholicos quam secundum antiquos philosophos *beatitudo* est, quam philosophi plurimum vocant *felicitem*, sed catholici potius *beatitudinem*. Haec secundum veritatem catholicam non potest plene haberi in hac vita mortali. . . ."

both Aristotle and Augustine, the latter's notion of intellectual cognition of God is more proper and more accurate (*strictius*). Augustine calls an intellectual vision a cognition of only those things, like God, which are through themselves present to the mind. A spiritual vision he designates as a cognition of material things which are present internally in the spirit or in the imagination through images. God can be known through a purely intellectual vision despite the opinion of Aristotle.⁷⁷ Kilwardby has clearly stated his preference for Augustine's understanding of human perfection despite his awareness of, and respect for, Aristotle's doctrine of happiness.

Ethics and the Meaning of Practical and Speculative Sciences

When considering the nature of ethics, Kilwardby accepts the limitations imposed by Aristotle. Although all sciences concern universal propositions, only speculative sciences can be considered demonstrative. Ethics since it primarily considers individual contingent choices can be considered a science only analogously (*analogice*), in the same way that dialectical or rhetorical syllogisms can be compared to demonstrative arguments. One should expect differences between speculative and practical sciences, just as there are differences within various speculative areas of study.⁷⁸ Despite its concentration on individual choices, ethics can be termed both scientific and practical. It is a universal science because it has a certain theory; it is practical since it leads to action.⁷⁹ Unlike Aristotle and many thirteenth-century masters, Kilwardby does not maintain a strict separation between theoretical and practical sciences. He also does not view the practical life to be a mere preparation for the acquisition of theoretical knowledge. He argues that practical sciences should also be considered speculative, since one must contemplate that which is to be done prior to acting. Speculative sciences, such as arithmetic, geometry and astronomy, must also contain certain practical elements, since they also contribute to human action.⁸⁰

⁷⁷ DOS, 27, 222:85.

⁷⁸ DOS, 42, 380:134.

⁷⁹ DOS, 41, 381:134, and 390:137.

⁸⁰ DOS, 42, 393:138, "Quaero igitur quomodo distinguantur penes speculationem et praxim, cum illae quae practicae sunt etiam speculativae—oportet enim prius virtute speculativa contemplari a virtute practica debemus operari—et e converso speculativae non sine praxi sunt... Videtur ergo quod et speculativae sint practicae et practicae speculativae."

The connection between practical and theoretical sciences leads to the conclusion that ethics should not be considered a subalternate science to metaphysics. Metaphysics examines spiritual beings and their nature, but never considers voluntary actions and their relation to virtue. Metaphysics may consider the will, but only within the limitations of its nature as an element within the soul. Ethics investigates not only voluntary acts as they are directed to, and proceed from, virtue, but also considers the will as the principle of good and evil. Ethics examines humans as they act as corporeal beings, while metaphysics views the soul as a separate substance; ethics, therefore should not be viewed as a science subordinate to metaphysics.⁸¹ Kilwardby here bases the differences among sciences on the distinction between what is natural and what is voluntary. Natural objects differ from voluntary desires, since the former can act only in one way determined by nature; the will, however, has the ability to perform opposing actions (*agere opposita*). This ability makes the will a principle nobler than nature, and makes every other science a servant to morality: "Just as apprehensive virtue is ordered to motivation and the cognition of truth is wholly ordered to a good act . . . so too all speculative sciences are ordered to the first science, namely metaphysics . . . And so the cognition of the supreme truth, which is the first cause, is further ordered to love for it, and to the perfect operation by virtue through which this supreme truth we shall ultimately see without obscurity, and shall possess and shall enjoy this supreme good. And so the entire goal of speculative science is ordered to, and fosters, ethics."⁸²

Such an understanding of the relation of sciences, while unusual, is not entirely without foundation in the works of Aristotle. In the *Nicomachean Ethics* Aristotle claims that *theoria* in itself is superior to the life of practical virtue, but a purely theoretical life is beyond human capabilities. He implies that human theoretical activities must be subject to the decisions of the practically wise person (*phronimos*) in order to contribute to the

⁸¹ *DOS*, 43, 404:141.

⁸² *DOS*, 43, 405:141–42, "Sicut enim virtus apprehensiva ordinantur ad motivam et omnino veri cognitio ad opus bonum . . . sic omnes speulativae ordinantur ad primam speculativam, scilicet ad metaphysicam . . . Et inde ulterius illius summi veri cognitio, quod est causa prima, ordinatur ad amorem eius et ad operationem virtute perfectam per quam ipsum summum verum tandem sine aenigmate videamus, et idem summum bonum habeamus et ipso fruamur. Et ita totius finis scientiae speculativae ordinatur ad finem ethicae, et tota speculativa ad ethicam, et ei famulatur . . ."

life of happiness.⁸³ Kilwardby's interpretation maintains the Aristotelian focus upon the life of *praxis* and its importance to the acquisition of happiness. In the final chapter in the *De ortu scientiarum* concerning the connection among sciences, Kilwardby argues that ethics contributes to all other disciplines, not by making human beings more knowledgeable, but by allowing the virtuous to learn more easily, since they are unaffected by corporeal desires. The virtuous are able to attain more properly that light which illuminates every living being, and to recognize what leads to eternal glory. In all these ways, all speculative and mechanical arts are ordered to ethics.⁸⁴

Moral Theology and Rational and Voluntary Actions

The understanding of the nature and end of ethics leads to the question of the relation between human virtues and the meaning of happiness as the goal of human life. While Kilwardby limits his understanding of Aristotle's ideal of moral goodness to the perfection of a human being within a lifetime, he raises the question in the commentary on the *Sentences* in a broader context. Kilwardby identifies two moral laws: an *entire* law pertaining *partially* to the correct life in the incommutable art of correct living (*recte vivendi*); another law of hoping correctly for beatitude not just in any way but from what is meritorious.⁸⁵ In this seemingly simple passage Kilwardby has raised a critical question in Christian moral theory concerning the role of human accomplishments. He uses the term *recte vivendi* as a synonym for *felicitas* and asserts the existence of an entire law governing its conditions. He then modifies this law with the term, 'partial', as it pertains to the correct life, which is governed further by correct hope. The law directed toward beatitude is not realized arbitrarily, but only through meritorious acts. The description of acts of merit comprises a great part on Kilwardby's subsequent work in moral theology.

Reason directed to the art of living correctly is accompanied by the power of judgement. The ability to judge is the rational will, which desires

⁸³ See Anthony Celano, "Phronesis, Prudence and Moral Goodness in the Thirteenth Century Commentaries on the *Nicomachean Ethics*," *Mediaevalia Philosophica Polonorum* 36 (2007): 5–27.

⁸⁴ *DOS*, 54, 643:220.

⁸⁵ *Tugendlehre*, q.12.1, pp. 40–41, "In arte incommutabili recte vivendi est omnis lex partialis pertinens ad rectam vitam, quae ibi est lex recte sperandi. Haec autem lex est sperare beatitudinem non qualitercumque sed ex meritis."

and chooses rationally. The judgement of reason displays to the appetite what is desired, and offers for choice what is pursued rationally. Kilwardby considers a rational voluntary choice to be impossible without the accompaniment of critical discerning reason. When reason and will function in unison, they are more powerful than when they conflict, as often is the case in the actions of young people. The will then may be rightly called 'rational appetite'. If the appetite is unchecked, it does not differ at all from that of animals. Reason may not judge accurately about living correctly and the will may not choose correctly. But when reason indicates rightly, the will gains an ability to judge correctly, though not necessarily.⁸⁶

A will determined rationally toward goodness can never be compelled to evil action. An interior voluntary disposition cannot be coerced violently to commit malevolent acts. Only the external action is subject to coercion. Kilwardby's example of genuflecting before a false idol explains this distinction. Either such an action arises from an internal free choice or from an external force. If it originates internally, then the will has exercised its freedom; if the action is externally compelled, then there can be no act of free choice.⁸⁷ Coercion and voluntary freedom exclude one another. Kilwardby locates the habit of free choice in the conjunction of deliberative reason and discretionary will. These abilities have both internal and external causes. The external cause lies in the immediate alignment of the rational mind with the art of living correctly, which is discovered in incommutable truth. Both the internal and external causes of free and correct choice are commonly called habits, but the internal disposition is better termed a potency even if the external disposition is indeed a formed habit.⁸⁸

Free choice adds something beyond the soul's pure potencies and the substantial nature of the rational mind. This additional quality Kilwardby calls an accident belonging to the first and second species of quality. If

⁸⁶ *Sent.* 2, q.127, p. 327, "Voluntas est rationalis appetitus. Unde ergo est appetitus tantum, inde alia est eius facultas quam rationis. Sic enim non differt a brutali. Unde est appetitus rationalis, inde eadem est facultas eius cum illa quae rationis. Sicut enim per collationem ad artem recte vivendi recte vel non recte iudicat ratio, sic per collationem ad eandem recte eligit voluntas vel non recte; et ideo ab eodem est facultas utriusque. Ex hac siquidem arte recte vivendi contemplata inest voluntati habitus ad eligendum proprie quod ad rationalem voluntatem spectat, non tamen ad appetendum. Appetere enim potest brutaliter voluntas per se ipsam, sed rationaliter et proprie non potest nisi praevia ratione." Also, *Sent.* 2, q.127, pp. 328–29.

⁸⁷ *Sent.* 2, q.131, pp. 342–43.

⁸⁸ *Sent.* 2, q.127, p. 328.

this quality is to be further specified, it should be designated as a faculty for discerning and choosing rationally. Such a designation may be further qualified as a 'habit', 'potency', or 'habitual state', since choice acts according to both internal and external causes.⁸⁹ Kilwardby, like many of his contemporaries, understands that the human moral agent chooses best when reason and will work together. He agrees with his contemporaries, who provided direction for reason by positing a set of external principles that govern right living. This direction, which constitutes the external cause of choice, is provided by the dictates of *synderesis*, a human power to recognize the precepts of the eternal law.⁹⁰

For Kilwardby *synderesis* is a type of natural willing (*voluntas naturalis*), which is joined inseparably to the eternal and unchangeable truth. Unlike his contemporaries, Kilwardby does not think that a human being can sufficiently desire goodness, and merit the designation of 'good', through a natural ability to deduce correct actions from eternal principles. Despite the impression of eternal precepts on the soul's desiderative faculty, no one can cause just actions through one's own devices.⁹¹ Kilwardby admits that others assert the existence of a natural mental power to love God and neighbor, but he disagrees with them, and insists that only a virtue beyond nature can transform such a human power into act.⁹² God, united to the mind, brings forth act from potency, and the realized action becomes created charity, grace and thus virtue.⁹³ There can be no excuse for ignorance of the moral law, since Christ instilled in man the complete justice of Scripture. Such knowledge was first given as written rule, and

⁸⁹ *Sent.* 2, q.127, p. 329, "quod liberum arbitrium addit aliquid super potentias animae puras et super substantiam naturam mentis rationalis et quod addit accidens de prima et secunda specie qualitatis. Et haec si debet nominari, potest dici facultas ad discernendum et rationaliter eligendum, et secundum hoc diversimode nominatur a diversis. Liberum enim arbitrium prout sonat in habitum, potest nominari habitus mentis rationalis ad eligendum vel facultas mentis secundum rationem et voluntatem ad eligendum, et hoc secundum primam definitionem."

⁹⁰ Odon Lottin, "Syndérèsis et conscience aux XII^e et XIII^e siècles," in *Psychologie et morale aux XII^e et XIII^e siècles*, 7 vols. (Louvain: 1942–60), 2:103–349; Christian Trottmann, "La syndérèse selon Albert le Grand," in *Albertus Magnus zum Gedenken nach 800 Jahren: Neue Zugänge, Aspekte und Perspektiven*, ed. Walter Senner et al. (Berlin: 2001), 255–73.

⁹¹ *Sent.* 2, q.143, p. 385 and q.145, p. 394.

⁹² *Sent.* 2, q.138, p. 364, "Respondent aliqui concedentes ultimum quod educitur de potentia ad actum, et hoc operatione Dei vel per appropriationem Spiritus Sancti. Dicunt enim quod inest menti rationali potentia naturalis diligendi Deum et proximum, sicut oportet, quae tamen educi nequit in suum actum nisi virtute supra rationem."

⁹³ *Sent.* 2, q.138, p. 364, "Deus enim unitus menti rationali exserit actum illum de potentia, et potentia siceducta in actum vel potius actuseductus de potentia est caritas creata et gratia et virtus."

exemplified later in the life of Christ. Such examples together with the natural law provide the external moral tradition in which the universal moral principles are discovered. The regulative force of the universal law concerning goodness (*bene esse*) allows no one to argue from ignorance of the moral law.⁹⁴

Charity, Natural Law, and the Cardinal Virtues

The need for charity in order to transform human mental abilities into true virtues is a constant theme in Kilwardby's mature works on moral doctrine. While not hostile to the ethical doctrines of the philosophers, Kilwardby no longer seems to consider them adequate for explaining virtue and goodness. He does, however, provide a careful analysis of the nature of habitual virtues in his Commentary on the *Sentences*. He distinguishes between the moral habit that is found in the sensual part of the soul and the moral virtue that originates in the rational part alone. Through habituation one acquires internally the moral habit by which one is moved to act according to the art of living correctly. At the same time one acquires externally the moral habit that obeys reason. The internal habit dominates by governing the external act, which is usually named the virtue because it is easily observed by all.⁹⁵ Even though the internal act dominates moral behavior, the names of virtues are determined by the observation of the effects of actions, since the potencies from which they arise remain hidden to the spectator.⁹⁶

When Kilwardby examines a particular moral virtue, such as prudence, he poses the question in language derived from the doctrines of Augustine, rather than from the philosophy of Aristotle. He asks whether the powers of the rational part of the soul lie in the understanding (*aspectus*) or in desire (*affectus*).⁹⁷ Kilwardby gives a number of definitions of prudence taken from the works of Aristotle, Cicero, Augustine and

⁹⁴ *Tugendlehre*, q.48, p. 182, "Scientia ergo quae primo datur in scripto ad regulandum, in Christo postea tradita est ad exemplificandum. Quia igitur Scriptura Sacra et Christus sunt obiecta data propter bene esse ut homo non posset excusari aliquo modo. . . ."

⁹⁵ *Tugendlehre*, q.28, pp. 107–8.

⁹⁶ *Tugendlehre*, q.28, p. 109, "Ab illa tamen tamquam a manifesto indicio imponitur nomen virtuti. Et isto modo solent potentiae vocari ab effectibus suis, verbi gratia ut cum dicitur potentia viva. . . . quia ipsae potentiae [secundum] id quod sunt, ignotae nobis sunt."

⁹⁷ *Tugendlehre*, q.30, p. 113, "Consequenter quaeritur utrum sint in aspectu rationalis potentiae vel in affectu. Et est haec quaestio specialiter pro prudentia, quia ceteras ponunt omnes in affectu."

Macrobius. Although many locate prudence in the understanding, Kilwardby argues that its nature as a virtue cannot be attributed to intellectual activity. If prudence were merely intellectual excellence then one may be clever without having any true virtue. He notes, like Kant, that very evil men (*pessimos homines*) might recognize a clever way to achieve their ends, which do not lead to virtue. He concludes that prudence must be divided into that which is purely speculative, as described in book I of the *Nicomachean Ethics*, and that which is practical, whose description appears in Book VI of the same work. Despite Aristotle's insistence that *phronesis* is an intellectual virtue, Kilwardby argues that Aristotle calls it a practical habit which is the same as the love for the end and true goodness. Because one loves the true good, or the act of right living, one must choose actions that ensure its attainment. Prudence cannot merely be intellectual knowledge because many have it and do not do good; it must, therefore, be the love arising in the desiderative element of the soul that directs the understanding to prepare for the reception of the proper end. Kilwardby accepts Augustine's definition of prudence as the love that directs counsel to choose wisely as the best possible description of this important moral virtue.⁹⁸

What guides prudential decisions and determines the love for the proper end is natural law. Kilwardby disagrees with the position of those who argue that a distinction should be made between a prudential choice directed by natural law and deliberation guided by divine law. Kilwardby claims that such a distinction does not harmonize with the opinions of both the saints and the philosophers concerning natural gifts and virtues. Authorities, such as Gregory and Augustine, describe deliberation as a gift that directs human beings toward what is necessary for salvation. There is no distinction here between natural and divine law. Natural law for human beings differs only from the natural law for animals; but in the direction toward moral goodness divine and natural law coincide.⁹⁹ The ends to which prudence is directed are contained in the eternal art of living rightly, which contains certain rules common to everyone. The specific principles are expressed in two rules and two consequences. The two rules are to love only the good, and to despise only evil. The derived consequences are that not every good is to be loved equally, and not every evil is to be despised equally. The prudent person judges each good and

⁹⁸ *Tugendlehre*, q.30, pp. 113–14, and q.48, p. 183.

⁹⁹ *Tugendlehre*, q.44, p. 166.

evil according to a proper hierarchy. The true love of the good and the true hatred of evil makes one necessarily prudent.¹⁰⁰

When Kilwardby considers the other cardinal virtues he introduces the ideal of love and hatred, as expressed in the art of correct living, into all their descriptions. Temperance teaches one to avoid irrational and carnal desires in favor of celestial pursuits. True love for what is a greater good makes one temperate. Fortitude is marked by the awareness of what is hateful, and the ability to withstand pain in order to avoid evil. A proper hatred of evil makes one necessarily brave. The insistence upon a proportionate love for goodness and hatred for evil makes Kilwardby's concept of virtue dependent primarily upon the will's ability to choose freely. In his analysis of justice Kilwardby formulates the question in terms of loving one's neighbor. Justice generally recognizes that an equal good should be loved equally. One's neighbor is a good equal to oneself because another human being is equal in natural goods, redeemed by equal grace, and predestined to equal glory. From these factors one realizes that a neighbor is to be loved as oneself and that the neighbor's desires should be respected. Kilwardby concludes that a proper love for an appropriate good makes one just.¹⁰¹

When Kilwardby examines the notion of justice more closely in the fourth book of the *Sentences*, he distinguishes between formal justice and the just act. The first is principally an act of God; the second is further divided into acting justly and *effectively* which belongs to God alone, and acting justly and *formally*. To act justly and formally produces a justice that justifies the effects by God. Each type of justice is a true cause of justification, but one is efficient, the other merely formal.¹⁰² Only God can be the true and proper efficient cause of justice, and the just habit in human beings may be commonly considered an efficient cause in the sense that it produces just results. For Kilwardby both the just habit and its use conform the just act to divine law. The habit conforms a human

¹⁰⁰ *Tugendlehre*, q.27, pp. 102–3, “Et sunt regulae quattuor quarum duae sunt principales et duae consequentes ex illis, et de principalibus secunda sequitur ex prima. Prima talis est: bonum amandum est et solum. Secunda talis: malum odiendum est et solum. Tertia sequitur ex prima, scilicet quod non omne bonum est aequaliter diligendum sed quodlibet secundum gradum et ordinem suae bonitatis. Quarta sequitur ex secunda, scilicet quod non omne malum est aequaliter odiendum sed quodlibet secundum gradum suae malitiae. . . . Quare amor et odium circumspectionem habent necessario. Sed ipsa est prudentia. Quare verus amor boni et verum odium mali necessario prudentem facit.”

¹⁰¹ *Tugendlehre*, q.27, p. 103.

¹⁰² *Sent. 4*, q.32, p. 140.

being internally so that one aligns the choice with the divine will, and the use conforms the action to the divine will. There can be no justice in the human will and act without conformity to the divine will.

The Theological Virtues and the Goal of Human Life

In the commentary on the *Sentences* Kilwardby does not seem to regard the rational conclusions of the philosophers as important for his main theme of the human quest for beatitude. He does not divide beatitude into imperfect (*felicitas hominis* or *beatitudo imperfecta*), which is attained through rational activity, and perfect beatitude which granted by God. The beatitude that a human being expects is designated as effectively and formally beatifying. The first term refers to God Himself, and the second refers to what is caused in humans by virtue of divine presence. Kilwardby claims that each notion of beatitude is rightly called an object of hope, since one promises, and the other is promised.¹⁰³ What is most striking in the description of beatitude is the insistence that it is an object of hope, and not the result of human actualization. Unlike Thomas Aquinas, who argued that imperfect beatitude ‘participates somehow’ in perfect beatitude, Kilwardby emphasizes the complete inability of human beings to cause their own moral perfection.¹⁰⁴

In the discussion of the question whether political virtues are attained by habituation or through a divine gift, Kilwardby considers such virtues to be two-fold, namely imperfect and perfect, or unformed or formed. The virtues defined by the philosophers and acquired through habituation must be considered imperfect. Those that come from God immediately through a sudden conversion, or by the perfection of a habit through grace, are thought to be perfect.¹⁰⁵ Despite all human efforts the action of no virtue can be complete unless directed to God mediately or immediately by an internal disposition that places God above all else. The action is defined by the will’s internal disposition, and rectified when it strives toward God

¹⁰³ *Tugendlehre*, q.14, pp. 46–47.

¹⁰⁴ Anthony Celano, “The Concept of Worldly Beatitude in the Writings of Thomas Aquinas,” *Journal of the History of Philosophy* 25 (1987): 215–26.

¹⁰⁵ *Tugendlehre*, q.27, pp. 98–99, “Istae virtutes possunt considerari dupliciter, scilicet secundum duplicem sui statum, scilicet imperfectum et perfectum, hoc est secundum quod consuetudinales vel morales sunt nudaе vel secundum quod gratificant habentem et merentur vitam. Et hoc idem est dicere quod possunt considerari ut informes vel ut formatae. Primo modo tractantur a philosophis gentium, et sic possunt acquiri per operationes. . . . Secundo modo non habentur nisi a Deo. . . .” See also *In 2 Sent.* q.117, p. 301.

and is not twisted (*curvatur*) toward another creature.¹⁰⁶ Charity is the form of all virtues, just as the ultimate form of the natural composite is said to be the act and completion of all its other forms. Whether the virtue is purely gratuitous or begun in human actions, charity remains its essential element.¹⁰⁷ Bonaventure gives a similar account of virtue as unformed unless a human being can overcome the demands of the world through charity.¹⁰⁸

The philosophers consider charity relevant neither to the habitual, nor to the cardinal, virtues, but Kilwardby regards it as the unifying force to every type of virtue. He first identifies rational desire, in which the virtues first manifest themselves, as the common element in human moral acts. This desire must rule itself and direct its knowledge in the performance of virtuous activities so that the sensitive part of the soul and the body obey its dictates.¹⁰⁹ The resulting virtues direct one in all other actions, and there is no right action without correct discernment, desire, pursuit and evaluation of what is the good course. Because all these elements are best accomplished through the performance of the cardinal virtues, Kilwardby concludes that all particular moral virtues can be reduced to them. While one may possess one moral virtue without another, no one may possess the four cardinal virtues without having all others.¹¹⁰ Kilwardby is not so much interested in presenting a unified theory of moral virtues as he is in identifying the one element common to all good actions. Throughout the commentary on the *Sentences* he insists that all virtues are rooted in love: "All virtues are one love in root and are the love of the one same thing."¹¹¹

¹⁰⁶ *Tugendlehre*, q.63, p. 266, "Nullius virtutis actio potest esse completa nisi dirigatur in Deum mediate vel immediate per affectum praeponentem Deum omnibus. Ab affectu enim nominatur actio. Et tunc est recta, cum erigitur in Deum et non curvatur in creaturam. Et tunc est completa, cum ultimum finem pro posse respicit. Sed affectus sic dirigens, Deum omnibus praeponendo non est nisi caritatis." On the question of *natura curva* see Thomas Osborne, *Love of Self and Love of God in Thirteenth-Century Ethics*, (Notre Dame: 2005), 102–4.

¹⁰⁷ *Tugendlehre*, q.63, p. 267.

¹⁰⁸ Bonaventure, *Sermones dominicales*, ed. Jacques Guy Bougerol (Grottaferrata: 1977), sermo 27, pp. 435–36, "Nam posita caritate, ponitur omne meritorium, et qua remota removetur omne utile ad salutem. Ipsa certe sola est, quae dat formam meriti. Unde ceterae virtutes sunt informes sine ipsa, quia non habent meritum gratuitum nisi per ipsam. . . . Hinc est quod Augustinus dixit: 'habet caritatem et fac quidquid vis.'"

¹⁰⁹ *Tugendlehre*, q.60, p. 251, "Affectus enim rationalis cui primo et praeciso subiecto insunt virtute, habet regere se ipsum et aspectum suum etiam in usu virtutum, similiter et sensualem partem animae et membra et corpus totum."

¹¹⁰ *Tugendlehre*, q.61, pp. 255–57.

¹¹¹ *Tugendlehre*, q.60, p. 254, "Omnes virtutes sunt unus amor in radice et unius eiusdem amor."

If virtues are judged relative to their particular objects, then the theological virtues are worthier than moral ones, but relative to the supreme end they are all equal. The equality is based upon the nature of charity that alone directs them toward, and participates equally in, the final end of action. As such, all virtues are equally meritorious.¹¹²

All practical virtues direct their agent toward the end of all good actions (*operabilium bonorum*), which is God. They are distinguished from one another by their proper objects, but remain unified in the quest for the end. In the desire for the end charity is the form of every virtue, since it alone primarily and *per se* orders every good act to God.¹¹³ Kilwardby argues that the entire structure of a good work finds its roots in the virtues of grace insofar as the work is called a meritorious act of eternal life. Even a non-meritorious act, which disposes one toward, or signifies, merit, is contained in the divine gifts. What distinguishes virtues essentially are the ends to which they direct human beings: some lead human beings immediately to eternal things; others immediately to temporal things; some direct in contemplation; others in action. Some theological virtues may be contemplative, while others prescribe actions, as is the case with habitual virtues.¹¹⁴

Despite the differences within his notion of virtues, Kilwardby clearly indicates charity to be the element common to all. A person who has charity is shaped according to the desire in accordance with the general art of living correctly.¹¹⁵ Kilwardby offers as proof of the statement that one who has charity has every other theological virtue the principle that one who has

¹¹² *Tugendlehre*, q.60, p. 252, "Si etiam comparentur ad obiectum, sic possunt esse inaequales. Theologicae enim sic sunt digniores aliis. Etiam in aliis quaedam digniores esse possunt secundum quod bona operabilia quae agunt digniora, et meliora sunt. . . . Possunt comparari ad finem supremum, sic aequales sunt. . . . Quia enim ratione caritatis solum tendunt ad illum finem et ad illum ducunt et omnes eadem caritate hoc faciunt aequaliter participata, omnes aequaliter merentur finem illum."

¹¹³ *Tugendlehre*, q.63, p. 268, "Sunt enim virtutes habitus practici boni operativi; sed hoc convenit omnibus practicis habitibus. Unde oportet quod habitus isti, scilicet virtutum, aliquam ulteriorem habeant operationem. Et quia dati sunt ad hoc ut dirigant hominem erga finem omnium operabilium bonorum, scilicet Deum. . . . Primas ergo operationes ratione quarum dicuntur bene operativi, habent respectu obiectorum suorum propriorum. Et secundum hanc viam nulla est alterius forma, sed sic differunt specie quod inveniatur si dividantur modi operandi in illis. Secundas autem habent respectu finis ultimi. . . . et secundum illam viam caritas est omnium forma. Haec enim per se sola et primo omnia ordinat ad Deum, alia vero ad illum."

¹¹⁴ *Tugendlehre*, q.58, p. 236.

¹¹⁵ *Tugendlehre*, q.27, p. 104, "quod qui habet caritatem conformatur secundum affectum toti arti generali recti vivendi."

something greater also has entirely what is part of what is greater, as he who has three, has two. The proof applies here because these virtues are distinguished according to more or less love. Because more love is needed for hope than faith, and more love is required for the obedience to charity than for faith and hope, charity encompasses both hope and faith. Kilwardby asserts that one who has charity also has the habitual political virtues. The virtuous person loves and obeys God above all else. Obedience to the dictates of charity orders a human being to himself and to others and produces the appropriate actions. Political virtues order one properly to oneself and others in the civic realm; whoever has charity, therefore, must also live according to the political virtues.¹¹⁶

Charity, as the quality of mind by which one lives correctly, can never be used for evil purposes. While other virtues may be developed before charity, they remain unformed until charity is present.¹¹⁷ The unifying force of charity directs all away from sin and vice, and toward God, one's neighbor and oneself. Rather than regard charity as an internal force leading to a personal intimate union with God, Kilwardby sees it to be an essential element in every good act. The notion of charity permits Catholics to speak more truly about the virtues and the moral life than any of the philosophers.¹¹⁸

Morality is determined ultimately by the goal toward which every act is directed, and the virtues that lead to beatitude are characterized as proper love (*amor rectus*). If they are true virtues, they bring grace to the moral agent; if they are habitual virtues, they are termed diminished.¹¹⁹ The first type of virtues are not reduced to charity, but through its power they achieve sufficient rectitude (*sufficiens rectitudo*). This rectitude directs both the will and intellect toward God and eternal pursuits. So directed, a human being fulfills his rational desires and receives justifying grace which completes the moral habits begun in human acts.¹²⁰

Kilwardby recognizes no discrepancy between the natural law and scriptural commandments. He recognizes two types of love: one which is natural; the other the result of grace. The natural innate appetite for what is fitting loves and desires what is proper and just. The rational appetite

¹¹⁶ *Tugendlehre*, q.27, p. 104, and q.31, p. 117.

¹¹⁷ *Tugendlehre*, q.27, p. 105 and q.35, pp. 135–36.

¹¹⁸ *Tugendlehre*, q.31, pp. 123–24.

¹¹⁹ *Tugendlehre*, q.16, p. 53, "Quando assumitur quod virtus est amor rectus, aut loquitur de virtute ut gratificat et est vera virtus, vel de habitu, qui est diminuta virtus."

¹²⁰ *Tugendlehre*, q.14, pp. 53–54; q.17, pp. 56–57; q.20, p. 65; q.27, p. 99.

is graced and informed by the act of loving correctly and desires the love of true justice above all else. This appetite does not prohibit or command one to love nature, but rather permits it. It does not prohibit nature from loving, because nature serves justice and what is natural deserves to be loved.¹²¹ In both innate natural love and the love infused by grace justice commands one to recognize that all the resulting acts are done according to love for God. A natural appetite for goodness can never conflict with the divine precepts.¹²² Human nature finds its moral perfection in its final submission to the divine law.

Conclusion

Kilwardby's moral teachings have attracted little attention from modern scholars, most likely because much of his work in this area was available only in manuscript form until recently. With the forthcoming edition of the commentary on the first three books of the *Nicomachean Ethics*, and the printed texts of the commentary on the *Sentences* more studies should appear. Although the ascription to Kilwardby in the manuscript from Cambridge containing the commentary on the 'old Ethics' is not certain, the explanation of Aristotle's text and the understanding of the limitations of ethics are worthy of a thinker of Kilwardby's abilities, and consistent with his later doctrine. This early commentary represents an initial phase in the understanding of Aristotle's Ethics, and Kilwardby's resolutions to questions concerning the nature and the cause of happiness, the meaning of beatitude, and the notion of '*fronesis*' as a type of prudence provide solutions accepted by many of his successors.

The *De ortu scientiarum* is one of the most comprehensive thirteenth-century studies concerning the classification of human sciences. Such works were common in the first half of the century, but Kilwardby's careful and accurate analysis of the types of human knowledge demonstrates a deeper understanding of the nature and significance of rational thought than the works of his contemporaries. His elevation of ethics to the supreme human science and his conclusion that *praxis* must also include theoretical knowledge may not reflect Aristotle's own position, but these arguments represent a thoughtful and original approach to the problem of the connection between theory and practice.

¹²¹ *Tugendlehre*, q.54, p. 203.

¹²² *Tugendlehre*, q.54, p. 207.

In the commentary on the *Sentences* Kilwardby attempts to unify his moral theory through the common element of the theological virtue of charity. In so doing, he avoids the most difficult problem that confronted Christian moral theorists: the connection between human rational excellence (happiness) and the religious belief in eternal perfection (beatitude). Kilwardby is aware of the theological arguments of many of his contemporaries, including those of Bonaventure and Alexander of Hales, but more study is needed in order to locate Kilwardby's final comprehensive work within the context of moral theology in the latter half of the thirteenth century. Although he seems little interested in rational ethics, Kilwardby still brings his keen logical analysis to questions concerning human virtue. Like Hume, he argues that virtues derive their designations from the action's appearance to the spectator, although he does not go so far as to base the nature of moral goodness in the approbation of the observer. Like other great moral thinkers, such as Thomas Aquinas and Kant, Kilwardby is reluctant to accept prudence as merely intellectual excellence. Intellectual reasoning cannot ensure moral goodness; a true virtue must be rooted in the will desire for goodness.

Kilwardby's moral thought was soon surpassed by the writing of his Dominican confrères. Albert's more detailed commentaries on the entire text of the *Nicomachean Ethics* directed subsequent medieval moral theory for generations, and Thomas' more profound understanding of topics in ethics remains relevant to contemporary thinkers. Kilwardby's contributions, while far more modest, are not insignificant, and are worthy of further examination. A thorough analysis of his teachings on morality contained in the commentary on the *Sentences* and their relation to his contemporaries' positions would contribute to a fuller understanding of medieval moral thought.

ROBERT KILWARDBY ON THE DIVISION OF SCIENCES

Alfonso Maierù

Robert Kilwardby wrote his introduction to philosophy and its division into various parts, the *De ortu scientiarum*,¹ about the origin of the sciences (and their connections), around 1250. It is after entering the Dominican order, having studied and taught at the Faculty of arts in Paris, that Kilwardby wrote the work, at the request of his brethren.² The work belongs to a long tradition whose roots go down to late Antique culture,³ at a time when it becomes an established aspiration to produce a systematic and reasoned account of the encyclopaedia of knowledge. In particular, the late Antique tradition handed down to the Middle Ages two divisions of philosophy, used profusely within the Latin culture. The first, used by the Stoics, but attributed also to Plato and to Xenocrates, divides philosophy into three parts: physics or natural philosophy, ethics or moral philosophy, and logic or rational philosophy. It is a division which is reported by many authors and acknowledged by Augustine of Hippo.⁴ The second division, of Aristotelian stamp, is transmitted by Boethius, who, in his first commentary to the *Isagoge* considers philosophy as a genus divided into two species: one theoretical or speculative, the other practical or active. In his second commentary, however, he considers logic as a part and instrument of philosophy. He thus ends up defining the role of logic with reference to how things are within the tripartite division.⁵ (In truth,

¹ Robert Kilwardby, *De ortu scientiarum*, ed. Albert G. Judy (London: 1976), 41, 390, 137; hereafter *DOS*, followed by paragraph number(s):page number(s) (*DOS*, 2:10). About the text, see Dorothea Elizabeth Sharp, "The *De ortu scientiarum* of Robert Kilwardby," *New Scholasticism* 8 (1934): 1–30; about the context, see also Alfonso Maierù, "La struttura del sapere," in *Storia della scienza*, ed. Sandro Petruccioli (Rome: 2001), 4:104–14 and 263–85. The Istituto della Enciclopedia Italiana (Rome), owner of the rights of the *Storia della scienza*, has generously given permission to reuse the conceptual framework concerning the work of Kilwardby.

² *DOS*, 2:10, "De prima non sufficio quicquam dicere aliquid adhuc, nec incumbit praesenti curae quam ad petitionem vestram suscepi."

³ See, e.g., Boethius's introduction to Porphyry's *Isagoge* in Anicii Manlii Severini Boethius, *In Isagogen Porphyrii commenta*, 1st ed., ed. Georges Schepss and Samuel Brandt, *Corpus Scriptorum Ecclesiasticorum Latinorum* 48 (Vienna: 1906), vol. 1, chaps. 1–4, pp. 3–12.

⁴ See Augustine, *De civitate Dei*, 8.4, and esp. 11.25.

⁵ See Boethius, *In Isagogen*, 1st ed., vol. 1, chap. 4, pp. 9–12; 2nd ed., vol. 1, chap. 3, pp. 140–43 (logic).

Aristotle had referred to a tripartite division of philosophy, placing, not logic, but poietics or productivity besides the theoretic and the practical parts; only that early medieval culture did not recognize this Aristotelian tripartition, though some indications about it were at their disposal, namely, in Boethius's translation of the *Topics*.⁶ It will take until the thirteenth century to get a full awareness of Aristotle's position).⁷ Again, it is Boethius who handed down, in the small theological work on the Trinity that had such a great influence in medieval schools, the division of the theoretical part of philosophy into physics, mathematics, and theology, together with their respective terminology.⁸ Also the division of the practical part into three subjects treating the morality of persons, of government, of the family, and of politics is transmitted by Boethius and Cassiodorus with a different terminology.⁹

During the thirteenth century, this tradition of producing introductions to philosophy was joined by the production of didactical aids,¹⁰ intended to facilitate the assimilation of the new features introduced to the Latin culture in the wake of the translations from Greek and Arabic.

In the *De ortu scientiarum*, Kilwardby takes into account the production, during the thirteenth century, of works made to present the divisions of philosophy or to be introductions to them, but he also bears in mind the more recent requirements that determined the birth of the didactic aids. He produces a text that is remarkable for the depth of the analysis and the organization of the matters discussed in it. This has guaranteed the work a far-reaching influence.¹¹ Two works in particular, from the

⁶ Aristotle, *Topica*, 6.6.145a15–16, and 8.1.157, 1.157a10–11 (in both passages, Boethius translated “*contemplativa, activa, effective*”).

⁷ Thomas Aquinas, *In duodecim libros Metaphysicorum Aristotelis expositio*, ed. Raymond M. Spiazzi (Turin: 1950–), 6, lec.1, no. 1152, p. 296.

⁸ Boethius, *De Trinitate*, chap. 2, ed. Claudio Moreschini, in *Consolatio Philosophiae: Tractatus theologici* (Leipzig: 2000), 68–169, at 83, 168.

⁹ Boethius, In *Isagogen*, p. 9; *Cassiodori Senatoris Institutiones*, 2nd ed., ed. Roger Aubrey Baskerville Mynors (Oxford: 1963), 110.

¹⁰ An account of this literature and a classification of it is given by Claude Laffleur, “Le textes ‘didascaliques’ (‘introductions à la philosophie’ et ‘guides de l’étudiant’) de la Faculté des Arts de Paris au XIII^e siècle: *notabilia et status quaestionis*,” in *L’enseignement des disciplines à la Faculté des arts (Paris et Oxford, XIII^e–XV^e siècles)*, ed. Olga Weijers and Louis Holtz (Turnhout: 1997), 345–72.

¹¹ Laffleur, “Les textes ‘didascaliques,’” 364n73, notes that the *De ortu scientiarum* was placed in the taxation list of books on theology, philosophy, and law that Parisian bookshops had to have ready for lending to and copying for academics: *Chartularium Universitatis Parisiensis*, 4 vols., ed. Henrich Denifle and Émile Chatelain (Paris: 1889–97), no. 530, 1: 644, “Item De ortu scientiarum continet xvij pecias.”

preceding century, are used by Kilwardby: the *Didascalicon de studio legendi* by Hugh of St. Victor which is greatly appreciated by Kilwardby, and the small treatise by Gundissalinus, *De divisione philosophiae*. Both works are depositories of important innovations and were very influential, though they are prompted by different inspirations.

Hugh's work is inspired by Christian anthropology, which takes as its basis the doctrine of the original sin following which the first man, created in the image and likeness of God, has lost the gift of immortality and is subjected to the necessity to work in order to earn his bread. According to Hugh (who presupposes the biblical story but does not mention it explicitly in the text),¹² man has compromised his nobility, losing his consciousness of having been made in the image and likeness of the Creator. The task of he who lives according to his properly rational nature is therefore to go back into himself and search for the wisdom which can help him restore within himself the image of God;¹³ the search for wisdom is philosophy; and since man alone has the privilege of searching for wisdom, it follows that this must be the guide for all human activities. Thus not only are the search for the truth and the rules for living a moral life part of philosophy, but they are also the theoretical principles of all human activities. For indeed one and the same human activity can enter the sphere of philosophy for its cognitive aspect (*ratio*) and be excluded from it as far as its practical realization (*administratio*) is concerned. Guided thus by wisdom, man restores in himself the image of God with the search for the truth of things actualized through exercising the

¹² Cf. *The "Didascalicon" of Hugh of St. Victor: A Medieval Guide to the Arts*, trans. Jerome Taylor (New York: 1961), 11, "The sense of a disaster primitively suffered by man pervades Book i, though never set forth in familiar religious or doctrinal terms"; see also i 163n33.

¹³ See *Hugonis de Sancto Victore Didascalicon de studio legendi*, ed. Charles Henry Buttimer (Washington, D.C.: 1939), vol. 1, chap. 1, pp. 6, 4–9, "Animus enim, corporeis passionibus consopitus et per sensibiles formas extra semetipsum abductus, oblitus est quid fuerit, et, quia nil aliud fuisse se meminit, nil praeter quod videtur esse credit. Reparatur autem per doctrinam, ut nostram agnoscamus naturam, et ut discamus extra non quaerere quod in nobis possumus invenire"; chap 5, pp. 12, 3–6, "Omnium autem humanarum actionum seu studiorum, quae sapientia moderatur, finis et intentio ad hoc spectare debet, ut vel naturae nostrae reparetur integritas vel defectuum, quibus praesens subiacet vita, temperetur necessitas"; ch. 8, pp. 15, 11–14, "Duo vero sunt quae divinam in homine similitudinem reparant, id est, speculatio veritatis et virtutis exercitium. Quia in hoc homo Deo similis est, quod sapiens et iustus est, sed iste mutabiliter, ille immutabiliter et sapiens et iustus est"; vol. 2, chap. 1, pp. 23, 17–19, "Hoc ergo omnes artes agunt, hoc intendunt, ut divina similitudo in nobis reparetur, quae nobis forma est, Deo natura, cui quanto magis conformamur tanto magis sapimus."

theoretic or speculative disciplines. He pursues his likeness to God thanks to his love of virtue following the teaching of the practical or active disciplines; he provides for the necessities of his own body by means of the seven mechanical arts (clothing, constructions and armor, navigation and commerce, agriculture, hunting, medicine, theater). Finally, he finds the rules for making communication with others easier and for conducting his own thoughts correctly thanks to logic (grammar, dialectic, rhetoric). Philosophy is divided into four parts and into many sciences or disciplines. In book 6, chapter 15, a brief chapter on magic is added.¹⁴ In effect, the system of the sciences for Hugh represents the answer of man, with the assistance of divine wisdom, to the consequences of original sin.¹⁵ For Hugh, it should be emphasized, the mechanical arts constitute a part of philosophy and this has been considered as a sort of acknowledgement of the progress made by technology in the author's times—not forgetting, however, that at the origin of Hugh's conception, there is Augustine, who has pages in which, besides recalling the creation, the original sin, and its consequences, also takes up and transmits to the Middle Ages the exaltation of the superiority of man over beast thanks to reason and the ability of the hand, celebrated by Cicero in the *De natura deorum*.¹⁶

Considering now the booklet by Gundissalinus, we find ourselves in a different ideological horizon: it is not the anthropology of the original fall and subsequent restoration which determines the divisions of philosophy but the recognition of corporeal and spiritual needs that move man in search of that which is good for him. Gundissalinus shares the naturalistic conception, which is Aristotelian in its origin and was transmitted by Al-Farabi (Gundissalinus also wrote a summary of the latter's *Enumeration*

¹⁴ See *Hugonis de Sancto Victore Didascalicon*, vol. 1, chaps. 4–5, pp. 10–12 (theoretic, practical, mechanic); chap. 11, pp. 18–21 (logic); vol. 6, chap. 15, pp. 132–33 (magic).

¹⁵ See Lambertus Marie de Rijk, "Some Notes on Twelfth Century Topic of the Three (Four) Human Evils and of Science, Virtue, and Techniques as Their Remedies," *Vivarium* 5 (1967): 8–15; the author does not mention the biblical roots of these distinctions, which, however, are recovered thanks to the citation of Richard of St. Victor, *Liber exceptionum* (p. 9, "tria bona principalia which God established when creating man: *imago Dei, similitudo Dei, immortalitas corporis*"); see Richard of Saint Victor, *Liber Exceptionum*, ed. Jean Chatillon (Paris: 1958), 104.

¹⁶ Augustine, *De civitate Dei*, 22.24, about which see Franco Alessio, "La filosofia e le 'artes mechanicae' nel secolo XII," *Studi Medievali* 2 (1961; repr., Spoleto, 1984): 71–161, esp. 114–15; also Maurice Testard, "Note sur 'De civitate Dei', XXII, 24: Exemple de réminiscences cicéroniennes de Saint Augustin," in *Augustinus Magister: Congrès International Augustinien*, vol. 1, *Communications* (Paris: 1955), 193–200 (who refers to Cicero, *De natura deorum*, 2:133–62, esp. 150–52).

of the Sciences),¹⁷ Avicenna, and Al-Ghazali. According to Gundissalinus, the sciences were invented in answer to human needs and desires. Among the things concerning the body are included those which are necessary to the subsistence of life. Among those belonging to the spirit, the author recalls those which are harmful (that is, the vices), those which are vain (such as the magical arts), and those which are useful, as the virtues and the honest sciences, in which the perfection of man consists. The honest sciences are distinguished on the basis of their origin: divine is the science revealed by God, while those found by reason are human. Among these latter ones, some concern eloquence (grammar, rhetoric, and poetics), others concern wisdom: these are “the sciences of philosophy” that guide us to the knowledge of the truth and to the love of the good (while logic is placed between eloquence and wisdom).¹⁸

Kilwardby's Approach to the Sciences of Philosophy

Kilwardby is inspired by the tradition of Hugh of Saint Victor to a large extent: he includes the mechanical arts in his division of philosophy and refers also to certain later developments of Hugh's school; obviously, Kilwardby holds the points about revelation as fundamental (creation, original sin).¹⁹ Besides, apart from Hugh's school, the horizon of Christian anthropology is insistently thrown to the foreground by the “didascalical” literature produced in and around the university on the basis of the authority Eustrathius of Nicea, the commentator of the *Nicomachean Ethics*, which Robert Grosseteste made accessible around the years 1246–47.²⁰ But Kilwardby moves in a substantially naturalistic horizon, in the manner of Gundissalinus. That which characterizes the position of Kilwardby, in effect, is the full use of the corpus of the Aristotelian works and, in particular, of the *Posterior Analytics*, on which he made a long commentary.²¹ Our author quotes neither Al-Farabi nor Avicenna; he does use Averroes,

¹⁷ See Domingo Gundisalvo, *De scientiis*, ed. P. Manuel Alonso Alonso (Madrid: 1954).

¹⁸ See Domingo Gundisalvo, *Dominicus Gundissalinus: De divisione philosophiae*, ed. Ludwig Baur (Münster: 1903), 4–5, and 18 for logic.

¹⁹ *DOS*, 221:85, “creator et creatura in nullo uno conveniunt”; *DOS*, 634:216, “Mechanica enim non est nisi ut subveniat defectibus corporis, et illi non fuissent si homo non peccasset.”

²⁰ “La ‘Philosophia’ d’Hervé le Breton (alias Henri le Breton) et le recueil d’introductions à la philosophie du ms. Oxford, Corpus Christi College 283,” *Archives d’Histoire Doctrinale et Littéraire du Moyen Âge* 62 (1995): 359–442, esp. 402–3.

²¹ See in this volume the chapter by Amos Corbini.

however, the famous Arab commentator of Aristotle. The schema below is a synopsis of the division of the sciences suggested by the master of arts cum Dominican priest.²²

The beginning of Kilwardby's text is closely reminiscent of some partitions made by Gundissalinus, organized following a different order: he distinguishes the sciences on the basis of their origin, divine and human. Divine science is the science that has been revealed to man by God and is contained in the sacred scriptures. Human science is the science discovered by man.²³ Human science is in part worthy of praise and lawful, and in part blameworthy and unlawful. Referring back to the Augustinian tradition, the author claims that human reason has above it and in it the eternal reasons of the true light, and out of it the reasons, impressed on it, of the laws of lust, which benefit from the help of the evil spirits. As for the eternal reasons, man finds the truth worthy of praise, which is philosophy. If he turns downwards towards lust and the evil spirits, he finds blameworthy science, that is, magic. It is magic which the last brief chapter is about, a precise repeat of Hugh of Saint Victor's text.

We thus have a triple science. The first (divine science) is necessary for salvation but the author does not speak of it because he does not consider himself capable of treating it (indeed he is not a theologian yet).²⁴ The third (blameworthy science) keeps man away from truth and honesty with promises of pleasure and vanity, and therefore must be avoided because it is harmful. The second science (the praiseworthy science) is not necessary, but is advisable to pursue: it teaches, on the one hand, the truth of things, and on the other, the way to live honestly. This latter is the philosophy our author treats.²⁵

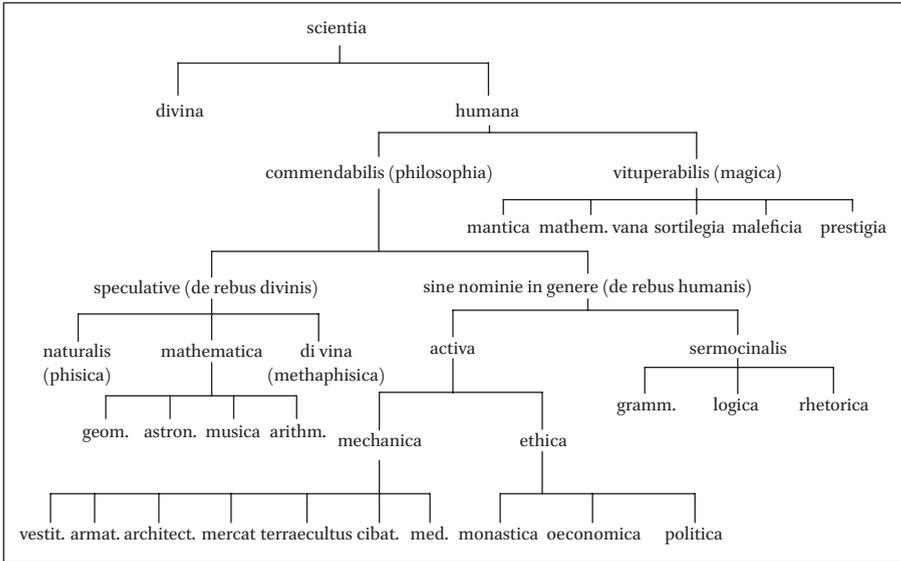
Philosophy has a double object, insofar as it considers all things both human and divine (*subiectum de quo*) and insofar as it considers man and his desire for science and honest life (*subiectum in quo*). This is a

²² The schema is the one found in Gian Carlo Alessio, "Sul *De ortu scientiarum* di Robert Kilwardby," in *La divisione della filosofia e le sue ragioni: Lettura di testi medievali, VI–XIII secolo*, ed. Giulio D'Onofrio (Salerno: 2001), 107–35, at 110. I thank colleague Alessio for authorizing me access to his database. For the terminological differences in designating academic subjects in the Middle Ages, see Olga Weijers, "L'appellation des disciplines dans les classifications des sciences au XIII^e siècle," *Archivum Latinitatis Medii Aevi* 46–47 (1986–87): 39–64.

²³ This distinction is found expressed in the same terms in his later *Sent. 1*, qq.7 and 12, respectively, pp. 18, 31.

²⁴ *DOS*, 2:10, "De prima non sufficio quicquam dicere aliquid adhuc, nec incumbit praesenti curae quam ad petitionem vestram suscepi."

²⁵ *DOS*, 2:9–10.



definition of philosophy that the author borrows from Isidore of Seville²⁶ (the author takes up various references from the traditional culture to the disciplines and their subdivisions, which he arranges within a general framework inspired by Aristotle). Precisely in following Aristotle, *De anima* 3 (8.431b24–26), the division of philosophy is grounded on the division of the things it is concerned with. And, since it is concerned with things human and divine, philosophy is divided in two parts: the first is speculative, the second (which does not have a general and comprehensive name) is divided into ethics, mechanics, and language-oriented disciplines (*sermocinales*).²⁷

The origin of speculative philosophy, generally, is explained by the author with a point-by-point recourse to the *Metaphysics* (1.1.980a21, “naturally, all men desire to know”) and to the *Posterior Analytics* (1.2.71b9–12, “every intelligible doctrine proceeds from preexistent knowledge”). Man comes to know through his senses with which he reaches out to sensible species and draws them in, from the outside (*ab extra*) to the rational soul, in which the universal is formed. The aim of speculative

²⁶ DOS, 4:10 (the author uses the definition of philosophy given by Isidore, *Etymologiae libri*, 2:24.1, “Philosophia est rerum divinarum humanarumque cognitio cum studio bene vivendi coniuncta”).

²⁷ DOS, 5:10–11.

philosophy is the completion of the human desire to know, which can be completed only by means of the senses.²⁸ The author illustrates at length the Aristotelian doctrine found in the first chapter of the *Metaphysics*: the gathering of sensible data and the role of memory which preserves them; reason which confronts the operations preserved in one's memory; distinguishing that which is identical from that which is different. In this manner, we arrive at experience (*experimentum*), extracting the one from the many ("This mixture heals this type of fever"), but still one has not yet obtained the universal. The universal, which is the principle of art and science, is obtained when reason confronts all the individuals of the same species, or a sufficiently great number of experiences ("This mixture universally heals this type of fever in a subject who is suitably disposed").²⁹

The division of speculative philosophy into natural, mathematical, and divine is also based on the *Metaphysics* (6.1.1026a18–9). Natural philosophy has as its subject matter, changeable and material things as such. Mathematics considers changeable and material things but not as such, rather by abstracting from movement and matter. The third type, the divine kind, considers things which are immutable and truly separate from matter.³⁰ The author remarks that "divine science" is said both of Christian theology and of the philosophers' metaphysics. The first is divine because it speaks of God and because it is given by God and not discovered by man. The second is divine because it speaks of God as substance par excellence but it has been discovered by human reason.³¹

Natural Philosophy: The Corpus of the Aristotelian Works

Considering the three parts of speculative philosophy, the author begins by looking at the most inferior type, natural philosophy, clarifying first

²⁸ *DOS*, 6:11–7:12.

²⁹ *DOS*, 9:12–11:13, "Deinde ratio confert ad invicem has singulares operationes memoriter tentas dicens apud se: *Talis potio sanat talem febrem*, et sic factum est experimentum. Nec tamen adhuc est mox universale; sed dum accipit unum ex multis—non tamen confert omnia eiusdem speciei ad invicem—experimentum est tantum. Quando autem confert omnia singularia eiusdem speciei sic: *Talis potio universaliter sanat talem febrem in taliter disposito*, universale est et principium artis et scientiae. Sic igitur per sensum hauritur scientia, scilicet ut per sensum fiat memoria, et ex memoria multiplicata fiat experimentum, et ex experimento sufficienti universale . . . quia memoria non est nisi sensati retentio, sed experimentum est acceptio unius communis de multis sensatis et memoriter retentis in quo ipsa conveniunt."

³⁰ *DOS*, 15:13–14.

³¹ *DOS*, 16:14.

its origin (the marvel of which Aristotle speaks at the beginning of the *Metaphysics*, 1.2.982b2–17), then its subject matter (the body insofar as it is changeable and *qua* changeable), its ends (the perfecting of the human desire to know that kind of body) and its definition (the part of speculative science which perfects the human desire to know the changeable body *qua* changeable);³² he then goes into the details of certain themes by putting forward a number of doubts and answering them.³³ The author goes through an analogous investigation for each of the disciplines examined further on.³⁴ His considerations about natural philosophy conclude with a review of the books in which it is dealt with, namely, the works of Aristotle listed in the traditional order, starting with those that deal with the general principles of the nature of things, and finishing with those that deal with animated beings and their properties (the order being *Physics*, *De caelo et mundo*, *De generatione et corruptione*, *Liber meteororum*, *Liber vegetabilium*, *Libri animalium*, *De anima*, together with the small books on nature which follow these and are mentioned individually by the author). The starting point of the systematisation of Aristotle's books on natural philosophy is to be found in the prologue to the *Meteorologica* (1.1.338a20–339a10) where Aristotle himself indicates which are the books he has already written on natural philosophy (*Physics*, *De caelo*, and *De generatione*) and announces which books are still to be completed (biological treatises, *De animalibus et plantis*; in this program the *De anima* is not mentioned, neither are the smaller treatises which follow it). The Aristotelian origin of this program of study has guaranteed its being essentially maintained as such, from late antiquity, to the Middle Ages. University masters did not possess a book by Aristotle on vegetable beings or plants (though this is announced in his program of study, we do not know whether Aristotle really did write it). They used the *De plantis* by Nicholas of Damascus, which has been attributed to Aristotle.³⁵ In conclusion to this part, Kilwardby examines the following opinion: namely, that,

³² *DOS*, 17:15–21:17, esp. 21:17.

³³ On the quality and motion which cause substance and quantity within generation (*DOS*, 22:17–31:21); the way all that the *Physics* deals with is traced down to the "body in motion" (*DOS*, 32:21–35:22); why it is that in the definition of the subject matter of physics, it is the body as changeable which qualifies as subject matter rather than "that which can stay at rest" (*DOS*, 36:22–39:23).

³⁴ Cf. *DOS*, 137:55, "Colligo autem huiusmodi definitiones ex natura communi et propria scientiarum quarumlibet dum ad invicem discernuntur per fines et subiecta, ut patet ex incensu divisionis scientiarum in hoc tractatu, si quis diligenter inspexerit."

³⁵ *DOS*, 41:24–52:26; the work by Nicholas of Damascus is referred to in a note on p. 26.

animated bodies being of three types, vegetative, animal and human, there should be also medicine, alongside the *De plantis* and the *De animalibus*, which treats the animated body of the intellectual soul. The author does not accept this opinion (referred to also by Roger Bacon, who was master of arts in Paris in the same years Robert was teaching there). He answers first and foremost that the human body is not taken care of insofar as it is intellectual but insofar as it is vegetative or sensitive. He adds that Aristotle in the *De animalibus* had also considered the human body, and finally, he says, natural philosophy is a speculative science while medicine is mechanical. The two sciences therefore do not stand side by side but rather belong to different parts of philosophy.³⁶

The way Aristotle's natural books are treated, and the way the connections between them are illustrated in view of teaching them, provide an important testimony concerning the assimilation of Aristotelian philosophy of nature at a crucial moment in the history of the Faculty of Arts in Paris. We are, in effect, very close to the promulgation of the Faculty Statute (1255), which fixes the set texts, making compulsory the study of the works of Aristotle, determining the length of the course, and the way of reading each work.³⁷

Mathematical Sciences: Subalternation of the Sciences, Abstraction

The considerations about mathematics are very complex and investigate the origin, the subject matter, and the definition of each of the four disciplines which compose it.

³⁶ *DOS*, 53:26–57:28 (the author's answer is in *DOS*, 57:28; the reference to Bacon's *Comunia naturalia* is inserted by the editor at 27n2). The Parisian discussion about the order of the natural books and on the role of medicine is reconstructed by René-Antoine Gauthier, "Notes sur Siger de Brabant. II. Siger en 1272–1275—Aubry de Reims et la scission des Normands," *Revue des sciences philosophiques et théologiques* 68 (1984): 3–49, esp. 6–15; an anonymous Master of Arts claims that the human body is not considered by the *De animalibus*; for this reason, there is need for *Medicina*, a work by Aristotle not as yet translated into Latin (p. 12); cf. *Anonymi, magistri Artium (c. 1245–1250): Lectura in librum De anima: A quodam discipulo reportata (Ms. Roma, Naz. V.E, 838)*, ed. René-Antoine Gauthier (Grottaferrata, 1985), 3, "Si uero corpus mobile generabile et corruptibile compositum sit animatum, aut ergo anima uegetabili, et de tali determinatur in libro De plantis; aut ergo anima sensibili, et de tali determinatur in libro De animalibus; aut anima rationali, et de tali in medicina Aristotilis, qua utuntur Greci, et hec nobis deest."

³⁷ On this, see. Alfonso Maierù, "Dante di fronte alla Fisica e alla Metafisica," in *Le culture di Dante: Studi in onore di Robert Hollander*, ed. Michelangelo Picone, Theodor J. Cachey Jr., and Margherita Mersica (Florence: 2004), 127–49, esp. 141–43; the Statute of the Faculty of Arts of 1255 is found in *Chartularium Universitatis Parisiensis*, no. 246, 1:277–78.

Geometry

The first science to be considered is the part of mathematics which deals with continuous quantity, that is, geometry. This time, the references are not to Aristotle, but to the *Etymologies* by Isidore, where the origins are placed with the Egyptians, and to Euclid's *Elements*, which were made accessible by Adelard of Bath in the previous century and whose first six books were used as textbooks at the Faculty of Arts.³⁸ Kilwardby proceeds with the treatment of the other discipline concerned with continuous quantity, namely astronomy, showing in what way man has passed progressively from measuring the earth and the earthly bodies to applying the art of measurement to the celestial bodies, managing to gauge the size of each body and the distance between it and the earth. As is told in Ptolemy's *Almagest*, men built certain instruments thanks to which they were able to apply geometrical demonstrations to the study of celestial bodies.³⁹ Kilwardby distinguishes three parts within the discipline concerning the study of celestial bodies: the first, called astronomy by Isidore, is the mathematical part of the latter and properly a science. The second, called astrology, is its physical part which seeks to explain the natural events of the sublunary world from the influence of the skies. According to our author, this too is a true science, known to God and to men with true minds, but mostly we are ignorant of it. The third, also called astrology, attempts to predict the future, and is misleading and superstitious.⁴⁰ Kilwardby insists on the superstitious character of astrology and, referring to Hugh of Saint Victor, he adds that students of astrology are sometimes said to be "matematicians": "matematics" with a nonaspirated *t* is astrology, while "mathematics" with an aspirated *t* designates the discipline of the *quadrivium*, which uses "absolutely certain demonstrations".⁴¹

Astronomy has as its object of study the sky in his total dimension and in its parts, or the celestial bodies in their dimensions and the relations

³⁸ DOS, 60:29–65:31; the reference to Isidore, *Etymologiarum libri*, 3.10; on the books used at the Faculty of Arts in Paris around 1240, see *L'enseignement de la philosophie au XIII^e siècle: Autour du "Guide de l'étudiant" du ms. Ripoll 109*, ed. Claude Lafleur and Joanne Carrier (hereafter *Le Guide*), 321–22 ("Tableau des spécification relatives au programme des études qu'on retrouve dans les textes didactiques de la Faculté des arts de Paris au XIII^e siècle"); for Euclid, see also 38.

³⁹ DOS, 66:31–67:32; Albert G. Judy, the editor, refers to *Dominicus Gundissalinus, De divisione philosophiae*, 118, as the source of information on Ptolemy's *Almagest*.

⁴⁰ DOS, 69:32–70:33; the reference is to Isidore, *Etymologiarum libri*, 3.27.

⁴¹ DOS, 71:33–34 (the reference is to *Hugonis de Sancto Victore Didascalicon*, 2.3; ed. Buttner, 25–26).

between them. And since the celestial bodies are always in motion, a first indication is (with Boethius) that astronomy deals with magnitude insofar as it is subject to motion. The reference to the motion of the skies creates some difficulties if this physical property is placed in the definition of a mathematical discipline. Until now, the author follows the Boethian indication, adding that together with motion, one studies also its accidents (speed, slowing down, progression, and regression), place, and its related accidents (conjunction, opposition, eclipse). Astronomy, subsequently, is defined as the speculative science which enables us to know the magnitude of celestial bodies, their reciprocal distances, and that which is linked to their magnitudes and distances. Motion is not included in this definition, but added by the author: “together, I mean the motion of celestial bodies and their accidents, place and its accidents”.⁴² (but he will make a further step forward with regard to this aspect). Astrology, on the other hand, is defined as the speculative science which perfects man with regards to his knowledge of the influence of the stars on the things of the world down here, and on the effects which follow from it.⁴³ It is a natural science but is connected to astronomy because it cannot know the nature and the influences of the stars without astronomy, that is, without knowing how close or how far the stars are.⁴⁴

Astronomy comes from geometry, and similarly optics, which is considered subsequently and is a subalternate discipline of geometry from which it takes the principles and then applies them in order to come to know its own object of study, that is, the ways of seeing, and phenomena connected to vision. The ray of light considered *qua* object of vision is studied by the optician, but if it is considered *qua* straight line or subject to angles and other geometrical properties, it is studied by geometry. According to Aristotle’s teaching, in effect, geometry provides the cause (the *propter quid*) of that of which optics demonstrate the existence (the *quia*). And Kilwardby draws our attention to the fact that Aristotle himself, in the very same context, claims that optics in turn, provides the cause of the rainbow. It is the science which studies the rainbow (*De iride*) which then observes its existence.⁴⁵ In this way, we have a chain of sciences related to each other through links of subordination. The themes introduced here are further examined, by bringing forward a number of doubts (*dubita-*

⁴² *DOS*, 72:34.

⁴³ *DOS*, 73:35.

⁴⁴ *DOS*, 74:35.

⁴⁵ *DOS*, 77:35–78:36; the reference to Aristotle is to *An. post.*, 1.13, 78b32–79a13.

tiones), which concern first of all the relation between the two speculative disciplines, physics and mathematics, namely, about the different considerations that these require with regard to continuous quantity (the natural philosopher is concerned with the body in motion as such, and with the principles which cause that motion, while the mathematician considers the magnitude which, by nature, precedes any movement and any moving body as such; for this reason, it is said that the mathematician abstracts from motion).⁴⁶ Further on, he considers the fact that geometry also deals with number, that is, with discrete quantity, though it has, as its object of study, magnitude, which is a continuous quantity. He finishes by looking at why geometry deals with “abstract” magnitude rather than with “immobile” magnitude.⁴⁷

The Relations between Geometry and Astronomy

In examining the problems which arise from the relations between geometry and astronomy and between geometry and optics (and, further down, between arithmetic and music), the author has the opportunity to clarify certain aspects concerning the subalternation of sciences, introduced by Aristotle in chapter 13 of the first book of the *Posterior Analytics*. It will be appropriate to recall that the Aristotelian doctrine of the subalternation of the sciences was, by that time, on the verge of being used to define the scientific status of theology in the sense indicated by the Aristotelian doctrine—itself only recently assimilated into Latin culture—and this, also thanks to our author’s contribution, though still modest, who had become, in the meanwhile, a theologian.⁴⁸

As for the relations between geometry and astronomy, the author poses three problems concerning them. The first asks in what way astronomy is a mathematical science rather than a natural one, given that it studies celestial bodies which the *De caelo et mundo*, belonging to Aristotle’s natural books, is about. The second concerns the way astronomy is different from geometry. The third, in what way astronomy is a different mathematical discipline from geometry, if indeed it is subordinated to it.⁴⁹

⁴⁶ DOS, 84:38–85:39.

⁴⁷ DOS, 87:39–93:41.

⁴⁸ See Marie-Dominique Chenu, ed. *La théologie comme science au XIII^e siècle*, 3rd ed. (Paris: 1969), 45–52; on Kilwardby’s still shy attitude in dealing with theology in Aristotelian terms, see 52; for the texts used by Chenu, see Kilwardby, *Sent.* 1, q.5, p. 15; q.7, p. 18; q.12, pp. 30–31.

⁴⁹ DOS, 94:41–96:42.

The answer to the first problem is that celestial bodies are bodies and are luminous; *qua* bodies, they have magnitude and dimensions, properties which the astronomer is concerned with, by considering the distances between the celestial bodies and between them and the earth. As luminous, the skies are endowed with the property of governing and setting in motion the sublunary world, and also to alter it, that is, to cause effects upon it.⁵⁰ The answer to the second problem completes and clarifies the first point of inquiry: geometry, as said, took its origin from the measuring of the earth, but it deals with the measuring of each size as such, while astronomy measures celestial bodies, which are magnitudes in motion. Astronomy does not mainly concern itself with motion, but accidentally: more properly speaking, the author adds, astronomy deals with the magnitude of celestial bodies which are always in motion, thus the subject matter of geometry (magnitude) and the subject matter of astronomy (magnitude of celestial bodies) are different.⁵¹ Thus, Kilwardby saves the mathematical nature of the discipline: we are at a further stage of the examination of Boethius's position, an authority for whom the Dominican always has great respect. As for the third problem, the author answers ("without the prejudice of one who is more knowledgeable," this being the formula with which he introduces his personal view)⁵² that it does not seem to him a great difficulty that astronomy and geometry are two different sciences, though one is subalternate to the other. The difference between the sciences is due to the difference between the subjects, or objects, with which they are concerned. Subalternation occurs when one subject is under another such that the demonstration provided for the superior subject is applied ("descends") to the subalternate science. Now, our author explains, a subject can be different from another in three ways: either because they are really different (as are magnitude and "harmonic number," that is, the numeric relation which grounds harmony, the object of music), in this case there is an effective difference between the sciences. Or, because a difference of an identical nature intervenes to limit the subject (as in the relation between a figure on a plane and a triangle or between a triangle and an isosceles), in this case, the same science is concerned, dealing with its proper object of study and with its parts. Or a further possibility is that what comes to limit the subject is a dif-

⁵⁰ *DOS*, 97:42–100:43.

⁵¹ *DOS*, 103:44.

⁵² *DOS*, 108:45, "dico sine doctiorum praeiudicio," and cf. *DOS*, 139:56, "ut mihi videtur sine praeiudicio doctiorum."

ference of a different nature which well and truly reduces the subject, nevertheless saving the subject's unity: such is the case for magnitude and number, which have different natures but are naturally disposed to conjoin; number is limited by magnitude when magnitude is numerically disposed.⁵³ Thus magnitude is subalternate to arithmetic, and arithmetical demonstration is applied to it. As a final point, if between magnitude and harmonic number there is no subalternation, subalternation nevertheless occurs between number and number in relation with something else, and between arithmetic and music such that arithmetical demonstration is applied to music. It is arithmetic that explains the musical relation which grounds harmony⁵⁴ (by contrast, in a "white magnitude" the adjective is utterly accidental with regard to the subject and the color does not constitute a whole with the magnitude).⁵⁵ When Aristotle makes the general claim, namely, that the demonstration of one genus does not apply to a different genus, he refers to the first case, that is, where there is a total difference between the subjects and the respective sciences. When he then mentions geometry, which makes use of certain instruments, Aristotle implies the reference to the subalternation of astronomy to geometry, given that, according to our author the "descent" from the geometrical demonstration to the astronomical one is properly verified by means of instruments.⁵⁶

The other argument that offers the opportunity of illustrating subalternation is the relation between geometry and optics: Kilwardby asks whether optics is a mathematical or a natural science. The question of optics' belonging to the *quadrivium* is set out in the Arabic tradition and remotivated by the Latins, through Gundissalinus, who evokes the enumeration of the sciences given by Al-Farabi. Yet, to consider optics as a mathematical science would mean exploding the *quadrivium*,⁵⁷ breaking

⁵³ DOS, 110:46: the author refers to book 10 of Euclid's *Elements* and to Aristotle, *An. post.*, 1.7.75b4–6, which Kilwardby read in Latin, "non est arithmetica demonstrationem convenire in magnitudinibus accidentia, nisi magnitudines numeri sint . . ."

⁵⁴ DOS, 112:46 (the reference is to Aristotle, *An. post.* 1.13.78b32–39).

⁵⁵ DOS, 113:47.

⁵⁶ DOS, 114:47–115 47; the reference to Aristotle is *An. post.*, 1.9.76a22–25, "Demonstratio non convenit in aliud genus, sed aut, sicut dictum est, geometricae in mechanicas et machinativas aut speculativas et arithmeticae in harmonicas"; cf. the information provided by the editor, Judy.

⁵⁷ See Henri Hugonnard-Roche, "La classification des sciences de Gundissalinus et l'influence d'Avicenne," in *Études sur Avicenne*, ed. Jean Jolivet and Roshdi Rashed (Paris: 1984), 41–75, esp. 48–49; on the quadrivium in the Middle Ages, see Guy Beaujouan, "The Transformation of the Quadrivium," in *Renaissance and Renewal in the Twelfth Century*, ed.

up the traditional order transmitted by Boethius.⁵⁸ Kilwardby does not break from tradition. Basing himself on the authority of Aristotle (*Physics*, 2.2.194a7–12), he supports the claim that optics is a natural science rather than a mathematical one: for the visible ray of light is considered by the optician in view of its natural properties and by the geometer, for its mathematical properties *qua* straight line. Optics is, however, subalternate to geometry because it receives from the latter its demonstration. It is not, however, subalternate to all of geometry, but only to the section of geometry that deals with lines and angles.⁵⁹ And, by comparing the relation there is between the two disciplines—astronomy and optics—and geometry, the author concludes that astronomy and optics are subalternate to geometry in different ways: astronomy is a mathematical science and considers its object of study in virtue of its mathematical properties, abstracting from its physical matter and physical motion. On the other hand, optics is a natural science and considers the natural properties of its object of study; these concern precisely its physical matter and physical motion (the object of sight, in virtue of the light it emits, acts, that is, sets sight in motion—consequently, sight is passive).⁶⁰

The author ends by providing some further clarifications of the notion of subalternation by analyzing the relation between geometry and optics. If indeed there are two aspects which concur in determining the subalternation⁶¹—those being the application of the superior science's demonstration to the inferior one and the fact that the subalternate object of study must be contained under the object of the superior science—the Dominican takes it to be obvious that between geometry and optics,

Robert L. Benson, Giles Constable, and Carol D. Lanham (Cambridge, Mass.: 1982, 1991), 463–87; George Molland, “The *Quadrivium* in the Universities: Four Questions,” in “*Scientia*” und “*Ars*” im Hoch- und Spätmittelalter, ed. Ingrid Craemer-Ruegenberg and Andreas Speer (Berlin: 1994), 66–78.

⁵⁸ *DOS*, 116:48–11748; the use of the term *quadrivium* is in Boethius, *De institutione arithmetica*, 1.1; cf. Ubaldo Pizzani, “Il ‘quadrivio’ boeziano e i suoi problemi,” in *Atti del Congresso internazionale di studi boeziani (Pavia, 5–8 ottobre 1980)*, ed. Luca Obertello (Rome: 1981), 211–26, esp. 211–12; Boethius's claim about the four paths to Wisdom or *quadrivium* comes from his sources, Nichomachus of Gerasa or, earlier still, Archytas (225–26).

⁵⁹ *DOS*, 118:48–49.

⁶⁰ *DOS*, 119:49.

⁶¹ But see 324:15, “Sed haec solvuntur per hoc, quod supra dictum est [96 and 118ff.] quod ad subalternationem *tria* requiruntur: unum est quod subiectum subalternatae sit ex appositione respectu subiecti subalternantis; aliud, quod illud adiectum sit res alterius generis in natura, quae tamen nata sit facere unum cum subiecto subalternantis per concretionem aliquo modo essentialem; tertium, quod descendat demonstratio a subalternante in subalternatam” (emphasis added).

the application of the geometrical demonstration is applied to optics. He, however, considers problematic the inclusive relation of the subject of the subalternate science within the subject of the superior science, because not all that which optics studies is contained in the section of geometry it is subalternate to. The doubts about whether the ray of light is or is not classified under the straight line is considered by means of a question, typically structured according to the pro and contra presentations of arguments, with the “determination from the master” containing the author’s answers. In favor of a positive answer, he refers to the authorities of the “author of the *Perspective*,” that is, the Arab Alhazen,⁶² whose work on optics was recently translated (end of the twelfth century and beginning of the thirteenth) and the Aristotle of the *Physics*. A negative answer is brought forward by arguing that the line is a dimension which, by its nature, belongs to the surface of a body and therefore is essentially corporeal, while the ray of light is corporeal only insofar as it gets diffused through a medium—air—which is a body. In itself, the light emitted from the object, which is its “visible species,” is not a body. In his answer, the author sides with this last view and interprets the authorities he quoted in the following manner: in the *Perspective*, “the radial line” is evoked because the ray of light moves like a straight line; as for Aristotle, he says that optics deal with the mathematical line but not as such, only with its physical aspects.⁶³

Arithmetic

The considerations about discrete quantity begin with a reevocation of the Aristotelian horizon with which the *Metaphysics* starts: namely, that all men by nature desire to know, and a sign of this is the love they have for sense perception, especially for sight which is primary in the order of knowledge. Hearing on the other hand, contributes to learning. This reference enables the Dominican to reopen the question about the presentation of the various disciplines: we acquire knowledge by means of two senses, sight and hearing, the “disciplinal senses,” that is, senses by means of which the sciences or disciplines are acquired. The sense of wonder

⁶² This is actually Ibn al-Haytham (c. 965–1040), about whom, see the article by A.I. Sabra in *Dictionary of Scientific Biography*, ed. Charles Coulston Gillispie (New York: 1972), 6:189a–210b.

⁶³ *DOS*, 122:49–123:50; but see *DOS*, 124:50, “Si tamen aliquis posset evidenter ostendere quod radius esset vere linea, tunc aliquid de subiecto huius scientiae esset sub subiecto geometriae sed non subiectum totum, ut praedictum est.”

which is at the origin of philosophy moves man to inquire into what he sees and drives him to investigate what he hears.⁶⁴ Up until now, he says, we have been concerned with sciences that are acquired through sight. Now, we should move on to consider that which we hear. The story of the invention of music follows the one given by Boethius who hails Pythagoras as one who brought to an end the long human quest, animated by the desire to extract delight from sounds, to find the way of harmonizing different sounds together. Pythagoras obtains harmony through numerical proportion.⁶⁵ Still following Boethius (whose first two books of *De institutione musica* and his *De institutione arithmetica* are used as textbooks),⁶⁶ the author underlines the great power that music has over the manners of man.⁶⁷ He finishes by distinguishing human music, which consists in the harmony between various parts of our body, from the music of the world which, in an analogous manner, maintains harmony between the various parts of the big body of the universe and from celestial music that expresses the supreme harmony of the spheres.⁶⁸ In conclusion, the author indicates number as the object of music, considered not as such, but in relation to something else, one which produces harmony. He defines music as the part of speculative science which brings man to perfection with the knowledge of the harmony of sounds or of any other thing modified such that it constitutes harmony. In consequence, he gives as the object of music, the sonorous, harmonic number or those sounds which are organized in a harmonic way.⁶⁹

As for arithmetic, the author recounts that it was discovered last of all because, as Aristotle teaches us (*An. post.*, 1.2.72a1–5), human knowledge starts from what is most known and most familiar to us—therefore, from sensible knowledge—and moves towards that which is primary and most known by nature: arithmetic is indeed the most abstract of the sciences considered.⁷⁰ Having thus observed that harmony is constituted, in sounds and other things, thanks to numerical proportion, and that magnitudes disposed according to number display a property which comes

⁶⁴ DOS, 126:50–51; see Aristotle, *Metaph.*, 1.1.980a21–b25, and also *De sensu et sensato*, 1.437^a3–5.

⁶⁵ DOS, 127:51 (Boethius, *De Institutione Musica*, 1.10).

⁶⁶ See *Le Guide*, respectively 43 and 40 (the anonymous text states that the author of the arithmetics—*arithmetica*—is Nichomachus, and Boethius is the translator).

⁶⁷ DOS, 129:52 (Boethius, *De Institutione Musica*, 1.1).

⁶⁸ DOS, 130:52–131:53 (Boethius, *De institutione musica*, 1.2).

⁶⁹ DOS, 132:53–133:53.

⁷⁰ DOS, 135:53–54.

only from number, man comes to the conclusion that number possesses in itself an innate property which qualifies things. By abstracting number from everything else, man has come to consider the causes of the properties of number *per se*, realizing that number turns up in the other mathematical disciplines while in itself it does not need them. In this manner, the science of number got formed, called *arismetica*, the virtues of number, and in Greek, *arithmetica* (but Kilwardby always writes *arismetica*).⁷¹ To conclude, arithmetic is the speculative science which perfects the human faculty with the knowledge of number, considered in itself, and of its properties.⁷²

Arithmetic and Harmony

These first determinations for the two disciplines which deal with discrete quantity are further developed in a discussion about Boethius's formulations in his works on music and arithmetic as used in the Faculty of Arts in Paris. For, Boethius says that the object of arithmetic is absolute number and that the object of music is number in relation: how not to agree with an eminent master, or how to interpret him?⁷³ Kilwardby's approach is one of "reverential" interpretation of the author ("it seems to me, with no prejudice from the more knowledgeable"). He thus affirms that Boethius was not mistaken but should be properly understood and some points of precision must be added; what is more, he adds, perhaps the ancients did not take sufficient care in defining these sciences.⁷⁴ It is therefore not enough to say that arithmetic deals with number, which is absolute and *per se*, while music deals with number in relation, but rather it is necessary to understand Boethius's formulae in the light of the abstract/concrete couple. For, considered in abstraction, number, which is the object of arithmetic, includes all that concerns it, including its being in relation, while music deals with a particular relation, namely, harmony, made concrete and immanent in natural things. To summarize: the object of arithmetic is number considered in itself and in abstraction, and the object of music is the harmonic relation in its material concreteness.⁷⁵ Subsequently, the author confronts harmonic music and natural science: if indeed music has

⁷¹ DOS, 136:54n2 (about the explanation of the name of the discipline, the author refers to Hugh of Saint Victor, *Didascalicon*, 2.7, as in the case of mathematics, cf. above in n. 41.

⁷² DOS, 137:55.

⁷³ DOS, 138:55–56.

⁷⁴ DOS, 138:56, 142:57.

⁷⁵ DOS, 139:57–143:57; and DOS, 158:63–160:63.

harmonic relation in its material concreteness as its object (sounds and voices are natural things and, looking closely, the same thing occurs in the music of humans and of the world), if, therefore, the object of music belongs to the philosophy of nature, how can it be a mathematical discipline? And, if the object of music falls under the object of arithmetic, and the arithmetical demonstration descends to it, if, that is, music is subalternate to arithmetic, how can both disciplines be different? Kilwardby treats this theme alongside the previous discussion about the subalternation of astronomy to geometry: sciences involved in a relation of subalternation are different one from another, regardless of the particular relation there is between them. And, as for the harmonic relation, both the natural philosopher and the musician study it, though they proceed from different points of view, and the considerations of the musician precede those made by the natural philosopher.⁷⁶ First and foremost, our author gives an illustration of the natural aspects of the production of the voice, in what way the natural organs for its production move the air in order to reach the ears and alter it. He therefore suggests leaving aside the actions and passions, and changes considered thus far, and considering the essence of voice with the intellect. The result is that its elements are common to all and take on different forms according to who pronounces them. And also among those speaking the same language, there are no two individuals who pronounce the vocal elements in a similar way—not to mention the difference between people who speak different languages. And thus, the elements and essences of voices, considered in themselves, naturally have numerical and harmonic proportion, which makes them adaptable with a certain element and not with another. Harmonic proportion is able to introduce diversity antecedent to any natural movement.⁷⁷ Quantity is the first accident which occurs to informed matter and precedes quality in the constitution of beings. For this reason, the considerations of the musician precede those of the natural philosopher.⁷⁸ To confirm the point, Boethius's view about sonorous music is referred to, namely, that three aspects are considered: sound produced by the voice or by an instrument, the sung text, and the assessment of the whole put together. The first two elements are the works of the executant, "the mechanical musician" and of the poet, they do not concern the "mathematical musician,"

⁷⁶ *DOS*, 144:57–146:58.

⁷⁷ *DOS*, 147:58–59.

⁷⁸ *DOS*, 150:59.

who knows the mathematical discipline which attributes reason and cause to harmony and the proportions found it.⁷⁹

The theme of subalternation, so constant in the *De ortu scientiarum*, concerns disciplines which belong either to the same speculative field (geometry and astronomy, arithmetic and music are mathematical disciplines) or to different speculative fields (optics and performed music belong to physics). It is Avicenna who draws the attention of the medieval masters to the natural disciplines as subalternate to the mathematical ones. In this vein, a few years after the *De ortu scientiarum*, Thomas Aquinas will use the expression “middle sciences” for these same disciplines.⁸⁰

To conclude, the author explains how arithmetic helps the other mathematical disciplines which it has generated. For number grounds the object of study of the other disciplines and is present inseparably from them, in such a way that the other disciplines are fully known only thanks to number.⁸¹

Abstraction

In response to some doubts and questions, the Dominican confronts two “general” questions about mathematics. The first concerns its object of study: why does it deal with quantity (the answer is that quantity is the middle object between the object of physics and the object of metaphysics),⁸² and most of all why isn’t there one unique science of it (and here, the author takes it as his duty to answer along with Aristotle and Averroes that quantity is a term which is said equivocally of different realities which are, accordingly, studied as different sciences),⁸³ and how can there be a science of magnitudes and infinite numbers (and here the author expands on the theme of infinity).⁸⁴

The second general question concerns the way of knowing in mathematics; this poses the problem of abstraction. In tackling this problem,

⁷⁹ *DOS*, 151:59–60.

⁸⁰ Cf. Hugonnard-Roche, “La classification,” 55–57 (Avicenna-Gundissalinus), and Carlos A. Ribeiro do Nascimento, “Le statut épistémologique des ‘sciences intermédiaires’ selon Saint Thomas,” *Cahiers d’études médiévales* 2 (1972): 33–95.

⁸¹ *DOS*, 152:60–153:61.

⁸² *DOS*, 165:64–166:65.

⁸³ *DOS*, 167:65–168:66; the authorities he refers to are Aristotle, *Metaph*, 1.9.992b12–15, and Averroes, comm. 46.

⁸⁴ *DOS*, 170:66–194:75.

the author evokes many themes, three of which are of interest to us here.⁸⁵ The first asks whether the argumentation made by someone who abstracts is true, given that according to Aristotle (*Physics*, 2.2.193b35) “those who operate such separation are not in error” (in Latin: *abstraentium non est mendacium*). But he who abstracts, separates with the intellect that which is united and sometimes may not even be divisible.⁸⁶ In order to answer, the author suggests considering Reality as composed of many inherent forms in one matter, each form having its own properties: the forms are ordered among themselves so that the intellect is able to consider the one which is prior by nature without considering the one which comes after. This does not signify that outside the intellect, things are separate, but only that one form comes before the others and can be studied by the intellect without the others.⁸⁷ The Dominican concludes, “there being many inhering forms in matter according to the order of priority and posterity, to abstract comes down to understanding that which comes first without that which comes second.”⁸⁸ But why is abstraction mostly attributed to the mathematician, though every science “abstracts” (for indeed, science, according to Aristotle, has as its object, the universal)?⁸⁹ Certainly, we answer, every science abstracts, even physics, and most of all, metaphysics: but if it is most of all to mathematics that we link abstraction, it is because all that with which mathematics deals, is concrete in physical things and therefore is an object of abstraction (or almost all: “whatever the philosophers may think of it, number belongs also to separate spirits; but it is not the mathematician’s role to deal with their number,” adds the Christian Kilwardby). Metaphysics, on the other hand, deals both with the substance of physical things which it abstracts to consider in itself *qua* substance, and with substances which are completely separated from motion and matter in their being. The most important part of metaphysics is devoted to these substances. For this reason, metaphysics is said to have as its object that which is separated rather than that which is abstracted.⁹⁰ The third theme concerns the differences and the order in abstracting. There are three degrees of abstraction corresponding to the three speculative sciences: the minimal degree is that of physics,

⁸⁵ A fourth theme concerns the comparison between the four mathematical disciplines in relation to abstraction: *DOS*, 198:76, and *DOS*, 207:70–210:81.

⁸⁶ *DOS*, 19:76.

⁸⁷ *DOS*, 199:76–200:77.

⁸⁸ *DOS*, 201:78.

⁸⁹ *DOS*, 196:76 (the reference is to *An. post.*, 1.18.81b1–6).

⁹⁰ *DOS*, 202:78.

which abstracts only from individual matter or sensible individuated matter (that is, given a sensible body, what remains is the flesh—the body liberated from what pertains to the senses and to the individual). The second degree is that of mathematics, which abstracts from the motion of alteration and from matter insofar as it can receive sensible qualities but not from the common principles of change which belong to nature (the flesh having been taken away, there remains corporeality and corporeal dimensions); however, mathematics does not abstract completely from matter as that which is subject to the accident of quality and motion—not motion of alteration but continuous motion due to the celestial bodies in view of its magnitude, and therefore considered accidentally (and this is eventually the author's point of view about the object of study of astronomy). The third degree is the metaphysical degree, which abstracts from any kind of accident in such a way as to consider substance in its purity. To conclude, the metaphysician abstracts substance from the entangled mess which the mathematician studies and not vice versa. The mathematician abstracts his own object of study from the entanglement which the physician considers and not vice versa.⁹¹

Divine Science or Metaphysics

At the beginning of the discussion of first philosophy (metaphysics or divine science), the author reconstructs the process which has brought man to enlarge the metaphysical dimension. Having reached mathematical considerations about reality, man has desired to probe the nature of sensible substance and has found that its principles are matter and form. But then, delving deeper still, he realized the necessity of taking spiritual substances apart from corporeal matter. He came to realize that corporeal substances and incorporeal substances have in common the fact of being substances and that first philosophy is the science of substance.⁹² True enough, until now it was caused substance which had been considered, but it is not possible to have a full knowledge of it without considering “eternal creative substance, which is the cause of every caused substance”⁹³ (note that the author does not feel the need to explain the assumption of the first cause as creative). The latter is the cause of both substance

⁹¹ *DOS*, 203:78–206:79.

⁹² *DOS*, 211:72–212:72.

⁹³ *DOS*, 213:72.

and accident. One unique science deals with substance and accident, and together clarifies the principles of all the other sciences, which are not otherwise known. Aristotle claims in the first book of the *Metaphysics* (2.982b9–10) that it should deal with the knowledge of the first principles and of the first causes, which are the most knowable.⁹⁴ The author refers to two points of view concerning the subject matter of first philosophy. One takes it that it is substance as such, while others take it to be being *qua* being. Kilwardby endorses the second view and strongly supports it, showing that the highest science for Aristotle, through the various books of the *Metaphysics*, is concerned with all the types of being, from accidental and fortuitous being, to the being which is known by the mind, to the being complete outside the mind, to the general properties of it (potentiality and actuality, the one and the many), up to eternal substance, the cause of every substance and of every accident.⁹⁵

Many problems are posed and solved by the author, providing a pointed illustration of the various aspects of the third and highest speculative science. The first of these concerns the part of first philosophy which is devoted to God: how is it possible to have knowledge of God, which is only intellectual, if every piece of knowledge begins with some preexisting knowledge, that is, from sensible knowledge (*An. post.* 1.1.71a1–2)? And in what way does one and the same science concern both God and what he has created?⁹⁶ The Dominican recalls the Augustinian triple vision: corporeal, spiritual, and intellectual, comparing Augustine with Aristotle, but he quickly restricts himself to the Greek philosopher and affirms that intellectual knowledge arises from the sensible kind in two ways: directly or indirectly. Indirect knowledge enables us to know what God is not (he is neither changeable nor composite), but also something positive: namely, that God is utterly simple and unchangeable. And yet, the way in which he is simple and unchanging is not in itself accessible to anyone but he to whom God has decided to concede such a privilege.⁹⁷ To the second question, the author answers that the unity of science does not require that its object be one in a univocal sense—a unity of analogy is sufficient.

⁹⁴ *DOS*, 214:72–215:83.

⁹⁵ *DOS*, 216:73; note that the author speaks of book 11 for our book 12; book 11 (K) of Aristotle will indeed only be known later through the translation of William of Moerbecke.

⁹⁶ *DOS*, 220:74–221:74.

⁹⁷ *DOS*, 222:75–225:75–86.

In this way, it is possible that one and the same science deals with both God and his creations.⁹⁸

Subsequently, the author examines the part of first philosophy which deals with the created beings, considering first in what way metaphysics and physics deal with composite reality and their principles (matter, form and privation, properties and accidents).⁹⁹ In an analogous way, the author compares the processes and disciplinary limits of metaphysics and mathematics: if divine nature and the intelligences are completely separate from matter, also corporeal substance is in some way separate from motion and natural matter; for indeed, in every change from one substance to another, the matter which is a corporeal substance remains identical.¹⁰⁰ Prime matter, receiving the most general of forms gets constituted as substance and also makes up the unity which is the principle of number. When a corporeal form comes to be, the corporeal composite is constituted potentially with regard to dimensions and magnitude. Given that that which comes after by nature cannot be abstracted from that which precedes it, but rather the contrary, the metaphysician can abstract quantity from the substances which possess it and which cause it—it is this substance which is called “mathematical matter.” This matter subsequently receives the special differences of bodies (circular or upright): “thus, corporeal substance, the matter and object of mathematicians, pervaded through with these potentialities, ordered according to the acts of physical bodies, is the prime matter of physics”.¹⁰¹ The special difference of “circularity” concerns the celestial body, which does not have potentialities for its contrary and therefore is not corruptible, but only potentially in motion, locally and moving along its orbit. The difference which constitutes the “upright” body (heavy/light) has on the other hand the potentiality for its contrary. It can therefore be generated and is corruptible and has the potentiality for the four elements and for elementary bodies.¹⁰²

The following problem concerns the matter of the sky and raises three questions: the first, whether the celestial body has matter, given that Aristotle, when he claims in *De caelo* (1.3.270a25) that “there is nothing from which the noble first body has come to be,” speaks precisely of matter. The

⁹⁸ *DOS*, 226:76.

⁹⁹ *DOS*, 229:77–235:89.

¹⁰⁰ *DOS*, 243:91–92.

¹⁰¹ *DOS*, 246:92–248:93, esp. 248:93.

¹⁰² *DOS*, 249:93.

second, whether its matter is univocal with the bodies which move following an upright motion. The third, whether the celestial body is potentially like the elementary body.¹⁰³ The answer to the first question is that the celestial body has matter; otherwise, it would not have dimensions, and would not be sense-perceptible and mobile.¹⁰⁴ In actual fact, according to our author, Aristotle in the passage from *De caelo*, speaks of generated and corruptible matter, the most proper sense of the term. It is in the same way that we should understand the passages in which Aristotle or Averroes mention that the sky has no matter.¹⁰⁵ In answer to the second question, Robert gives his own opinion (*ut mihi videtur*), namely, that “the sky has univocal matter with the other bodies in the world in which the genus is univocal” (the genus acts as matter with respect to the specific difference).¹⁰⁶

The last problem that is worthwhile studying consists in asking whether, if indeed spiritual creatures have matter, this is the same matter as the matter of bodies and in what way it is the same. The author observes that in this case, matter is not generated and corruptible matter. He is thinking of the compositeness, following Boethius, of that which is (*quod est*) complete substance and of the form thanks to which (*quo*) substance becomes what it is.¹⁰⁷ Kilwardby explains that in each composite, the *quod est* is that which holds together the form. He therefore answers that spiritual substances have matter and that their matter is univocal with that of bodies (in the manner of the genus).¹⁰⁸ But in what way is the same matter in bodies and in spirits? In order to answer, the author considers prime matter, for it is prime matter that is at stake, in two ways: according to essence or according to existence. The first is matter considered in itself, the second is concrete matter, actualized with the form. About matter considered in itself, the author recalls two views. The first holds that this matter is numerically one in all things so that, when the specific or individual

¹⁰³ DOS, 251:94–253:95.

¹⁰⁴ DOS, 254:95.

¹⁰⁵ DOS, 255:95–256:96. The other passages from Aristotle quoted by the author are *De caelo*, 1.9.278b4–5 and 279a9–11; for Averroes, *In De caelo* 1.3, comm. 21. See Silvia Donati, “La dottrina di Egidio Romano sulla materia dei corpi celesti: Discussioni sulla natura dei corpi celesti alla fine del tredicesimo secolo,” *Medioevo* 12 (1986): 229–80.

¹⁰⁶ DOS, 257:98 (with a reference to Aristotle, *Metaph.*, 10.8.1058a23–24).

¹⁰⁷ See Étienne Gilson, *La philosophie au moyen âge des origines patristiques à la fin du XIV^e siècle*, 2nd ed. (Paris: 1952), 148–49; in Boethius, the expression is “diversum est esse et id quod est” see *Quomodo substantiae in eo quod sint bonae sint cum non sint substantialia bona*, ed. Claudio Moreschini, 187, l. 26.

¹⁰⁸ DOS, 265:99–724:100.

forms come about, it multiplies according to existence but not according to essence.¹⁰⁹ The second view takes it that matter is substantially different in different things and is one only by analogy.¹¹⁰ After having reported the arguments in support of one and the other view, Robert answers that “to try to inquire as to which of the two views is more true, is not the present task,” but he adds that concrete matter must be said by all to be one according to genus. As for matter considered in itself, he does not take sides on the question and refers to the reasons given in support to each of the preceding two views.¹¹¹

A last question should be briefly mentioned: it concerns the relation between metaphysics and the other speculative sciences. The author wonders why metaphysics, which deals with being *qua* being, does not behave as a superior science to those which consider particular beings, that is, why does it not “descend by demonstrating” as arithmetic does with respect to music. Kilwardby answers, “without prejudice against those who know more, I think that there is no ‘descent of the demonstration’ unless the properties of the inferior genus cannot be known otherwise than by means of the science of the properties of the superior genus.”¹¹²

The Practical Sciences

In examining the sciences concerned with human activity, the discussion seems less developed in comparison with the discussions on the theoretical disciplines we have seen up until now. All the more so given that the sciences concerned with human activity branch out into three fundamental parts: morals, mechanical arts, and the sciences of language, each of which have their own further subdivisions. At this point, it also clearly appears that according to our author, the fundamental organization of philosophy can be traced down to two fields: the theoretical and the practical.

As with speculative philosophy, the presentation of the origin of moral or active science in general, of its subject matter, of its ends, and of its definition is prompted by Aristotle (*Nichomachean Ethics*, 1.1.094a2). Each and every thing desires the good; but desire is of what one does not have; when pursuing the good, the appetite is transformed into love of the good

¹⁰⁹ *DOS*, 275:101–279:101.

¹¹⁰ *DOS*, 280:102.

¹¹¹ *DOS*, 317:113–318:113.

¹¹² *DOS*, 330:117.

pursued. In Aristotelian terms, the good is reached thanks to a moving faculty and the operations thus effectuated. For indeed, the action of the knowing faculty drives towards the true, which is its perfection, while the action of appetite is the movement, intrinsic or extrinsic (or of both), with which we pursue the good which is the perfection of appetite. Man lacks many spiritual and corporeal goods, which he can obtain through movement and action. He has discovered the practical sciences that guide him in the activities he carries out in order to reach the various goods. Practical or active philosophy has as its object human operations and their effects. Its ends are the perfection of appetite, obtained through the pursuit of the good. The definition given by Kilwardby is, "active science is the part of philosophy which tends towards perfection of human appetite by means of the good which is desired."¹¹³

With this as a premiss, Kilwardby's division of practical philosophy appears clearly: ethics deals with man's spiritual good; mechanics, with his corporeal good. Man's spiritual good is bliss according to both the Christians and the ancient philosophers, the latter though speaking rather of *happiness*. But the Christians think that bliss cannot be fully pursued in this life, while some philosophers, among them Aristotle, thought that man was able to reach it in this life, through living a virtuous life, the most perfect he has the possibility to lead.¹¹⁴ Yet, if bliss is desired naturally by all, as Augustine and Boethius assert, the philosophers did not, however, deem God as the highest good to enjoy. They stopped at virtue, which leads to that end. Their doctrine of virtue was not false, but imperfect (*diminuta*), and thus not useless to Catholics to whom God has granted to know the whole truth about bliss.¹¹⁵ Since natural desire is not in vain, bliss can consequently be reached. In order to reach it, however, virtue is necessary, and in order to make man progress in the ways of virtue, the philosophers fixed certain rules and precepts. In this way, ethics comes about, divided into individual ethics (monastic, moral), economic ethics (private, distributive), and political (public, civil). To this science, and especially the civil part, belong also canonical and civil law.¹¹⁶

This division of practical philosophy made by Kilwardby branching into ethics and mechanics can be paralleled to the division made by Godfrey

¹¹³ DOS, 347:123–350:124.

¹¹⁴ DOS, 352:124.

¹¹⁵ DOS, 353:124–25 (the author quotes Augustine, *De Trinitate*, 13.8.11, and Boethius, *Cons. phil.*, 3, pr. 2.2).

¹¹⁶ DOS, 354:125–356:126, and cf. DOS, 641:219.

of Saint Victor who, in his *Microcosmus* (c.1185) also associated the same two branches of practical philosophy on the basis that both are useful and honest sciences, necessary to the life of man, and that they arise from the same source (the biblical waters under the sky). The former, divided into three parts, is said to be practical in the proper sense because it was discovered in order to embellish human life and make it honest. The latter sciences are said to be mechanical because man has used them abusively but they should be called practical, like the others, when they are used well. Godfrey acknowledges that the mechanical arts are innumerable, yet he enumerates but seven of them and reformulates their names, substituting *fabricatoria* for *theatrics*.¹¹⁷ Already for Godfrey, we can find the other moral disciplines set up alongside the juridical activities, which in his time were growing day by day.¹¹⁸

The Mechanical Arts

According to Kilwardby, mechanics came about because the human soul naturally desires to be united to the body and naturally hates to be separated from it. For this reason, the soul naturally desires the good of the body. Human reason saw that the body has many weaknesses and provided it with the mechanical arts, which were thus born out of the human desire to meet the weaknesses of the body.¹¹⁹ The mechanical arts are innumerable and varied. They depend on different populations according to Kilwardby; he recalls that Hugh of Saint Victor arranged them into a group of seven, modeled on the seven liberal arts distinguished into *trivium* and *quadrivium*.¹²⁰ Our author has great respect for Hugh but he does not agree with him on the seven he has set up, nor on the way he speaks of the arts, nor on the denominations used for the arts. Instead he suggests his own observations in order to render the approach to the mechanical arts more congruent to Catholic readers (for Kilwardby, Hugh still maintains a pagan approach).¹²¹ In this perspective, he suggests removing theatrics

¹¹⁷ Godfrey of Saint Victor, *Microcosmus*, ed. Phillippe Delhaye (Lille: 1951), 2 vols., 1:73–75, paras. 55, 57–58.

¹¹⁸ Godfrey of Saint Victor, *Microcosmus*, 1:76, sec. 59, “Semper enim noui ethicorum, eonomicorum et politicorum libri crescunt et iuris priuati et publici, ciuilis quoque et gentium et principum constitutiones innouantur...”

¹¹⁹ *DOS*, 358:127.

¹²⁰ *DOS*, 363:129.

¹²¹ *DOS*, 372:131–378:133; and cf. *DOS*, 378:133, “Sic igitur positio gentilium, quam recitat Hugo...”

from the group of these arts (as Godfrey had already done). Kilwardby puts down to medicine that which can legitimately be classified under it; in the same context, he includes alchemy in commercial activity.¹²² The author does not give the division or definition, nor subject matter nor ends of the mechanical arts, explaining that they are better known by manual workers than by philosophers, and also because they can be distinguished in various ways. According to Kilwardby, “there is no necessity whatsoever to fix, among such innumerable arts, precisely seven of them, a mere seeming congruence with the seven liberal arts is enough. And perhaps some mechanical art could be easily found not to be reducible to one of those.”¹²³ However, the author ends up by providing his own seven mechanical arts: *terraecultus*, *cibativa* or *nutritive*, and *medicina* are set down as a *trivium*; while *vestitiva* or *coopertiva*, *armature* or *armativa*, *architectonica*, and *mercatura* are grouped in a *quadrivium*.¹²⁴

The author raises an important problem concerning the practical sciences, namely, whether they belong to philosophy. One objection according to which they do not, claims they rather are arts, because science is concerned with the universal and the necessary, while ethics and mechanics deal with things relevant to individuals and which are contingent.¹²⁵ To this, Kilwardby answers by stressing the value of the terms and introducing a set of distinctions. First of all, the term *philosophy* (like *science* and *discipline*) is not said of the speculative sciences in the same way and with the same status as when it is said of practical sciences, but in an analogical way. Furthermore, when he says that science is of the universal, Aristotle is speaking of demonstration which is, properly speaking, the argumentation of the speculative part of philosophy, and not of the active part. When he subsequently says that science is of what is necessary, the Philosopher speaks of demonstrative sciences *par excellence*, namely the mathematical ones, and not of the practical ones. These, however, despite everything, are both *sciences* and *practical*: for they are sciences because they have some sort of speculation (which is what they have in common with the speculative sciences), which touches upon the universal. They are practical because they also have the capacity to be active and, therefore, they have something to do with the singular: properly speaking, they have something to do with singular *vagueness* which is a form of

¹²² DOS, 378:133, l. 17–29.

¹²³ DOS, 374:132, DOS, 401:140.

¹²⁴ DOS, 378:133, l. 11–12.

¹²⁵ DOS, 379:133–34 (the references are made to Aristotle *An. post.*, 1.5–6).

universal and only accidentally found with the individual.¹²⁶ True enough, neither does physics which, however, is a part of the speculative sciences, always produce ascertained knowledge, given that physics also deals with the contingent. It deals with the natural contingent which “for the most part” behaves in the same way. Ethics and mechanics, on the other hand, deal with the “infinite and erratic” contingents, which depend on human behavior. For this reason, ethics and mechanics do not produce ascertained knowledge while physics does for most cases, though not for all.¹²⁷

As for the truth and certainty obtained by the individual sciences, Kilwardby provides us with the following hierarchy: in first place, are metaphysics and mathematics (the one for the dignity of its subject matter, the other for the certainty of demonstration). After them, comes physics, then ethics, the last is mechanics.¹²⁸ When it comes to distinguishing the sciences between speculative and practical—given that, from a certain perspective, the practical ones are also speculative, and, from a different point of view, also the speculative ones make use of some sort of activity—Kilwardby insists that the sciences are distinguished on the basis of the end they are principally pursuing. Thus, the speculative ones have as their end, the truth; the practical ones, action (and he refers to Aristotle, *Metaphysics*, 2.1.993b21–22).¹²⁹ Finally, the author raises the problem of subalternation of the mechanical sciences to the speculative ones. He answers that all the mechanical arts are subalternate not to metaphysics, but to physics and to mathematics. From the examples he gives, it appears that in their activity, the various mechanical arts resort, according to need, to physics, arithmetic, geometry, and astronomy. Actually, physics and mathematics provide demonstrations by proceeding from the cause of that of which mechanics provide the demonstration by proceeding from the effect.¹³⁰ As for the relations between ethics and mechanics, the author holds the view that mechanics is not a subdivision of ethics but that it helps man to live a virtuous life.¹³¹ Besides, all the active sciences, like the speculative ones, are aimed at ethics: for indeed, the ultimate end

¹²⁶ DOS, 380:134–388:136 (references to *Ethica nova* and to the “commentator,” who, in this case, is Eustrathius); see also DOS, 438:151. See above n1219.

¹²⁷ DOS, 389:136–390:137.

¹²⁸ DOS, 392:137.

¹²⁹ DOS, 393:138–394:138.

¹³⁰ DOS, 401:139–40.

¹³¹ DOS, 405:142.

of all philosophy is morality insofar as all that to which philosophy aspires is subordinated to bliss.¹³²

The Sciences of Language

The language-oriented disciplines (*sermocinales*) are the last to have been discovered by man. Their origin is traced down to the human need to avoid errors in the search for truth which is carried out rationally, and to communicate with others by speaking and writing. Man progressively went from the practicing of these activities (*esse in uso*, otherwise said: reasoning, speaking, and then also writing) to reducing them to rules and to being an art (*esse in arte*). The sciences of language are the part of philosophy which deals with discourse, teaching how to reason, to speak, and write correctly and are called as a whole “logic.”¹³³ But immediately, there arise some objections: how can it be that there is a science of discourse—discourse which disappears having barely been pronounced?¹³⁴ In addition, discourse is a perceptible sign that, once grasped by the senses, leads to understanding something different by the intellect; science, on the other hand, is intellectual: but the sense-perceptible is not intelligible.¹³⁵ The author, already famous as a master in arts for his contributions on logic and grammar, answers that it is possible to have a science of discourse, that is to say, of a way of speaking that conforms to a certain art. He adds that, in general, there are sciences also of that which is not permanent: there is a demonstration of the eclipse (and therefore guaranteed ascertained knowledge), and yet, the eclipse is a rare event. He argues further that there are three types of being on which science can be founded: in actuality, potentially, and in disposition (or in incomplete potentiality as the eye of the blind man). For this reason, though discourse passes away once it has been proffered, the natural principles, however, which always retain the capacity to produce it again, remain.¹³⁶ To the other objection, the author answers that it is false to claim that the sense-perceptible is not intelligible. On the contrary, he says, all that which is sense-perceptible is

¹³² *DOS*, 409:142–43.

¹³³ *DOS*, 417:146–423:148.

¹³⁴ *DOS*, 424:148.

¹³⁵ *DOS*, 425:148. The major premiss of the argument “sermo sensibilis est quia offert se sensui aliud derelinquens intellectui sicut alia signa sensibilia” echoes the definition of the sign given by Augustine in *De doctrina christiana*, lib. 2.1.1. A third difficulty, which I do not examine, is presented and discussed in *DOS*, 426:148 and *DOS*, 439:151–443:153.

¹³⁶ *DOS*, 427:148–429:149.

intelligible and not the other way around, and also the singular is intelligible.¹³⁷ The objection concerning the presumed opposition between the sense-perceptible and intelligible, is thus not sustainable—and besides, physics deals for the most part with things which fall under our senses.¹³⁸ If the claim is that the universal is opposed, not to the sense-perceptible, but to the singular, it is necessary to distinguish, according to our author, between the singular individual—who is always placed within spatial and temporal dimensions (*hic et nunc*) whom we can always point to and is opposed to the universal—and the singular, which is abstracted from the conditions that individuate it and which Kilwardby calls *singulare vagum*, an expression which originates from the Arabic to Latin translation of Avicenna: of the first, there is no science; of the second, which is a kind of universal, there is a science.¹³⁹ Avicenna is not quoted here, and neither is he quoted in the passage in which the author, wondering whether there can be a science of reasoning, explains that the sciences of language depend on it. He speaks there of the “second intentions” (things which are known are the first intentions, and the relations between things known are second intentions): this too is Avicennian terminology, obviously become common usage among the masters of arts.¹⁴⁰

The language-oriented disciplines have as their object of study the sign; the sign leads to the knowledge of something other than itself and has an instrumental nature, having its end in something else. It follows that a language-oriented discipline is subordinated to the other sciences. It is divided with respect to the end for which, depending on the circumstances, it is used: discourse as significant, is the object of grammar; as that which investigates that which is unknown, making use of argumentation, it is the object of logic and rhetoric. It is the object of logic if the investigation is carried out through a syllogism on something in general, leaving aside singularity. It is the object of rhetoric if the investigation (by means of the seven “circumstances”) turns on things pertaining to

¹³⁷ DOS, 430:149.

¹³⁸ DOS, 436:150–51.

¹³⁹ DOS, 437:150–438:151.

¹⁴⁰ For “*singulare vagum*” see Avicenna Latinus, *Liber primus naturalium: Tractatus primus de causis et principiis naturalium*, ed. Simone Van Riet (Louvain: 1992), 12; for the discussion on reasoning as science, cf. DOS, 444:153–467:160; on logic as a science of second intentions, cf. DOS, 459:157, and Avicenna, *Liber de philosophia prima sive scientia divina*, ed. S. Van Riet (Louvain: 1977), 10, “Subiectum vero logicae, sicut scisti, sunt intentiones intellectae secundo, quae apponuntur intentionibus intellectis primo.”; see also Christian Knudsen, “Intentions and impositions,” in *Cambridge History of Later Medieval Philosophy*, ed. Norman Kretzmann, Antony Kenny, Jan Pinborg (Cambridge: 1982), 479–95.

individuals, as is the case in judiciary processes. For indeed, rhetoric serves the orator and is part of civil science.¹⁴¹ The rhetorician teaches how to deal with political problems, while the orator practices it: the former is *speculative*, the latter *active*.¹⁴²

Grammar was discovered because the need was felt for rules and art to guarantee communication between people: for whoever speaks randomly, following his own fancy, communicates less well his own thoughts and is less well understood. Grammar deals thus with significant speech with the intent of signifying in a congruous manner each and every thought. Definition is the science of language which teaches how to express congruously each concept of the soul.¹⁴³ Grammar includes also the *ars dictandi* and poetics (with references to Horace and Gundissalinus).¹⁴⁴ Logic (an equivocal name according to our author, who refers to Hugh of Saint Victor; here Kilwardby means to deal with rational science as distinguished from grammar and rhetoric) is concerned with the manner of argumentation both in interior discourse and exterior or proffered discourse (had it been concerned merely with interior discourse, it would not have been part of the language-oriented disciplines).¹⁴⁵ Argumentation in its various shapes is examined in Aristotle's *Prior Analytics*.¹⁴⁶ The author also illustrates the contents of the *Posterior Analytics*, of the *Topics* and of the *Sophistici elenchi* which, together with the *Prior Analytics* study every form, correct or incorrect, of reasoning.¹⁴⁷ The other two works of Aristotle's *Organon*—the *De interpretatione*, which studies the proposition, combining (for the affirmation), or dividing (for the negation) the terms out of which an argumentation is woven, and the *Categories*, which considers the being or nonbeing of the things to which the composition or the division of the intellect refer—are subordinated to the four books aforementioned.¹⁴⁸ Last comes rhetoric, whose end is in civil ethics or politics; it is presented in reference to Boethius, to *Rhetorica ad Herennium*, to Gundissalinus, to Hugh of Saint Victor, and to Isidore.¹⁴⁹ Reconsidering the arts of language

¹⁴¹ DOS, 468:160–474:162.

¹⁴² DOS, 624:213.

¹⁴³ DOS, 483:164–484:165.

¹⁴⁴ DOS, 491:167.

¹⁴⁵ DOS, 492:167–493:168; the reference to *Hugonis de Sancto Victore Didascalicon de studio legend* 1.11, ed. Buttimer, 20–21.

¹⁴⁶ DOS, 495:168.

¹⁴⁷ DOS, 503:170–516:177.

¹⁴⁸ DOS, 517:177–519:177.

¹⁴⁹ DOS, 587:202–591:204.

as a whole, Kilwardby indicates the sciences for which each is useful and concludes by stating that a science of language is a servant (*famula*) to speculative and active philosophy, but is not subalternate to it, nor is it a part of it. Rather, it is a part of philosophy existing for itself.¹⁵⁰

The Conclusion of Kilwardby's Presentation

Reaching the conclusion of his complex presentation, Kilwardby puts forward a triple order of the sciences, taking into account three parameters: the origin, the natural order, and the learning period. From the point of view of origin, first comes mechanics, then the speculative sciences starting with physics, then ethics, and lastly the language-oriented disciplines (beginning with grammar and ending with logic).¹⁵¹ The natural order is more complex because it can be considered in relation either to the object of study, or to the ends, or to the certainty that can be reached (to the *form*). As far as the object of study is concerned, things divine come first, before human things, and the more simple and abstract ones are placed before the others in the speculative sciences. For human things—operations and language—we can make various considerations: on the one hand, operations (common to man and animal) come before language (belonging to man) such that active science comes before the sciences of language. Furthermore, among the operations, the moral ones come before the mechanical ones: morality is natural and would have been necessary to man had he not sinned at all, while mechanics is the consequence of the original sin. In this perspective, the language-oriented disciplines come last of all. However, since language—which was established before the original sin—would have been necessary to man had he not sinned, the order among the human things has morality at first place, followed by language and by mechanics.¹⁵² As for the ends, first comes ethics, and last, mechanics.¹⁵³ Order in teaching puts grammar in first place, then logic, subsequently, the speculative sciences (after having passed in review a number of varying opinions, the author takes the view that the most reasonable way is by adapting the teaching to the qualities of the students: the most sensitive start with physics; the most intellectual, with

¹⁵⁰ *DOS*, 623: 212–13.

¹⁵¹ *DOS*, 626:214–629:215.

¹⁵² *DOS*, 631:215–635:216.

¹⁵³ *DOS*, 636:216–17.

metaphysics; and those with good imagination, with mathematics). Following these, comes ethics, with law and rhetoric, and last of all comes mechanics for who desires to know about all of philosophy, in all of its parts. But one can rest content with the liberal arts and leave mechanics to the dull-witted who are unable to devote themselves to the liberal arts.¹⁵⁴

The last chapter of the work takes up the brief examination of the magical arts made by Hugh of Saint Victor. "Magic" is not embraced by philosophy because it commands each and every iniquity and wickedness.¹⁵⁵ Taken as a whole, it is composed of five genera, each one divided into a number of species. Considering these any further is not essential to our purpose here: suffice it to have shown their position within the synoptic schema.

Concluding Observations about Kilwardby's Text

Kilwardby's *De ortu scientiarum* testifies to what extent the author has assimilated Aristotelian philosophy and how a new anthropology was put in place at the basis of the divisions of the sciences. The way the sciences are classified is evidently developed in direct relation to this assumed anthropology. According to the author, "every science has been discovered in order to remedy some deficiency or other of the body or soul of man."¹⁵⁶ Recognizing these deficiencies is defined in terms of satisfying needs and natural desires. Without, however, ignoring the original sin (mechanics are put down as the consequence of sin), the author is far from having recourse to Hugh of Saint Victor (for Kilwardby, mechanics originates in the "natural" desire of the soul to unite with the body and to provide for it).¹⁵⁷ The theory of natural needs appears to be detached from Christian anthropology.

The attitude of Kilwardby the Dominican is in this matter in agreement with the one adopted by the masters of the Faculty of Arts, of whose consortium Kilwardby had been a part. A few years later (c. 1270), a master of the Faculty of Arts in Paris, Boethius of Dacia, in answering a question about whether grammar was necessary to man, takes up the late Antique theme of man, poor and naked, also referred to in the *Consolatio philoso-*

¹⁵⁴ DOS, 639:218–641:219.

¹⁵⁵ DOS, 662:225.

¹⁵⁶ DOS, 626:214.

¹⁵⁷ DOS, 358:127.

phiae of Boethius the consul,¹⁵⁸ transposed into Aristotelian terms: “For man, it is but very little to have what he has by nature. For nature abandoned man in an utterly imperfect state; without wisdom, man is like a brute beast.”¹⁵⁹ According to Boethius of Dacia, that which characterizes man is his living according to reason, and, in order to wholly fulfil himself following his own nature, he needs a certain number of sciences: first, those sciences which are useful for the needs of living and remedying for the insufficiencies of the body— these are the mechanical arts. Then, come the moral sciences, which guide man towards the realization of the ultimate goal. Finally, come the speculative sciences, thanks to which he can, in some way, know all things. The moral and the speculative sciences enable man to live a blissful life, given that the blissful life consists in following three things: namely, “to act well, to know the true, and to take pleasure in both.”¹⁶⁰ According to Boethius of Dacia, the three types of sciences are necessary because, without them, man cannot reach perfection. Their necessity is sustained by having recourse to quotations from Aristotle and Averroes.¹⁶¹ Within this framework, grammar is also necessary, so that man can correctly express himself. Grammar, however, is an introductory science and instrumental with respect to the other sciences, which are more worthy of honor, sought for as ends and not as means (and which are not useful: these are, therefore, the moral and speculative sciences that define the perfection of man).

Though he starts off from an inventory of needs, Boethius of Dacia arrives at a description of an ideal life based on the doctrine of the philosophers of which his small treatise *De summo bono* has left us a charming presentation.¹⁶² This ideal, shared by the other masters of the Faculty of Arts of those same years, is not subalternate to the ideals proposed by the Faculty of Theology, though not in opposition to these either. With this suggestion, together with others like it, the Faculty of Arts succeeds in claiming for itself a cultural autonomy which sustains the autonomy claimed for it within the corporation.

¹⁵⁸ Boethius, *De consolatio philosophiae*, ed. Moerschini, 2, pr. 6, sec. 5, p. 47, “Quid vero, si corpus spectes, imbecillius homine reperire queas, quos saepe muscularum quoque vel morsus vel in secreta quaeque reptantium necat introitus?”

¹⁵⁹ Boethius of Dacia, *Modi significandi*, ed. Jan Pinborg and Heinrich Roos (Copenhagen: 1969), q.5, p. 23.

¹⁶⁰ Boethius of Dacia, *Modi Significandi*, q.5, p. 24.

¹⁶¹ See Aristotle, *Eth. nic.*, 1.9.1090a31–32, and Averroës, *Comm. Phys.*, 8, prooem.

¹⁶² Boethius of Dacia, *De summo bono de somniis*, in *Boethii Daci Opera: Topica, opuscula*, ed. Niels J. Green-Pedersen (Copenhagen, 1986).

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