

GUNDISSALINUS AND THE APPLICATION OF AL-FĀRĀBĪ'S METAPHYSICAL PROGRAMME

A CASE OF PHILOSOPHICAL TRANSFER

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Abstract

This study deals with Dominicus Gundissalinus's discussion on metaphysics as philosophical discipline. Gundissalinus's translation and re-elaboration of al-Fārābī's *Iḥṣā' al-'ulūm* furnish him, in the *De scientiis*, a specific and detailed procedure for metaphysical analysis articulated in two different stages, an ascending and a descending one. This very same procedure is presented by Gundissalinus also in his *De divisione philosophiae*, where the increased number of sources –in particular, Avicenna– does not prevent Gundissalinus to quote the entire passage on the methods of metaphysical science from the *Iḥṣā' al-'ulūm*, with some slight changes in his Latin translation. The analytical procedure herein proposed becomes an effective 'metaphysical programme' with regards to Gundissalinus's onto-cosmological writing, the *De processione mundi*. The comparative analysis of this treatise with the procedure received by al-Fārābī shows Gundissalinus's effort to follow and apply this metaphysical programme to his own reflection, in a whole different context from al-Fārābī's and presenting doctrines quite opposed to the theoretical ground on which al-Fārābī's epistemology is based, like ibn Gabirol's universal hylomorphism. Nevertheless, thanks to the application of the 'metaphysical programme', one can effectively claim that Gundissalinus's metaphysics is, at least in the author's intentions, a well-defined metaphysical system. In appendix to this article the three Latin versions of al-Fārābī's discussion on metaphysics are reported, e.g., Gundissalinus's quotations in *De scientiis* and *De divisione philosophiae*, and Gerard of Cremona's translation in his *De scientiis*.

Key Words

Gundissalinus; Toledo; Metaphysics; al-Fārābī; Epistemology.



Dominicus Gundissalinus (1120 ca. - post 1191) was a Spanish translator and philosopher, active in Toledo in the second half of the twelfth century.¹ Over twenty Arabic-Latin translations are ascribed to him² and his circle's work,³ translations which played a crucial role for the subsequent Latin philosophical speculation. Gundissalinus also wrote five original philosophical treatises in which he receives, develops, and sometimes criticizes the outcomes proposed by the Islamic and Jewish authors he translated.

This contribution will focus on one aspect of Gundissalinus's reflection: his well-known discussion of the division of sciences, and in particular, the treatment of metaphysics as *scientia divina* and *philosophia prima*. In order to analyse this peculiar aspect, I will briefly introduce Gundissalinus's overall philosophical production and the *divisio scientiarum* he proposes. Then, I will focus on the analysis of metaphysical science Gundissalinus offers in his *De scientiis* and *De divisione philosophiae*,⁴ examining the stages in which research on first philosophy

¹ For an updated biography of Dominicus Gundissalinus, see Nicola Polloni, 'Elementi per una biografia di Dominicus Gundissalvi', *Archives d'histoire doctrinale et littéraire du Moyen Âge* 82 (2015), pp. 7-22.

² The list of translations traditionally ascribed to Gundissalinus has been recently updated by the remarkable work of Dag N. Hasse. See Dag N. Hasse, 'Twelfth-Century Latin Translations of Arabic Philosophical Texts on the Iberian Peninsula', Villa Vigoni, June 27th 2013.

³ The fundamental studies by Charles Burnett clarified many aspects of the modalities of translation and scientific elaboration carried out in Toledo in the second half of the twelfth century. Burnett demonstrates that many anonymous works can be ascribed to Gundissalinus and his 'circle', e.g., the team of translators and philosophers that worked with him. Among them, the most important member was surely Abraham Ibn Daud, a Jewish translator and philosopher, whose key role regarding the very genesis of the Toledan translation movement has been shown by Amos Bertolacci. See Charles Burnett, 'Euclid and al-Fārābī in ms. Vatican, Reg. Lat. 1268', in Rüdiger Arnzen and Jörn Thielmann (eds.), *Words, Texts and Concepts Cruising the Mediterranean Sea. Studies on the Sources, Contents and Influences of Islamic Civilization and Arabic Philosophy and Science*, Leuven-Paris-Dudley: Peters, 2004, pp. 411-436; and Amos Bertolacci, 'A Community of Translators: The Latin Medieval Versions of Avicenna's Book of the Cure', in Constant J. Mews and John N. Crossley (eds.), *Communities of Learning: Networks and the Shaping of Intellectual Identity in Europe 1100-1500*, Turnhout: Brepols, 2011, pp. 37-54. In reference to Ibn Daud's influence on Gundissalinus's philosophical thought, see N. Polloni, 'Toledan Ontologies: Gundissalinus, Ibn Daud and the Problems of Gabirolian Hylomorphism', in Alexander Fidora and Nicola Polloni (eds.), *Appropriation, Interpretation and Criticism: Philosophical and Theological Exchanges Between the Arabic, Hebrew and Latin Intellectual Traditions*, forthcoming.

⁴ Gundissalinus's epistemology and gnoseology have been thoroughly studied by Alexander Fidora, and I would like to express my gratitude to him for his help with this article. For an overall analysis of Gundissalinus's theory of knowledge, see Alexander Fidora, *Die Wissenschaftstheorie des Dominicus Gundissalinus. Voraussetzungen und Konsequenzen des zweiten Anfangs der aristotelischen Philosophie im 12. Jahrhundert*, Berlin: De Gruyter, 2003, translated into

must be pursued, e.g., the metaphysical programme. The last part of this contribution will focus on Gundissalinus's application of this programme, as seen in *De processione mundi*.

Gundissalinus's New Organization of Scientific Knowledge

Gundissalinus' five treatises, written during his Toledan years, share many similarities regarding both style-textual collections of a number of quotations and excerpts from Arabic, Hebrew, and Latin authors, never quoted by name—and the philosophical tradition on which they are based—Arabic and Hebrew Neoplatonism, as expressed by Avicenna or Ibn Gabirol. Gundissalinus covers three main philosophical themes in his production: psychology (*De anima*), epistemology (*De scientiis* and *De divisione philosophiae*), and metaphysics (*De unitate et uno* and *De processione mundi*), although the questions to which Gundissalinus responds cover a greater range of disciplines.⁵

The main source from which Gundissalinus's treatise *On the Soul*⁶ draws is Avicenna's homonymous work *De anima*,⁷ translated in Toledo by Gundissalinus and Ibn Daud. Ibn Gabirol's *Fons vitae* and Qusṭā ibn Lūqā's *De differentia spiritus et animae* also greatly influenced the work, along with Augustine,⁸ Isidore of Seville and Boethius (medieval authorities who also influenced Gundissalinus's overall production.⁹) The first part of the treatise deals with the existence¹⁰ and the

Spanish as Alexander Fidora, *Domingo Gundisalvo y la teoría de la ciencia árabe-aristotélica*, Pamplona: EUNSA, 2009. See also the German critical translation of the *De divisione philosophiae* by Alexander Fidora and D. Werner, *D. Gundissalinus, Über die Einteilung der Philosophie*, Freiburg - Basel - Wien: Herder, 2007.

⁵ The *Liber mahamalet*, a treatise dealing mainly with mathematics and arithmetics offers a good example of the various interests and approaches of Gundissalinus's milieu. See Anne M. Vlasschaert, *Le Liber mahamalet*, Stuttgart: Franz Steiner Verlag, 2010, pp. 25-32 in particular; Jacques Sesiano, *The Liber Mahamalet. A 12th-Century Mathematical Treatise*, New York: Springer, 2014; and Charles Burnett, 'John of Seville and John of Spain: A Mise au Point', *Bulletin de philosophie médiévale* 44 (2002), pp. 59-78.

⁶ Two different critical editions of Gundissalinus's *De anima* have been published. Cf. J. T. Muckle, 'The Treatise De anima of Dominicus Gundissalinus', *Mediaeval Studies* 2/1 (1940), pp. 23-103; and Concepción Alonso del Real and María J. Soto Bruna, *El Tractatus de anima atribuido a Dominicus Gundissalinus*, Pamplona: EUNSA, 2009, pp. 64-318.

⁷ Dag N. Hasse underlines that Gundissalinus uses version A of Avicenna's *De anima* translations. See Dag N. Hasse, *Avicenna's De Anima in the Latin West*, (Warburg Institute Studies and Texts, New Series, vol. 1), London: Warburg Institute, 2000, p. 8.

⁸ Alonso del Real y Soto Bruna, *op. cit.*, pp. 1-63.

⁹ See Alexander Fidora, 'La recepción de San Isidoro de Sevilla por Domingo Gundisalvo (ca. 1110-1181, Astronomía, Astrología y Medicina en la Edad Media', *Estudios eclesiásticos* 75 (2000), pp.

qualities of the soul, in which Gundissalinus notably claims the soul is composed of matter and form.¹¹ Contrarily, the second part of the *De anima* is an examination of the mental faculties,¹² and this treatment is strongly dependent on Avicenna's theory of senses and intellect.¹³

Gundissalinus's metaphysical reflection is presented in two writings, the *De unitate et uno*¹⁴ and the *De processione mundi*.¹⁵ The former is a short work on the ontological value of metaphysical unity,¹⁶ while the latter is an elaborate and dense discussion of cosmology and ontology that problematizes the position previously expressed in the *De unitate*. The metaphysics presented in the *De*

663-677; Alexander Fidora, 'La metodología de las ciencias según Boecio: su recepción en las obras y traducciones de Domingo Gundisalvo', *Revista Española de Filosofía Medieval* 7 (2000), pp. 127-136; and Nicola Polloni, 'Il *De processione mundi* di Gundissalinus: prospettive per un'analisi genetico-dottrinale', *Annali di Studi Umanistici* 1 (2013), pp. 25-38.

¹⁰ Gundissalinus, *De anima* (ed. Alonso del Real and Soto Bruna), pp. 68,1-82,22.

¹¹ Ibid., pp. 102,18-103,3: «Restat igitur ut sit substantia quae est spiritus rationalis. De quo si constiterit quod sit compositus ex materia et forma, tunc non erunt nisi tres substantiae, scilicet materia et forma et compositum ex utroque, ut substantiae talis recte fiat divisio. Substantia, alia est simplex, alia composita; simplex, alia materia, alia forma; sed composita, alia est corpus, alia est spiritus. Cui enim advenit forma corporeitatis et fit substantia corporea, eidem procul dubio advenit forma spiritualitatis et rationalitatis et fit substantia rationalis spiritualis».

¹² Ibid., pp. 178,1-318,13.

¹³ See Herbert A. Davidson, *Alfarabi, Avicenna, and Averroes on Intellect: Their Cosmologies, Theories of the Active Intellect, and Theories of Human Intellect*, Oxford - New York: Oxford University Press, 1992; Luís X. López-Farjeat and Jörg A. Tellkamp (eds.), *Philosophical Psychology in Arabic Thought and the Latin Aristotelianism of the 13th Century*, Paris: Sic et non, 2013. It has to be noted that Gundissalinus's *De anima* is the first Latin writing in receiving the doctrine of separated active intellect.

¹⁴ The new edition of the text recently prepared by Alonso del Real and Soto Bruna must be added to the two 'traditional' critical editions of Gundissalinus's *De unitate et uno*, the first edited by Correns, and the second by Alonso Alonso. See Paul Correns, *Die dem Boethius fälschlich zugeschriebene Abhandlung des Dominicus Gundisalvi De unitate*, (Beiträge zur Geschichte der Philosophie und Theologie des Mittelalters, 1/1), Münster: Aschendorff, 1891, pp. 3-11; Manuel Alonso Alonso, 'El 'Liber de unitate et uno'', *Pensamiento* 12 (1956), pp. 65-78; and María J. Soto Bruna and Concepción Alonso del Real, *De unitate et uno de Dominicus Gundissalinus*, Pamplona: EUNSA, 2015.

¹⁵ The commonly used text of Gundissalinus's *De processione mundi* is the critical edition by G. Bülow, even if a newer, more problematic critical edition has been proposed by Alonso del Real and Soto Bruna. See Georg Bülow, *Des Dominicus Gundissalinus Schrift Von dem Hervorgange der Welt*, Beiträge zur Geschichte der Philosophie und Theologie des Mittelalters 24/3, Münster, 1925, pp. 1-56; and María J. Soto Bruna and Concepción Alonso del Real, *De processione mundi. Estudio y edición crítica del tratado de D. Gundisalvo*, Pamplona: EUNSA, 1999.

¹⁶ For a summary illustration of the features presented in the *De unitate*, see María J. Soto Bruna, 'La 'causalidad del uno' en Domingo Gundisalvo', *Revista Española de Filosofía Medieval* 21 (2014), pp. 53-68.

processione is extremely out of character for Gundissalinus. In this treatise, the author receives and melds together doctrines and positions, derived from both Arabic and Latin writings, which are often very divergent, if not directly opposing each other.¹⁷ Using these speculative materials, Gundissalinus builds a mature and original theoretical system, the keystone of which is the union of the theory of universal hylomorphism with the doctrine of necessary and possible being.

The third theme covered by Gundissalinus's reflection is the theory of knowledge. The Toledan philosopher dedicates two treatises to the discussion of this topic, the *De scientiis*¹⁸ and the *De divisione philosophiae*.¹⁹ The *De scientiis* is deeply indebted to its main source text, al-Fārābī's *Kitāb Iḥṣā' al-'ulūm*;²⁰ the textual relationship between these two writings is so strong that one could consider the *De scientiis* a translation of al-Fārābī's text.²¹ Nevertheless, Gundissalinus makes some important modifications in regards to the original Arabic text, as M. Alonso Alonso²² and J. Jolivet²³ have shown, constituting a certain degree of originality.

Notwithstanding the peculiar textual and stylistic nature of this treatise, the division of sciences presented in the *De scientiis* and the *De divisione philosophiae* is similar, though the latter shows a greater problematization of the features

¹⁷ Examples of Gundissalinus's attitude toward the Arabic and Latin sources have been presented in Nicola Polloni, 'Gundissalinus on Necessary Being: Textual and Doctrinal Alterations in the Exposition of Avicenna's Metaphysics', *Arabic Sciences and Philosophy* 26/1 (2016), pp. 129-160; and Nicola Polloni, 'Thierry of Chartres and Gundissalinus on Spiritual Substance: The Problem of Hylomorphic Composition', *Bulletin de philosophie médiévale*, 57 (2015), forthcoming.

¹⁸ Gundissalinus, *De scientiis*, critical edition by Manuel Alonso Alonso, Granada: CSIC, 1956. See also Jakob H. J. Schneider, *De scientiis secundum versionem Dominici Gundisalvi*, Freiburg im Breisgau: Herder, 2006.

¹⁹ Gundissalinus, *De divisione philosophiae*, critical edition by Ludwig Baur, (Beiträge zur Geschichte der Philosophie und Theologie des Mittelalters vol. 4/2), Münster, 1903, pp. 3-142.

²⁰ Al-Fārābī, *Kitāb Iḥṣā' al-'ulūm (Enumeration of the Sciences)*, critical edition by U. Amin, Cairo: al-Qahirah, 1968.

²¹ This is the perspective adopted by N. Kinoshita, who refuses to ascribe the *De scientiis* to Gundissalinus's philosophical production (accepting, instead, the *De immortalitate animae*). Cf. Noboru Kinoshita, *El pensamiento filosófico de Domingo Gundisalvo*, Salamanca: Universidad Pontificia de Salamanca, 1988, at pp. 47-90.

²² See the introduction by Alonso Alonso to Gundissalinus, *De scientiis*, p. 17: 'la versión de Gundisalvo omite muchas frases y muchos pasajes y altera otros con nuevo sesgo gramatical y aun añade párrafos enteros y hace expresa referencia a textos de otros autores distintos de al-Fārābī'.

²³ See Jean Jolivet, 'The Arabic Inheritance', in P. Dronke (ed.), *A History of Twelfth-century Western Philosophy*, Cambridge: Cambridge University Press, 1988, pp. 113-148.

exposed and a higher degree of complexity, both in relation to the theoretical contents and the sources used. The Latin background from which the Toledan philosopher develops his speculation is crucial; Gundissalinus builds his scientific organization upon features derived from the Chartrean masters, William of Conches²⁴ and Thierry of Chartres,²⁵ and the more traditional Boethius²⁶ and Isidore of Seville,²⁷ selecting passages and statements that could be included in his gnoseological schematization.

In the *De scientiis*, the overall gnoseology on which Gundissalinus's discussion is based is derived from Arabic philosophy. H. Hugonnard-Roche²⁸ has shown how deep is Gundissalinus' indebtedness to al-Fārābī, Avicenna, and al-Ghazālī. From their texts Gundissalinus develops an organization of sciences that originates from the Alexandrian *curricula studiorum*. Avicenna's presence and influence in this treatise is even deeper than al-Fārābī's, testified by the large quotation at the end of the treatise, taken from a long Avicennian excerpt called the *Summa Avicennae de convenientia et differentia subiectorum*.²⁹ This quotation is fundamental to Gundissalinus's exposition of the epistemological core of his scientific organization, e.g., the theory of subordination of sciences regarding their subject.³⁰ Aside from these three Arabic sources, Gundissalinus also uses the works of Isaac Israeli (*Liber de definitionibus*), al-Kindi (*Liber de quinque essentiis*)

²⁴ See Karin M. Fredborg, 'The Dependence of Petrus Helias' *Summa super Priscianum* on William of Conches' *Glosae super Priscianum*', *Cahiers de l'Institut du Moyen Âge grec et latin* 11 (1973), pp. 1-57; and Alexander Fidora, 'Le débat sur la création: Guillaume de Conches, maître de Dominique Gundisalvi?', in Barbara Obrist and Irène Caiazzo (eds.), *Guillaume de Conches: Philosophie et science au XII siècle*, Firenze: SISMEL-edizione del Galluzzo, 2011, pp. 271-288.

²⁵ See Nikolaus M. Häring, 'Thierry of Chartres and Dominicus Gundissalinus', *Mediaeval Studies* 26 (1964), pp. 271-286; Karin M. Fredborg, *The Latin Rhetorical Commentaries by Thierry of Chartres*, Toronto, 1988, pp. 14-20; and K. M. Fredborg, 'Petrus Helias on Rhetoric', *Cahiers de l'Institut du Moyen Âge grec et latin* 13 (1974), pp. 31-41.

²⁶ Fidora, 'La metodología de las ciencias según Boecio', op. cit.

²⁷ Fidora, 'La recepción de San Isidoro de Sevilla', op. cit.

²⁸ See Henri Hugonnard-Roche, 'La classification des sciences de Gundissalinus et l'influence d'Avicenne', in J. Jolivet and R. Rashed (eds.), *Études sur Avicenne*, Paris: Belles Lettres, 1984, pp.41-75.

²⁹ Gundissalinus, *De divisione philosophiae* (ed. Muckle), 124,5-133,27.

³⁰ See Alexander Fidora, 'Dominicus Gundissalinus and the Introduction of Metaphysics into the Latin West', *The Review of Metaphysics* 66 (2013), pp. 691-712. For the important dissemination of this Avicennian theory in the Latin West, see Pascuale Porro, 'Assistance, Service and Subalternation: Theology, Philosophy and the Liberal Arts in Thomas Aquinas and Henry of Ghent', in G. Kapriev (ed.), *Nomina essentiant res. In Honour of Prof. Tzotcho Boiadjiev (60th Anniversary)*, Sofia, 2011, pp. 259-281.

and the *Ikhwan aṣ-Ṣafa'* (*Liber introductorius in artem logicae demonstrationis*).³¹ Notwithstanding the large number of Arabic sources, one should highlight the fundamental value Latin speculation has for Gundissalinus. As Fidora³² has shown, Latin philosophy, particularly that of Boethius, plays the role of 'hermeneutical condition' for Gundissalinus's elaboration of his theory of knowledge.

The *divisio scientiarum* illustrated in the two treatises is quite similar, if not completely consistent. In the *De scientiis*, Gundissalinus exhibits a scientific organization very close to al-Fārābī's *Iḥṣā' al-'ulūm*.³³ The treatise is composed of five chapters and a prologue. Each chapter analyses a different discipline, beginning with the *scientia linguae*, e.g., grammar, composed of seven parts,³⁴ and the logic, subdivided into eight parts.³⁵ Grammar and logic are different, since the former always refers to a spoken language, while the latter has a universal value expressed through three intentions: *exterior cum voce*, *fixa in anima*, and *virtus creata in homine*.³⁶ Unlike in the *De divisione*, Gundissalinus affirms the instrumental character of logic in the *De scientiis*; its value is for checking the validity of philosophical arguments, without itself being a part of philosophy.

Logic offers passage to the theoretical sciences: the *scientia doctrinalis*,³⁷ the *scientia naturalis*,³⁸ and the *scientia divina*. The first, mathematics, is divided into seven parts, corresponding to the *quadrivium* and three new sciences, which are

³¹ See Henry G. Farmer, 'Who Was the Author of the *Liber introductorius in artem logicae demonstrationis*?', *Journal of the Royal Asiatic Society* 3 (1934), pp. 553-6; and Carmela Baffioni, 'Il *Liber introductorius in artem logicae demonstrationis*: Problemi storici e filologici', *Studi filosofici* 17 (1994), pp. 69-90.

³² Fidora, *Domingo Gundisalvo y la teoría de la ciencia árabe-aristotélica*, op. cit., pp. 103-25.

³³ Regarding al-Fārābī's 'divisio', see Mauro Zonta, 'La *divisio scientiarum* presso al-Fārābī', in G. D'Onofrio (ed.), *La divisione della filosofia e le sue ragioni. Lettura di testi medievali (VI-XIII secolo)*, Cava de' Tirreni: Avagliano, 2001, 65-78.

³⁴ Gundissalinus, *De scientiis* (ed. Alonso Alonso), pp. 59-65. The seven parts in which the *grammatica* is composed are: «scientia dictionum simplicium»; «scientia orationum»; «scientia regularum de dictionibus simplicibus»; «scientia regularum de dictionibus quando componuntur»; «scientia regularum ad recte scribendum»; «scientia regularum ad recte legendum»; «scientia regularum ad versificandum».

³⁵ *Ibid.*, pp. 67-83 and pp. 72,9-76,9.

³⁶ *Ibid.*, pp. 70,8-71,9.

³⁷ *Ibid.*, pp. 85-112.

³⁸ *Ibid.*, pp. 113-131.

absent from the traditional Latin scientific divisions: the *scientia de aspectibus*³⁹ (e.g., optics), the *scientia de ponderibus*,⁴⁰ and the *scientia de ingeniis*.⁴¹

Natural science studies the natural bodies and their accidents and is composed of eight parts. Each part deals with the analysis of bodies through two different approaches, '*vel secundum quod ex eis est sensibile, vel probando quod ex eis est intelligibile*'.⁴² The final part of Gundissalinus's treatment of natural science is dedicated to metaphysics. The Toledan philosopher provides a brief examination of its purposes and methods. The last chapter⁴³ of the treatise is focused on *scientia civilis* and *scientia legum*, aspects of practical philosophy whose treatment is bonded to Aristotle's *Politica*.

The schematization of scientific disciplines presented in the *De scientiis* is restated and expanded upon in the *De divisione philosophiae*. The scientific organization exposed herein was widely popular during the Middle Ages, as it presents two fundamental innovations. In fact, as Jolivet⁴⁴ has noted, this new theory of knowledge introduces sciences that were previously unknown or whose epistemological status was uncertain and provides a justification of logic as part of philosophy. With these additions and the adherence of this new system to the upcoming Aristotelian corpus, Gundissalinus's theory of knowledge would become the general structuration of scholastic knowledge.⁴⁵

The *De divisione* is comprised of two parts: a large prologue where Gundissalinus exposes the principles of his *divisio*, and a specific treatment of the different sciences, their species and their parts. The point of departure is the distinction between divine and human science, and the articulation of the latter in the sciences of eloquence and wisdom.⁴⁶ Only wisdom corresponds to philosophy, since philosophy⁴⁷ is formed by those disciplines that lead to the achievement of

³⁹ Ibid., pp. 93,9-99,4.

⁴⁰ Ibid., p. 108,1-8.

⁴¹ Ibid., pp. 108,9-112,6.

⁴² Ibid., p. 119,4-13.

⁴³ Ibid., pp. 133-140.

⁴⁴ See Jolivet, *The Arabic Inheritance*, p. 137.

⁴⁵ See Michela Pereira, *La filosofia nel Medioevo*, Roma: Carocci, 2008, p. 162.

⁴⁶ Gundissalinus, *De divisione philosophiae* (ed. Muckle), pp. 9,22-10,17.

⁴⁷ Following the Neoplatonic tradition of *didaskaliká*, Gundissalinus proposes six definitions of philosophy: 'assimilatio hominis operibus creatoris secundum virtutem humanitatis'; 'taedium et cura et studium et sollicitudo mortis'; 'rerum humanarum divinarumque cognitio cum studio bene vivendi'; 'ars artium et disciplina disciplinarum'; «*integra cognitio hominis de se ipso*»; 'amor sapientiae'. See Fidora, *Domingo Gundisalvo y la teoría de la ciencia arábigo-aristotélica*, op. cit., pp. 90-103.

truth and love of goodness. Philosophy itself is divided into theoretical and practical philosophy, both of which show a threefold articulation, parallel to that exposed in the *De scientiis*. While practical philosophy is always bound to human action, the context of theoretical philosophy is always speculative and intellectualive.⁴⁸

As previously stated, these two parts of philosophy are proposed hierarchically following Avicenna's theory of *subalternatio* through the different ontological value of the subject studied by each discipline. In this way, Gundissalinus describes the three sciences composing theoretical philosophy through a discussion of the materiality and mobility of their subject by combining the doctrines of Avicenna,⁴⁹ al-Ghazālī,⁵⁰ and Boethius.⁵¹ In this system, *scientia physica* deals with mobile objects found in matter, which are studied in terms of their movement and in their matter, while *scientia mathematica* deals with mobile objects found in matter, studied without their movement and their materiality. Finally, *scientia metaphysica*⁵² deals with objects without movement or matter and studied without any reference to movement and matter.

A similar articulation is proposed for practical philosophy, comprised of *scientia politica*, *scientia oeconomica*, and *scientia moralis*.⁵³ The entire wisdom of philosophy is concretized in these six disciplines,⁵⁴ and their purpose is the achievement of the perfection of the soul and, thereby, future beatitude.

The second part of the text describes each science through the examination of its subject, utility, and dependence on the overall articulation of knowledge. First,

⁴⁸ Gundissalinus, *De divisione philosophiae* (ed. Muckle), pp. 11,9-18.

⁴⁹ For an overall examination of Avicenna's theory of knowledge, see M. Maroth, 'Das System der Wissenschaft bei Ibn Sina', in Burchard-Sonja Brentjes (ed.), *Avicenna-Ibn Sina, II, Wissenschaftsgeschichte*, Halle - Wittenberg: , 1980, pp. 27-34; and Michel M. Marmura, 'Avicenna on the Division of the Sciences in the 'Isagoge' of His 'Shifa'', *Journal for the History of Arabic Science* 4 (1980), pp. 239-251.

⁵⁰ See Alexander Treiger, 'Al-Ghazālī's Classifications of the Sciences and Descriptions of the Highest Theoretical Science', *Dîvân: Disiplinlerarası Çalışmalar Dergisi* 16/1 (2011), pp. 1-32.

⁵¹ See Alexander Fidora, *Domingo Gundisalvo y la teoría de la ciencia árabe-aristotélica*, op. cit., pp. 54-90; Henri Hugonnard-Roche, *La classification des sciences de Gundissalinus et l'influence d'Avicenne*, op. cit., p. 45; and Clemens Baeumker, 'Les écrits philosophiques de Dominicus Gundissalinus', *Revue Thomiste* 5 (1897), pp. 723-745.

⁵² Gundissalinus, *De divisione philosophiae* (ed. Baur), pp. 35,10-43,3.

⁵³ *Ibid.*, pp. 16,3-17,9.

⁵⁴ *Ibid.*, p. 17,10-13: «in his sex scientiis continetur, quicquid potest sciri et debet fieri: et idcirco dictum est, quod intentio philosophiae est comprehendere, quicquid est, quantum possibile est».

Gundissalinus deals with the theoretical sciences,⁵⁵ then passing to the sciences of eloquence⁵⁶ (grammar, poetics, and rhetoric), logic⁵⁷ –doubling as a part of philosophy and *instrumentum*–,⁵⁸ and certain natural sciences (mainly medicine.⁵⁹) Next, Gundissalinus examines the mathematical disciplines,⁶⁰ mirroring what he previously stated in the *De scientiis*. Finally, the Toledan philosopher introduces the large quotation of Avicenna’s *Summa Avicennae de convenientia et differentia subiectorum*, after which the treatise ends with a short examination of practical philosophy.⁶¹

Following N. Kinoshita,⁶² one could summarize Gundissalinus’s articulation of sciences as follows:

1) Scientia eloquentiae

a) Grammatica

I. Scientia dictionum simplicium

II. Scientia orationum

III. Scientia regularum de dictionibus quando sunt simplices

IV. Scientia regularum de dictionibus quando sunt compositae

b) Scientiae civiles

I. Poetica

II. Rhetorica

2) Scientia intermedia (logica)

⁵⁵ Ibid., pp. 19,12-43,3.

⁵⁶ Ibid., pp. 43,5-69,7.

⁵⁷ Ibid., pp. 69,9-83,6.

⁵⁸ Ibid., pp. 18,1-19,2.

⁵⁹ Ibid., pp. 83,8-89,22.

⁶⁰ Ibid., pp. 90,2-124,4.

⁶¹ Ibid., pp. 134,2-142,20.

⁶² See Kinoshita, *El pensamiento filosófico de Domingo Gundisalvo*, op. cit., pp. 52-53.

a) Perihermenias

b) Cathegoriae

c) Analytica priora

d) Analytica posteriora

e) Topica

f) Sophistica

g) Rhetorica

h) Poetica

3) Scientia sapientiae (philosophia)

a) Theorica

I. Physica

1. Medicina

2. De iudiciis

3. Nigromantia

4. De agricultura

5. De imaginibus

6. De navigatione

7. De speculis

8. De alchimia

II. Mathematica

1. Arithmetica

2. Geometria

3. Musica

4. Astronomia
5. De aspectibus
6. De ponderibus
7. De ingeniis

III. Divina, philosophia prima seu metaphysica

b) Practica

I. Politica

II. Oeconomica

III. Moralis

This schema foregrounds Gundissalinus' great development of the articulation of science. The new systematization of scientific knowledge includes many disciplines that were previously absent from the traditional division on *trivium* and *quadrivium* and will be widely spread throughout Europe during the Middle Ages.

A 'New' Metaphysical Programme

As A. Fidora⁶³ has noted, Gundissalinus is the first Latin philosopher to use the term *metaphysica* for the discipline dealing with the principles of being, rather than as merely a reference to the Aristotelian work. As I have mentioned before, metaphysics or divine science is the third and highest part of theoretical sciences in both of his epistemological treatises.

The *De scientiis* states that *scientia divina* is divided into three parts. The first deals with essences and their accidents, through the consideration of their being,⁶⁴ while the second is focused on the demonstration and verification of the

⁶³ See Fidora, 'Dominicus Gundissalinus and the Introduction of Metaphysics into the Latin West', op. cit..

⁶⁴ Gundissalinus, *De scientiis* (ed. Alonso Alonso), p. 127,6-8 : «Scientia divina dividitur in tres partes: quarum prima inquit de essentiis et de rebus que accidunt eis, secundum hoc quod sunt essentiae».

principles used by physics and mathematics, rejecting the errors concerning them.⁶⁵ The final part of divine science⁶⁶ deals with beings which are neither bodies nor can be detected in bodies (e.g., accidents), and the study pursued by this discipline is described in detail, beginning with the description of the essences themselves:

'De quibus in primis inquit, an sint essentie, an non. Et demonstratione probat quod sunt essentie. Deinde inquit de eis, an sint plures, an non. Et demonstrat quod sunt plures. Postea inquit an sint finitae, an non. Et demonstrat quod sunt finitae. Deinde inquit an ordines earum in perfectione earum sint aequales, an inaequales. Et demonstrat quod inaequales. Deinde probat quod ipsae secundum suam multitudinem surgunt de minore ad perfectiorem et ad perfectiorem, quousque perveniunt ad postremum perfectum, quo perfectius nihil esse potest, nec in esse potest ei aliquod esse simile, nec equale, nec contrarium, usquequo pervenitur ad primum, quo nihil potest esse prius, et ad praecedens quo nihil potest esse magis praecedens, et ad esse quod impossibile est adquiri ab alia re; et quod illud esse est unum absolute, praecedens et primum'.⁶⁷

The first assertion proven by metaphysics is the existence of the essences. Once their existence is demonstrated, the survey must show that there exist many essences many and that those essences are not equal regarding their ontological value. This assertion stems from a minor or major perfections of these principles of being, that is, a hierarchical order from the first principle, which is completely perfect, absolutely one and the first cause of everything. Ascending the hierarchy of essences, the metaphysical analysis arrives at the pure One that causes the existence of every following being. This first ascending stage of the survey is followed by the examination of the first principle itself:

'Et demonstrat quod reliqua posteriora sunt eo in esse, et quod ipsum esse primum est illud quod confert omni quod est praeter ipsum, esse; et quod ipsum primum unum est illud quod confert omni quod est praeter ipsum, unitatem; et quod ipsum primum verum est illud quod omni habenti veritatem praeter ipsum, confert veritatem; et quomodo conferat illud; et quod impossibile est aliquo modo in eo

⁶⁵ Ibid., pp. 127,8-128,6: «Secunda inquit de principiis demonstrationum in scientiis speculativis particularibus. Inquit enim de principiis dialectice scientie, et de principiis doctrinalis scientie, et principiis scientie naturalis. Et inquit verificationem eorum et substantias et proprietates ipsorum. Et destruit errores qui accidunt antiquis in principiis harum scientiarum, sicut error illius qui putavit punctum et numerum et lineam et superficiem esse substantias et esse separatas».

⁶⁶ Ibid., pp. 128,7-131,15.

⁶⁷ Ibid., pp. 128,8-129,11.

esse multitudinem; immo illud est quod supra omnia dignius est nomine et significatione unius et entis et veri et primi. – Deinde ostendit quod illud tantum quod est istarum proprietatum, debet credi quod sit Deus, cuius gloria sublimis'.⁶⁸

After having climbed from the caused essences to the first Cause, divine science, Gundissalinus must demonstrate that the first and absolute being is the ontogenic cause of every subsequent being and every derived unity that proceeds from his pure Unity. At the same time, his trueness is the source of every truth, and any kind of multiplicity is absent from his simple being, since he is true and first Being and One. The analysis must show that these properties can be properly said only of him, and it must be believed that the first Cause is God himself.

The last stage of Gundissalinus' programme is a descending analysis that proceeds from God back to the essences and then toward a further analysis of creatural ontology, in light of the knowledge of the first principle:

'Postea docet qualiter essentiae proveniunt ab eo, et qualiter adeptae sunt esse ab eo. Deinde inquit de ordinibus essentiarum, et qualiter adveniunt eis illi ordines, et quomodo meretur unaqueque esse in eo ordine in quo est, et declarat qualis est connexio illorum ad se invicem, et quibus rebus fit illa connexio. Deinde progreditur ad comprehendendas reliquas operationes Dei in essentiis, quousque compleat omnes eas.

Ostendit etiam quod in nulla earum est defectus neque discordia, neque malitia ordinis sive compositionis, nec diminutio, nec superfluitas. Postea destruit errores quorundam de Deo et de operibus eius opinatum superfluitatem et diminutionem in eo et in operibus eius et in essentiis quas creavit'.⁶⁹

Divine science must deal with the genesis of essences, their order and derivation, as well as their mutual connection. In other words, the demonstration of God's existence and attributes must be followed by the analysis of the instauration of the world, a cosmogenesis whose knowledge can be assured only by the precedent *ratio* regarding its origin. God acts in the essences, causing their actual being, as perfect and harmonic existence as one can recognise in the world. The final part of the survey is ultimately focused on the rejection of possible errors regarding God's causation and ontological instauration.

⁶⁸ Ibid., p. 130,1-13.

⁶⁹ Ibid., pp. 130,14-131,15.

This twofold procedure, composed of a first ascending moment and a second descending stage, is clearly indebted to al-Fārābī's reception of Aristotle's treatment in *Posterior Analytics*. This method was familiar to Gundissalinus,⁷⁰ thanks to Calcidius⁷¹ and Thierry of Chartres's use of *compositio* and *resolutio*.⁷²

The discussion of metaphysical science undergoes a substantial development in the *De divisione philosophiae*. Gundissalinus's treatment herein is articulated by the aforementioned didactic method derived from Neoplatonic *accessi* and *didaskaliká*, and it is therefore characterised by a progressive discussion of what divine science is, what its *genera*, subject, parts, species, *officium* and purpose are, and what its instrument, *artifex*, name, order, and utility are.⁷³

As I have previously mentioned, in the prologue Gundissalinus states that divine science deals with those beings that lack matter and movement, regarding both the ontological and gnoseological considerations.⁷⁴ Following Avicenna,⁷⁵ Gundissalinus clarifies that this discipline is called *scientia divina*, *philosophia prima*, *metaphysica*, and *causa causarum*, regarding the manifold aspects with which it deals.⁷⁶ The Toledan philosopher also exposes three converging

⁷⁰ Gundissalinus uses the speculative method of *compositio/resolutio* at length in his *De processione mundi*. For example, cf. Gundissalinus, *De processione mundi* (ed. Bülow), p. 4,8-10; pp. 24,20-25,2; and p. 50,10-13.

⁷¹ See Calcidius, *Commentaire au Timée de Platon*, critical edition by B. Bakhouché, Paris, Vrin, 2011, pp. 530,4-532,27.

⁷² See Thierry of Chartres, *Commentum super Boethii librum De Trinitate*, in Nikolaus M. Häring, *Commentaries on Boethius by Thierry of Chartres and his School*, Toronto: Pontifical Institute of Medieval Studies, 1971, pp. 75,29-76,6.

⁷³ Gundissalinus, *De divisione philosophiae* (ed. Muckle), p. 35,10-14: «Circa divinam quoque scientiam illa eadem requiruntur, scilicet: quid sit ipsa, quod genus eius, quae materia, quae partes, quae species, quod officium, quis finis, quod instrumentum, quis artifex, quare sic vocetur, quo ordine legenda et docenda sit, et quae eius utilitas et quis sit modus agendi».

⁷⁴ *Ibid.*, p. 36,9-17.

⁷⁵ Avicenna, *Liber de philosophia prima* (ed. Van Riet), op. cit., pp. 15,86-16,1

⁷⁶ Gundissalinus, *De divisione philosophiae* (ed. Muckle), p. 38,7-23: «Multis modis haec scientia vocatur. Dicitur enim 'scientia divina' a digniori parte, quia ipsa de Deo inquitur, an sit, et probat, quod sit. Dicitur 'philosophia prima', quia ipsa est scientia de prima causa esse. Dicitur etiam 'causa causarum', quia in ea agitur de Deo, qui est causa omnium. Dicitur etiam 'metaphysica', e.g., 'post physicam', quia ipsa est de eo, quod est post naturam. Intelligitur autem hic natura virtus, quae est principium motus et quietis: immo est virtus et principium universorum accidentium, quae proveniunt ex materia corporali. Unde, quia haec scientia dicitur 'post naturam', haec posteritas non est quantum in se, sed quantum ad nos. Primum enim, quod percipimus de eo, quod est, et scimus eius dispositiones, natura est; unde quod meretur vocari haec scientia considerata in se, hoc est, ut dicatur, quod est scientia de eo, quod est ante naturam. Ea enim, de quibus inquitur in illa, per essentiam et per scientiam sunt ante naturam».

definitions of metaphysics, as '*scientia de rebus separatis a materia definitione*',⁷⁷ '*philosophia certissima et prima*',⁷⁸ and '*sapientia certissima*'.⁷⁹ By this, metaphysics corresponds to *sapientia*, as they are both are the noblest sciences for the certitude of their truths, dealing with the highest things to be known, e.g., God and his causality.⁸⁰

Metaphysics certifies the principles of the other sciences⁸¹ – an epistemological relevance which corresponds to what Gundissalinus has already stated in the *De scientiis* – through demonstration as its main theoretical instrument.⁸² Its *materia* is constituted by the four Aristotelian causes,⁸³ and since metaphysics is the highest science that must make the principles of the subsequent sciences certain, it must deal with what is most evident and common, e.g., being.⁸⁴ At the same time, since *Posterior Analytics* clearly states that a science cannot inquire into what its own matter is, God and the causes cannot be considered as the subject of metaphysics, for metaphysics is an inquiry on the first principle and His causation.⁸⁵ Thus, divine science examines the first natural and mathematical causes of being and therefore the *causa causarum* and *principium principiorum* of existence, or, God.⁸⁶

Gundissalinus distinguishes four different aspects of the parts in which metaphysics is composed: 1) beings that are completely devoid of matter; 2) beings that are mingled with matter due to a preceding and constituting cause, but whose matter is not an essential constituent; 3) aspects that are common to

⁷⁷ Ibid., p. 35,16.

⁷⁸ Ibid., p. 35,17.

⁷⁹ Ibid., p. 35,18.

⁸⁰ Ibid., 35,18-36,8.

⁸¹ Ibid., p. 38,1-2: «Officium autem huius artis est certificare principia omnium scientiarum. Finis eius est acquisitio certitudinis principiorum ceterarum scientiarum». This aspect is directly related to metaphysics's *utilitas*, cf. Cf. Ibid., 41,17-43,3.

⁸² Ibid., p. 38,5: «Instrumentum eius est demonstratio».

⁸³ Ibid., p. 36,18-19: «Materiam huius artis quidam dixerunt esse quattuor causas: materialem et formalem, efficientem et finalem».

⁸⁴ Ibid., p. 37,3-9: «Sed quia in omni scientia id, quod materia ponitur, necessario in alia probatur, post hanc autem nulla restat scientia, in qua materia eius probatur, ideo necessario materia huius scientiae est id, quod communius et evidentius omnibus est, scilicet ens, quod siquidem non oportet quaeri, an sit vel quid sit, quasi in alia scientia post hanc debeat hoc certificari, pro eo quod inconueniens est, ut aliqua scientia stabiliat suam materiam».

⁸⁵ Ibid., pp. 36,19-37,2: «Alii vero materiam huius artis dixerunt esse Deum. Qui omnes decepti sunt. Teste enim Aristotele nulla scientia inquirat materiam suam; sed in hac scientia inquiratur, an sit Deus. Ergo Deus non est materia eius. Similiter de causis».

⁸⁶ Ibid., p. 36,10-17.

material and immaterial beings, as causality and unity; and finally 4) aspects that are proper of material beings, like movement and rest.⁸⁷ This fourfold distinction is accompanied by a division into species, whose number is not specified by Gundissalinus. These species are compared to the peculiarities of the examination of *esse in quantum esse*, like substance and accident, universality and particularity, cause and effect, act and potency.⁸⁸

The longest part of Gundissalinus's treatment of *metaphysica* in the *De divisione philosophiae* is centred on the *ordo* through which this science develops its inquiry.⁸⁹ Within the order of theoretical sciences, metaphysics follows physics and mathematics, and uses their results in order to pursue its own research.⁹⁰ Regarding the progression of metaphysics itself, Gundissalinus presents a large quotation, with some discrepancies and modifications, of his *De scientiis* (see Appendix), derived from al-Fārābī's *Iḥṣā' al-'ulūm*.

Metaphysics first deals with the essences and their ontological correlates and then analyses the principles of demonstration proper of the other theoretical sciences and logic, removing the errors made by the *antiqui*.⁹¹ One could note

⁸⁷ Ibid., p. 37,10-16: «Partes autem huius scientiae sunt quattuor: quoniam eorum, quae inquiruntur in hac scientia, quaedam sunt separata omnino a materia et ab appendiciis materiae; et quaedam sunt commixta materiae, sed ad modum, quo commiscetur causa constituens et praecedens, materia enim non est constituens illa; et quaedam, quae inveniuntur in materia et in non-materia, ut causalitas et unitas; et quaedam sunt res materiales, ut motus et quies».

⁸⁸ Ibid., p. 37,18-22: «Species vero huius artis sunt consequentia entis, in quae scilicet dividitur ens. Ens enim aliud est substantia, aliud accidens, aliud universale, aliud particulare, aliud causa, aliud causatum, aliud in potentia, aliud in actu et cetera, de quibus sufficienter tractatur in eadem scientia».

⁸⁹ Ibid., pp. 39,1-41,16.

⁹⁰ Ibid., p. 39,1-14: «Ordo etiam huius scientiae est, ut legatur post scientias naturales et disciplinales. Sed post naturales ideo, quia multa de his, quae conceduntur in ista, sunt de illis, quae iam probata sunt in naturali, sicut generatio et corruptio et alteritas et locus et tempus et quod omne, quod movetur, ab alio movetur, et quae sunt ea, quae moventur a primo motore, et cetera. Post disciplinales autem ideo, quia intentio ultima in hac scientia est cognitio gubernationis Dei altissimi et cognitio angelorum spiritualium et ordinum suorum et cognitio ordinationis in compositione circulorum. Ad quam scientiam impossibile est perveniri nisi per cognitionem astrologiae; ad scientiam vero astrologiae nemo potest pervenire nisi per scientiam arithmeticae et geometriae. Musica vero et ceterae particulares disciplinarum, et morales et civiles, utiles sunt, non necessariae, ad hanc scientiam».

⁹¹ Ibid., p. 39,15-24: «Hoc autem ordine ipsa tractatur: In primis inquirat de essentiis et de rebus, quae accidunt eis secundum hoc, quod sunt essentiae. Deinde inquirat de principiis demonstrationum in scientiis speculationis vel partibus specialibus. Deinde inquirat de principiis scientiae logicae et principiis scientiae doctrinalis et principiis scientiae naturalis; et inquirat iustificationem eorum et substantias et proprietates eorum et destruit errores

that, while in the *De scientiis* these two aspects of metaphysical science were *partes*, in *De divisione* they are considered first stages of the *scientia divina*. Nevertheless, the continuation of the discussion regarding the third stage of metaphysical research mirrors the passage in the *De scientiis*. The slight changes detected when comparing the two versions are most likely due to Gundissalinus's wish to polish and quote from the translated text, which is characteristic of the author. Moreover, the comparison of these texts with Gerard of Cremona's translation of al-Fārābī's *Iḥṣā' al-'ulūm* (see Appendix), highlights the peculiarities of Gundissalinus's operation. Gerard's version is indeed more literal and, in light of the deeper connection to the original Farabian text, the discussion is longer than in Gundissalinus's treatises.

Coming back to the textual analysis, the *De divisione* presents the same *ordo* in metaphysical analysis we have already seen. Metaphysics must deal with those essences that are neither bodies nor in bodies, demonstrating that these are essences, plural in number, but not infinite. Finally the inquiry states that the essences are different from each other regarding their own perfection.⁹² From the recognition of the differences concerning the ontological status of the essences, one must admit they all are hierarchically ordered, and through this order, one arrives to the first Being that precedes everything. Thus, metaphysics demonstrates that everything caused by this First cause receives its being, unity, and truth from what is absolute Being, One, and Trueness and analyses the ways by which the caused beings come to be. Finally, divine science states that there is no multiplicity in the One and examines the attributes of the first Cause that must be believed to be God.⁹³ Once all of this is achieved, the inquiry descends back to the caused beings:

antiquorum, qui erraverunt in principiis istarum scientiarum, sicut error illius, qui putavit punctum et unum et lineam et superficiem esse substantiam et esse separata».

⁹² Ibid., p. 39,24-40,7: «Postea inquirat de essentiis, quae nec sunt corpora nec in corporibus. De quibus in primis inquirat, an sint essentiae an non, et demonstratione probat, quod sint essentiae. Deinde inquirat de eis, an sint plures an non, et demonstrat, quod sint plures. Postea inquirat, an sint finitae numero an non, et demonstrat, quod sint finitae. Deinde inquirat, an ordines eorum in perfectione sint aequales vel inaequales, et demonstratione probat, quod inaequales».

⁹³ Ibid., pp. 40,8-41,4: «Deinde probat, quod ipsae secundum suam multitudinem surgunt a minore ad perfectiorem et a perfectiore, usquequo perveniunt ad postremum perfectum, quo perfectius nihil esse potest, nec in esse potest ei aliquid esse simile nec aequale nec contrarium, et quousque pervenitur ad primum, quo nihil potest esse prius, et ad praecedens, quo nihil potest esse praecedens magis, et ad esse, quod impossibile est acquiri ab alia re; et quod illud esse est unum et primum et praecedens absolute; et demonstrat, quod reliqua esse posteriora sunt eo in esse et quod ipsum esse primum est illud, quod confert omni, quod est praeter ipsum, esse; et quod ipsum unum primum est illud, quod confert omni, quod est praeter ipsum, unitatem; et quod ipsum verum primum est illud, quod omni habenti veritatem praeter ipsum confert

'Postea docet, qualiter essentiae proveniunt ab eo et qualiter adeptae sunt esse ab eo. Deinde inquirat de ordinibus essentiarum, et qualiter adveniunt eis illi ordines, et quomodo meretur unaquaeque esse in eo ordine, in quo est; et declarat, qualis est connexio eorum ad invicem et quibus rebus sit ipsa connexio. Deinde progreditur ad comprehendendas reliquas operationes Dei in essentiis, usquequo comprehendat eas omnes. Ostendit etiam, quod in nulla earum est defectus neque discordia neque malitia ordinis sive compositionis nec diminutio neque superfluitas. Postea destruit errores quorundam de Deo et operationibus eius opinantium infinitatem et diminutionem in eo et in operationibus eius et in essentiis, quas creavit'.⁹⁴

Again mirroring *De scientiis*'s treatment, the descending phase of metaphysical speculation is developed as a cosmological analysis of the world's instauration. Divine science inquires into the proceeding of essences from God, their causal order and their mutual connection regarding this order, and God's operations on the essences. After, metaphysics deals with the demonstration of the completeness of God's instauration of the world, showing that there is no lack or superfluity in divine action and eventually destroys the errors regarding God and his ontogenic and cosmological causation.

Thus, in the *De divisione*, Gundissalinus accepts and uses al-Fārābī's *Kitāb Iḥṣā' al-'ulūm* for his description of the metaphysical procedure, translated and re-adapted into the *De scientiis*. One should consider that the discussion of the order of the inquiry pursued by divine science shows the traits of a specific metaphysical programme, characterized by a twofold ascending/descending method. This metaphysical programme can be summarized as follows:

Ascending part:

- 1) analysis of the caused essences, their ontological characteristics, and accidents;
- 2) verification of the principles of the subsequent theoretical sciences (physics and mathematics) and logic, rejecting any possible error;
- 3) analysis of those essences that are not bodies or that do not exist in a body (accidents), demonstrating:

veritatem – et quomodo conferat illud; et quod impossibile est aliquo modo in eo esse multitudinem, immo illud est, quod supra omnia dignius est nomine et significatione unius et entis et veri et primi. Deinde ostendit, quod illud tantum, quod est istarum proprietatum, debet credi, quod sit Deus, cuius gloria sublimis».

⁹⁴ Ibid., pp. 41,5-16.

- a) what are these essences;
 - b) whether they are many or not, stating that they are many;
 - c) whether they are finite or infinite: demonstrating that they are finite;
 - d) whether they are equal or not in existence, the answer to which is that the essences have a different ontological status;
 - e) that from the analysis of order of the essences one arrives at the first Cause of the essences;
- 4) analysis of the first Cause, demonstrating that:
- a) it is the absolute One, Being, and Trueness, that causes the existence, unity, and truth of every subsequent being;
 - b) the One has no multiplicity, definition, or similarity to other beings;
 - c) the first Cause is God.

Descending part:

- 1) examination of the essences in regards to their causation by God;
- 2) analysis of the order and the mutual relations among essences;
- 3) the question regarding God's further operations on the essences, e.g., divine causation besides ontogony;
- 4) demonstration of the completeness of the world's instauration and order;
- 5) refutation of errors regarding God and his operations.

This procedure is defined by detailed passages that actually mirror the metaphysical discussion proposed by al-Fārābī in his metaphysical works. Nevertheless, one should note that Gundissalinus only had access to a very limited part of al-Fārābī's philosophical production, since in addition to the 'translation' of the *De scientiis*, he only translated the following works into Latin: *De intellectu et intellecto*, *Expositio libri quinti Elementorum Euclidis*, *Fontes quaestionum*, and the *Liber exercitationis ad viam felicitatis*. It seems quite clear then, that Gundissalinus accepts al-Fārābī's metaphysical programme as intrinsically valid by an epistemological point of view and thus, potentially applicable to metaphysical speculation in general.

An Application of al-Fārābī's Metaphysical Programme?

In the *De processione mundi*, Dominicus Gundissalinus deals with the fundamental problems of ontology and cosmology, proposing his own original solutions. This writing is quite different from the *De unitate et uno*, for the latter is characterised by its very concise treatment of just one main metaphysical feature: unity as an ontological primary concept.

The *De processione* begins by stating the purpose of the examination with which Gundissalinus is dealing: '*Invisibilia dei per ea, quae facta sunt, a creatura mundi intellecta conspiciuntur. Si enim vigilanter haec visibilia conspiciamus, per ipsa eadem ad invisibilia dei contemplanda conscendimus*'.⁹⁵ The metaphysical analysis cannot simply assume the existence of God, but must deal exhaustively with the attributes of his existence through the examination of its effects, that is, the study of the composition and the disposition of created things as they are caused by God. The analysis of this causative process is based on three speculative powers of the human mind: *ratio*, *demonstratio*, and *intelligentia*. These powers are the intellectual modalities of the inquiries into physics, mathematics, and theology (e.g., metaphysics), respectively and are hierarchically ordered and specular to these theoretical disciplines.⁹⁶

After exposing an *a posteriori* justification of his examination and the epistemological basis on which the latter is grounded, Gundissalinus presents four demonstrations for the existence of a first cause. The first is based on the opposition between heavy and light elements, specifically on their tendency to move toward their natural place. Since the sublunary world is constituted of heavy and light elements, it is necessary to admit a cause composing their contrariety.⁹⁷ The second proof deals with the hylomorphic composition of bodies. Matter and form have opposing properties and cannot be joined without an external cause that composes their opposition. For this reason, and considering the ontological composition of bodies, one must admit the existence of a first composing cause.⁹⁸

⁹⁵ Gundissalinus, *De processione mundi* (ed. Bülow), p. 1,1-4.

⁹⁶ Ibid., p. 2,4-16.

⁹⁷ Ibid., p. 3,10-17: «Totus hic mundus, quem lunaris circulus ambit, ex gravibus et levibus integraliter consistit. Sed motus gravium est ire deorsum, et motus levium est ire sursum. Cum igitur gravia et levia de natura sua habeant ire in oppositas partes, tunc nequaquam in compositione huius corruptibilis mundi convenirent, nisi aliqua causa cogens illa componeret. Mundus igitur sublunaris ab alio compositus».

⁹⁸ Ibid., pp. 3,17-4,7: «Omne corpus constat ex materia et forma. Omne enim corpus substantia est et alicuius quantitatis et qualitatis est. Forma vero et materia oppositarum proprietatum sunt; nam altera sustinet, et altera sustinetur; altera recepit, et altera recipitur; altera format, et

The third and the fourth proofs of the existence of the first cause are both cosmological demonstrations. The former examines the corporeal being as subject to degeneration and corruption, stating that everything that begins to be cannot be the cause of its own being. However, an external cause of its existence is necessary, and that is the first cause.⁹⁹ Even so, every movement is the actualization of a previous potency realized by something already actualized, that is, its mover. However, since an infinite regress is not admissible, one must admit the existence of a first and eternal mover, e.g., an efficient cause of every being.¹⁰⁰

Once he has demonstrated the existence of the first cause through these four proofs, Gundissalinus begins the examination of divine being through the doctrine of necessary and possible being. This treatment is developed by a large quotation from Avicenna's *Liber de philosophia prima*, which covers almost two chapters of the first book.¹⁰¹ With this quotation, Gundissalinus can expose the ontological difference between the necessary Existent, whose existence is

altera formatur. Quae autem oppositarum proprietatum sunt, nunquam ad aliquid constituendum per se conveniunt. Forma igitur et materia in constitutione corporis per se non conveniunt. Quae autem per se non conveniunt, profecto, cum in aliquo sibi opposita inveniuntur, quod compositorem habeant, evidenter ostendunt. Omne igitur corpus compositorem habet. Sic itaque totus mundus».

⁹⁹ Ibid., p. 4,8-22: «Omne, quod est, aut coepit esse aut non coepit esse; aut habet initium aut caret initio. Quod autem aliqua habeant initium, manifeste indicat resolutio huius sensibilis mundi. Multa enim videmus hic desinere esse, quae, nisi aliquando incepissent, non desinerent unquam. Nihil enim occidit, quod non oritur, nec solutio nisi compositionem sequitur. Quicquid enim intellectus dividit et resolvit in aliquid, compositum est ex his, in quae resolvitur. Cum ergo multa ex tam diversis composita assidue corrumpi et dissolvi videamus, nihil autem corrumpitur nisi quod generatum est, sed omne, quod generatur, incipit fieri, quod non erat: profecto necesse est, ut quaecumque corrumpi videamus, ea aliquando incepisse dicamus. Omni autem incipienti esse aliqua res sibi dedit esse. Et omne, quod incipit esse, antequam sit, possibile est illud esse, quia, quod impossibile est esse, nunquam incipit esse, sed quod possibile est esse».

¹⁰⁰ Ibid., pp. 4,23-5,14: «Item, cum incipit esse, de potentia exit ad effectum, de possibilitate ad actum. Exitus autem de potentia ad effectum motus est. Quicquid ergo incipit esse, movetur ad esse. Omne autem, quod movetur, ab alio movetur. Omne igitur, quod coepit esse, non ipsum sibi, sed aliqua alia res dedit esse. Ipsum enim, cum non erat, sibi dare esse non poterat. Quod enim non est, nec sibi, nec alii rei dare esse potest. Impossibile est etiam, ut aliquid sit causa efficiens sui ipsius. Omnis enim causa efficiens prior est eo, quod efficit. Si igitur aliquid daret sibi esse, tunc illud esset prius et posterius se ipso, quod est impossibile. Quare omni incipienti aliquid aliud dedit esse. Item illud aliud aut coepit esse aut non coepit esse. Si vero et illud incipit esse, tunc aliquid aliud sibi dedit esse. Et ita inquirendo aut in infinitum itur, aut aliquid occurret, quod incipientibus dedit esse, ipsum vero nullatenus coepit esse. Quod autem est et non incepit esse, hoc aeternum est: illud ergo, quicquid sit, prius est omnibus habentibus initium, et sic est principium et prima causa omnium».

¹⁰¹ Avicenna, *Liber de philosophia prima*, critical edition by S. Van Riet, op. cit., pp. 43,21-55,55.

uncaused and sufficient, the possible being, that is, the potential existence not yet caused by the necessary Existent, and finally the necessary existent *per aliud*, the ontological state of the actual existence of possible beings.¹⁰² God's existence is therefore necessary and uncaused, and he is the first cause of everything. At this highest level of ontology and efficient causality, the necessary Existent stands alone: Gundissalinus presents five proofs of the Unicity and Unity of God's being that is completely unrelated in his highest form of existence. This One, pure Being, is the efficient cause of every subsequent being that receives its existence and unity from the first cause, God:

'Constat ergo, quod necesse esse neque est relativum, neque est mutabile, nec multiplex, sed solitarium, cum nihil aliud participat in suo esse, quod est ei proprium; et hoc non est nisi solus deus, qui est prima causa et primum principium omnium, quod unum tantum necesse est intelligi, non duo vel plura. Unum enim duobus prius est; omne enim illud prius est alio, quod destructum destruit et positum non ponit. [...] Unum igitur est principium, una est causa efficiens omnium'.¹⁰³

The first part of the *De processione mundi* is thus focused on three main points: 1) the justification of the metaphysical analysis presented herein; 2) the demonstration of the existence of the first Cause through four proofs; 3) the examination of God's being by the doctrine of necessary and possible being. The ascending course of this speculative analysis is quite clear, and after having claimed the necessity of divine existence, Gundissalinus passes to the study of the principles of caused beings: matter and form.

The Toledan philosopher is one of the most fervent supporters of universal hylomorphism, which asserts that every created being is composed of matter and form, and its possible existence is first explained as the potentiality of the two hylomorphic principles before their union. Since they are the first principles of caused being, matter and form are also the first effects of God's creation. In fact, Gundissalinus differentiates between four different typologies of cosmogonic causation:

'Motus igitur primae causae, quo scilicet prima causa movet, alius dicitur creatio, alius compositio; sed primus est creatio, secundus est compositio. Motus vero secundariae causae cuiusdam tantum est compositio, cuiusdam et generatio. Nam compositio alia est primaria, alia secundaria. Primaria est ex simplicibus,

¹⁰² Gundissalinus, *De processione mundi* (ed. Bülow), op. cit., pp. 5,19-17,1.

¹⁰³ Ibid., pp. 16,23-17,10.

secundaria est ex compositis; et secundaria alia naturalis, alia artificialis. Et creatio, quidem est a primordio primorum principiorum ex nihilo. Compositio vero est primarum rerum ex ipsis principiis, quae semel factae nunquam occidunt, utpote ex prima conformatione compactae. Generatio vero est ex eisdem principiis eorum, quae nascuntur et occidunt usque, non per ea, quae composita sunt, reparatio, tamquam de residuis minutis denuo confecta rerum protractio'.¹⁰⁴

God's causation is twofold. On the one hand, God creates matter and form and on the other hand, he joins them through the *primaria compositio*, whose outcome is the secondary cause. The causation of this secondary cause is the *secundaria compositio* and, through further causative mediations, generation and corruption.

After having clarified the typologies of cosmogonic causality, Gundissalinus continues to the specific analysis of matter and form as ontological principles. Both matter and form have a potential being in themselves, whose actuation derives from their union into the hylomorphic compound; this is Gundissalinus's main justification of contingency as the most intrinsic characteristic of creaturely being, as none of the ontological principles are themselves sufficient to be without their hylomorphic partner.

The examination of the ontological status of matter and form is followed by Gundissalinus's refutation of the theory of primordial chaos.¹⁰⁵ The criticisms presented derive mainly from William of Conches's discussion of the same topic and are directed against Hughes of Saint Victor,¹⁰⁶ an author directly quoted by Gundissalinus.¹⁰⁷ By assuming an elemental chaos as primary effect of God's causation, the Toledan philosopher claims that the theory of primordial chaos is based on a contradiction. In fact, the existence of matter and form precedes that of the elements, and moreover, the latter are characterized by their intrinsic tendency toward their natural place.

The discussion of primordial chaos leads Gundissalinus to the analysis of the causative modality that first follows creation: primary composition. Matter is first joined with the forms of unity and substantiality, which turn the matter into one substance.¹⁰⁸ This first 'absolute' substance is then specified by the forms of

¹⁰⁴ Gundissalinus, *De processione mundi* (ed. Bülow), op. cit., pp. 19,14-20,2.

¹⁰⁵ *Ibid.*, pp. 36,9-38,21.

¹⁰⁶ Hughes of Saint Victor, *De sacramentis christianae fidei*, critical edition by R. Berndt, Münster: Aschendorf, 2008, I, I, VI, p. 40,4-27.

¹⁰⁷ Gundissalinus, *De processione mundi* (ed. Bülow), op. cit., pp. 36,10-37,14.

¹⁰⁸ *Ibid.*, 41,10-42,7.

spirituality and corporeality that produce the first two species of substance: spiritual and corporeal substances.¹⁰⁹

It is through this hierarchical order that the first composed beings, the angelic creatures, the celestial spheres, and the corporeal elements, come to be. These three species of beings perform the role of secondary causes, administering God's will:

'In generatione vero et commixtione et conversione et aliorum compositione, quae secundae vel tertiae dignitatis sunt, aliud sibi artifex adaptavit instrumentum, scilicet secundariam causam, ita quidem, ut per se ipsum prima efficeret, scilicet creando materiam et formam de nihilo et componendo ea inter se, secunda vero atque per ordinem tertia et quarta ministrae suae causae secundariae moderatione eius et instituto exequenda committeret'.¹¹⁰

The operations pursued by the secondary causality are reciprocally bonded. Developing his theory through an Avicennian perspective, Gundissalinus states that the angels create new souls daily and move the spheres, while the latter's movement is transmitted from sphere to sphere to the elements that constitute the earth, where nature orders this movement into the natural and biological changes we experience.¹¹¹

Gundissalinus's analysis of cosmological causation ends here, as the author does not deal with secondary composition and generation. The reason for this absence is quite evident; the Toledan philosopher is offering a metaphysical examination of God and creatural being, so the examination of *secundaria compositio* and *generatio* must be pursued by physics rather than metaphysics. The *De processione mundi* ends with a general recapitulation of the previously developed analysis:

'Sic igitur processit totius mundi constitutio de nihil esse ad possibiliter esse, de possibiliter esse ad actu esse et de actu esse ad corporeum et incorporeum esse; et hoc totum simul, non in tempore. Ratio enim exigebat, ut institutio mundi universalis hoc modo progrediretur, videlicet ut primum materia et forma de nihilo crearentur, deinde de materia et forma elementa et cetera praedicta componerentur, de elementis vero commixtis et conversis elementata omnia generarentur; videlicet ut primum prima simplicia fierent de nihilo per creationem et de simplicibus composita fierent per primam simplicium coniunctionem, deinde de compositis fierent elementata per generationem. Et sic

¹⁰⁹ Ibid., 43,8-21.

¹¹⁰ Ibid., 51,6-12.

¹¹¹ Ibid., pp. 51,24-52,24.

de nihilo ad simplicia, de simplicibus ad composita, de compositis ad generata facta est progression'.¹¹²

The instauration of the world followed a rational order, a progressive complication of reality from the simplest being to the multiplicity of corporeal beings. This reference to the *ratio* and the ontogenic progression must be read as a plea for the completeness of the cosmic instauration, and this is proven by the last lines of *De processione*. Here, Gundissalinus presents two curious numerological syntheses¹¹³ of his metaphysics, where the rationality and exhaustiveness of God's instauration are justified by their reference to the greatest example of those characteristics: numbers. In this perspective, the first progression is particularly exemplary of what the author has in mind. Since '*omnia enim secundum rationem numerorum sapientissimus conditor instituere voluit*'¹¹⁴ one can easily see that number one is like God, the pure One that causes everything, while number two is like the first effect of God, e.g., matter and form. Number three, then, refers to the first being composed by matter and form, since this kind of creature is characterized by perpetuity and stability, similar to number three. Finally, number four is like the corporeal beings derived from secondary composition and generation that suffer a twofold division (into elements and into matter and form) and are composed by the four elements. In this way, Gundissalinus concludes, '*secundum haec disposita consistit omnis creatura*'.¹¹⁵

From this cursory exposition of the discussion in the *De processione mundi*, the progression of the features presented herein can be summarized by the following table:

<i>Topic:</i>	<i>Pages:</i>
Preliminary demonstrations of the existence of the first cause	1,1-5,14
Demonstration of the unrelated and first unity of God's being	5,15-17,10
Analysis of matter and form as primary effects of divine causality, and their mutual relations	17,11-36,8
Rejection of the error regarding primordial chaos	36,9-38,21

¹¹² Ibid., p. 54,9-18.

¹¹³ Ibid., pp. 55,6-56,12.

¹¹⁴ Ibid., p. 55,6-7.

¹¹⁵ Ibid., 56,1.

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Examination of the order of substances and forms during the first composition	38,22-51,12
Analysis of the secondary causality on the instauration of the world	51,12-55,5
Final justifications regarding the rationality and completeness of creative order	54,5-56,12

At first glance, the thematic articulation of the discussion of *De processione* seems to only partially correspond to what has been exposed in *De scientiis*. A few remarks can be made about this purpose. First, one can underscore that the first two aspects metaphysics must take into account, that is, the analysis of the caused essences and the verification of the principles of physics and mathematics, are absent from Gundissalinus's discussion in *De processione*. This fact can be justified considering that the first two stages of the metaphysical programme are quite autonomous, and the same programme exposed by Gundissalinus is focused mainly on the development of the following stages of metaphysics. Thus, one could possibly explain the absence of a treatment of these first stages in the *De processione* supposing that Gundissalinus wanted to deal with the third, and properly analytical stage, of metaphysical articulation. This consideration seems to be correct. We have seen that the *De scientiis* claims that these stages are properly *partes* of metaphysics, and by these it is quite probable that the Toledan philosopher had the last part of metaphysics in greater consideration, leaving the other two aside. Moreover, the short discussion of the relations among intellective powers and discipline, derived from Boethius, can be read as an implicit reference to the second Farabian stage of metaphysical analysis, which cannot be said about the first stage.

Even admitting this hypothesis, there exist obvious discrepancies between the metaphysical programme exposed in the *De scientiis*, *De divisione*, and the discussion presented in the *De processione*, which also examines the third stage of divine science. As we have seen, this stage deals with the examination of incorporeal substantial essences, stating their multiplicity, finiteness, inequality in existence, and ontological order.¹¹⁶ Yet, in the *De processione* Gundissalinus presents his four proofs of the existence of the first cause in a discussion that seems distant from what is claimed in the *De scientiis* and the *De divisione philosophiae*.

¹¹⁶ Ibid., 3,10-5,14.

An apparent proximity can perhaps be detected in regards to some of the outcomes and features presented in the *De processione*. Gundissalinus deals with some substantial characteristics of corporeal beings which he uses as points of departure for his demonstrations, but this does not seem sufficient enough to link this discussion to the analysis of the essences stated in the epistemological writings. However, the outcomes of Gundissalinus's proofs appeal to the finiteness, multiplicity, and ontological differences between bodies and their principles (matter and form). These characteristics are listed in *De scientiis*, but it seems difficult to assume a direct link between *De processione* and *De scientiis* regarding these issues. The only aspect one can properly claim as a sign of coherence between the two treatises is the common ascending course from the effects of divine causality to God himself. This ascending and descending progress is a peculiar trait of the Farabian programme, where it is expressed by the examination of the order by which the essences are caused (their *dispositio*, in the terminology used in the *De processione*). Through this examination one arrives at admitting God's existence. This feature is clearly stated in the metaphysical treatise, since the *a posteriori* demonstrations proposed by Gundissalinus 'ascend' from the effects to the efficient cause of every being, departing from four different preliminary considerations, as we have seen.

The highest point in this ascending procedure is the analysis of the first cause itself. Regarding this aspect, the programme states that one has to demonstrate that the first cause is the cause of existence, unity, and truth of every subsequent being, that it has no multiplicity, definition, or similarity to other beings, and that the first cause is God.¹¹⁷ The discussion of God's being in the *De processione mundi* parallels this course. By quoting Avicenna, Gundissalinus demonstrates, through five proofs, the unrelated unicity and oneness of the first cause, who is the necessary Existent, ontological and efficient cause of every subsequent being. Therein, Gundissalinus clarifies that God's unity is complete and cannot imply any kind of multiplicity or similarity to caused creatures. The primary consequence of this position is that, in his transcendent unity, it is not possible to provide a definition of God.

De scientiis, *De divisione* and *De processione* also share parallels regarding the descending course of the metaphysical method. The following analytical step presented by al-Fārābī is the examination of the essences regarding their causation by God, and the analysis of their order and mutual relations. Gundissalinus exposes this feature through the examination of matter and form, e.g., the ontological constituents of every caused being and the only things directly created by God. In dealing with this topic, the Toledan philosopher

¹¹⁷ Ibid., pp. 16,23-17,10.

analyses the mutual relation between matter and form and their derivation from God's being, stating that matter is progressively informed by the forms of unity and substantiality, and by those of spirituality and corporeality. The consistency of the epistemological treatises with the *De processione mundi* regarding these two stages of the metaphysical programme is thus complete.

The same outcome results from the comparison of the following stage, e.g., the examination of divine operations on the essences. Clearly, these operations are the causal mediation in the instauration of the world, expressed by the secondary cause. This feature is central to the *De processione*, as it is only through the instrumental causality of angels, spheres, and elements that the sensible world is caused and ordered.

Finally, the *De processione* ends with the two arithmological syntheses that are briefly mentioned herein and by stating the completeness and rationality of the divine order. Here too, Gundissalinus follows the procedure presented in *De scientiis* and *De divisione*, where the analysis of secondary causes is followed by these two demonstrations.

One should note that the metaphysical programme ends with a peculiar final stage which examines the refutation of the errors regarding God and the creative process. It is true that *De processione* does not end by dealing with this issue. Nevertheless, Gundissalinus's discussion of the most important error regarding cosmogony is presented a few pages earlier, where the Toledan philosopher rejects the theory of primordial chaos. This section is surely related to the specular stage of the epistemological treatises, and as has been shown by D. Poirel,¹¹⁸ this problem had great relevance during the twelfth-century. Gundissalinus anticipates the discussion of primordial chaos, presenting this issue after the treatment of matter and form and before the exposition of secondary causes. The reason for this anticipation is that Gundissalinus' solution to the problem of primordial chaos is exactly the doctrine of universal hylomorphism, and thus he affirms the priority of matter and form with regard to the elements of the supposed primordial chaos. Aiming at a more coherent doctrinal system, this solution needed to be posed before the discussion of secondary causes (one modality of which is expressed by the elements) and is directly linked to the overall examination of hylomorphism.

¹¹⁸ See Dominique Poirel, 'Physique et théologie: une querelle entre Guillaume de Conches et Hugues de Saint-Victor à propos du chaos originel', in B. Obrist - I. Caiazza (eds.), *Guillaume de Conches*, op. cit., pp. 289-327.

Conclusion

The outcomes of this doctrinal comparison between *De scientiis*, *De divisione*, and *De processione mundi* can be summarized by the following table:

<i>De scientiis - De divisione philosophiae</i>	<i>De processione mundi</i>
- Ascending part -	- Ascending part -
Analysis of the caused essences, their ontological characteristics, and accidents.	[Absent from Gundissalinus's discussion]
Verification of the principles of the subsequent theoretical sciences (physics and mathematics) and logic, rejecting possible errors.	Reference to Boethius's division of science and intellectual powers (?)
Analysis of those essences which are not bodies or that do not exist in bodies (accidents); demonstrating what these essences are; that they are many, finite, with a different ontological status; through the examination of the order of the essences, one arrives at the first Cause of the essences.	Preliminary demonstrations of the existence of the first cause (?)
Analysis of the first Cause, demonstrating that it is the absolute One, Being, and Trueness, that causes the existence, unity, and truth of every subsequent being; that the One has no multiplicity, definition, or similarity to other beings; and that the first Cause is God.	Demonstration of the unrelated and first unity of God's being
-Descending part -	- Descending part -
Examination of the essences in regards to their causation by God.	Analysis of matter and form as primary effects of divine causality, and their mutual relations.

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Analysis of the order and the mutual relations among essence.	Examination of the order of substances and forms during the first composition.
Question regarding God's further operations on the essences, e.g., divine causation besides ontogony.	Analysis of the secondary causality in the instauration of the world.
Demonstration of the completeness of the world's instauration and order.	Final justifications regarding the rationality and completeness of creative order.
Refutation of errors regarding God and his operations.	Rejection of the error regarding primordial chaos

From the doctrinal comparison, Gundissalinus's attempt to pursue and apply the metaphysical programme derived from al-Fārābī's *Kitab Iḥṣā' al-'ulūm* results is clear. On the one hand, it is evident that the Toledan philosopher does not seem to be completely consistent regarding this methodological procedure, at least in relation to the first steps of its application. In fact, the first stage is absent from *De processione*, while traces of the second can be detected in Gundissalinus's reference to Boethius's division of science and intellectual powers.¹¹⁹ On the other hand, we have already seen that the discrepancies between the consideration of these two first steps of the metaphysical programme as *partes* in the *De scientiis* and as methodological stages in the *De divisione* can partially justify the scarce relevance ascribed to them in *De processione*.

Similar difficulties arise from the comparison with the third stage of the programme. This lack of consistency is attenuated by the consideration of the outcomes produced by Gundissalinus's demonstrations of the existence of the first cause, which are very close to what is stated in the two epistemological treatises.

¹¹⁹ Regarding this reference to Boethius, Fidora demonstrated that Gundissalinus's exposition of the Boethian *divisio scientiarum* in this place is different in many points of view from the same articulation presented in the *De divisione philosophiae*, and that could be the result of a possible changing of mind of the Toledan author. But it is undoubted that by this quotation Gundissalinus clearly makes reference to his epistemological treatise and to the division of theoretical sciences: a fact that can possibly be linked to the application of the same metaphysical programme. See Fidora, 'La metodología de las ciencias según Boecio', op. cit.

The subsequent stages of the programme are pursued in explicit conformity with the epistemological texts. God's description as absolute One and pure Being and the arguments in favour of his unrelated condition are in absolute conformity with them. The same is true regarding the whole descending phase of the progression, apart from the refutation of primordial chaos, as we have already seen. By all this, Gundissalinus's will to apply the Farabian metaphysical programme seems quite evident, even if not completely developed and carried out, which is significant. Gundissalinus's philosophical production is aimed at providing new solutions to many key epistemological, psychological, and metaphysical problems through the development and application doctrines derived from the Islamic and Jewish writings he translated.

Appendix: Three Versions of 'scientia divina'

al-Fārābī, <i>De scientiis</i> ¹²⁰ (translatio Gerardi)	Gundissalinus, <i>De scientiis</i> ¹²¹	Gundissalinus, <i>De divisione philosophiae</i> ¹²²
Pars prima inquit de existentibus et rebus que accidunt eis per hoc quod sunt existentia. Et secunda inquit de principiis demonstrationum in scientiis speculativis particularibus. Et sunt ille que omnis scientia earum singularia facit per considerationem in esse proprio, sicut dialectica et	Scientia divina dividitur in tres partes: Quarum prima inquit de essentiis et de rebus que accidunt eis, secundum hoc quod sunt essentiae. Secunda inquit de principiis demonstrationum in scientiis speculativis particularibus. Inquit enim de principiis dialecticae scientiae, et de principiis doctrinalis scientiae, et principiis scientiae naturalis. Et	In primis inquit de essentiis et de rebus, quae accidunt eis secundum hoc, quod sunt essentiae. Deinde inquit de principiis demonstrationum in scientiis speculationis vel partibus specialibus. Deinde inquit de principiis scientiae logicae et principiis scientiae doctrinalis et principiis scientiae naturalis; et inquit iustificationem eorum

¹²⁰ Al-Fārābī, *De scientiis* (transl. Gerardi), ed. Schupp, pp. 104,24-113,10.

¹²¹ Gundissalinus, *De scientiis*, ed. Alonso Alonso, pp. 127,6-131,15.

¹²² Gundissalinus, *De divisione philosophiae*, ed. Baur, pp. 39,15-41,16.

<p>geometria, et arithmetica, et reliquae scientiae particulares quae simulantur istis scientiis. Inquit ergo de principiis scientiae dialecticae, et principiis scientiarum doctrinalium, et principiis scientiae naturalis, et inquit verificationem eorum, et docet eorum substantias, et ipsorum proprietates, et comprehendit estimationes corruptas quae acciderunt antiquis in principiis harum scientiarum, sicut estimatio eius qui estimavit in puncto et uno et lineis et superficiebus, quod sunt substantiae, et quod sunt separatae, et opiniones quae simulantur istis in principiis reliquarum scientiarum, destruit ergo eas, et ostendit, quod sunt corruptae.</p> <p>Et in parte tertia inquit de</p>	<p>inquit verificationem eorum et substantias et proprietates ipsorum. Et destruit errores qui accidunt antiquis in principiis harum scientiarum, sicut error illius qui putavit punctum et numerum et lineam et superficiem esse substantiam separatam.</p> <p>Tertia vero pars inquit de essentiis, quae nec sunt corpora, nec in corporibus. De quibus in primis inquit, an sint essentiae, an non. Et demonstratione probat quod sunt essentiae. Deinde inquit de eis, an sint plures, an non. Et demonstrat quod sunt plures. Postea inquit an sint finitae, an non. Et demonstrat quod sunt finitae. Deinde inquit an ordines earum in perfectione earum sint aequales, an inaequales. Et demonstrat quod inaequales.</p> <p>Deinde probat quod ipsae secundum suam</p>	<p>et substantias et proprietates eorum et destruit errores antiquorum, qui erraverunt in principiis istarum scientiarum, sicut error illius, qui putavit punctum et unum et lineam et superficiem esse substantiam et esse separata.</p> <p>Postea inquit de essentiis, quae nec sunt corpora nec in corporibus. De quibus in primis inquit, an sint essentiae an non, et demonstratione probat, quod sint essentiae. Deinde inquit de eis, an sint plures an non, et demonstrat, quod sint plures. Postea inquit, an sint finitae numero an non, et demonstrat, quod sint finitae. Deinde inquit, an ordines eorum in perfectione sint aequales vel inaequales, et demonstratione probat, quod inaequales.</p> <p>Deinde probat, quod ipsae secundum suam multitudinem surgunt a</p>
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<p>existentibus que non sunt corpora neque in corporibus. Inquit ergo de eis imprimis, an sint existentia an non, et demonstratione probat quod sunt existentia. Deinde inquit de eis an sint plura an non. Et demonstrat quod sunt plura. Postea inquit an sint finita in numero an non. Et demonstrat quod sunt finita, deinde inquit an ordines eorum in perfectione sint uni an ordines eorum in perfectione sint uni an ordines ipsorum sint superfluentes.</p> <p>Et demonstratione probat quod ipsa quamvis sint multa, tamen surgunt ex minore ipsorum ad perfectius, et perfectius usque quo perveniunt in postremo illius, ad perfectum quo perfectius non est</p>	<p>multitudinem surgunt de minore ad perfectiorem et ad perfectiorem, quousque perveniunt ad postremum perfectum, quo perfectius nihil esse potest, nec in esse potest ei aliquid esse simile, nec equale, nec contrarium, usquequo pervenitur ad primum, quo nihil potest esse prius, et ad praecedens quo nihil potest esse magis praecedens, et ad esse quod impossibile est acquiri ab alia re; et quod illud esse est unum absolute, praecedens et primum.</p> <p>Et demonstrat quod reliqua posteriora sunt eo in esse, et quod ipsum esse primum est illud quod confert omni quod est praeter ipsum, esse; et quod ipsum primum unum est illud quod confert omni quod est praeter ipsum, unitatem; et quod ipsum primum verum est illud quod omni habenti veritatem praeter ipsum, confert veritatem; et quomodo</p>	<p>minore ad perfectiorem et a perfectiore, usquequo perveniunt ad postremum perfectum, quo perfectius nihil esse potest, nec in esse potest ei aliquid esse simile nec aequale nec contrarium, et quousque pervenitur ad primum, quo nihil potest esse prius, et ad praecedens, quo nihil potest esse praecedens magis, et ad esse, quod impossibile est acquiri ab alia re; et quod illud esse est unum et primum et praecedens absolute; et demonstrat, quod reliqua esse posteriora sunt eo in esse et quod ipsum esse primum est illud, quod confert omni, quod est praeter ipsum, esse; et quod ipsum unum primum est illud, quod confert omni, quod est praeter ipsum, unitatem; et quod ipsum verum primum est illud, quod omni habenti veritatem praeter ipsum confert veritatem – et quomodo conferat illud; et quod impossibile est aliquo modo in eo esse</p>
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<p>possibile aliquid esse, neque est possibile ut sit aliquid penitus in similitudine ordinis esse eius, neque sit ei compar, neque contrarium, et ad primum ante quod non est possibile invenire prius, et ad precedens quo nichil est possibile magis esse precedens, et ad esse quod non est possibile acquisivisse suum esse a re alia penitus, et quod illud esse est unum, et primum, et precedens, absolute solum.</p> <p>Et demonstrat quod reliqua esse posteriora sunt eo in esse, et quod ipsum est esse primum quod acquirit omni existenti quod est preter ipsum esse, et quod est unum primum quod acquirit omni rei uni preter ipsum, unitatem, et quod est verum primum quod acquirit</p>	<p>conferat illud; et quod impossibile est aliquo modo in eo esse multitudinem; immo illud est quod supra omnia dignius est nomine et significatione unius et entis et veri et primi. – Deinde ostendit quod illud tantum quod est istarum proprietatum, debet credi quod sit Deus, cuius gloria sublimis.</p> <p>Postea docet qualiter essentiae proveniunt ab eo, et qualiter adeptae sunt esse ab eo. Deinde inquirit de ordinibus essentiarum, et qualiter adveniunt eis illi ordines, et quomodo meretur unaqueque esse in eo ordine in quo est, et declarat qualis est connexio illorum ad se invicem, et quibus rebus fit illa connexio. Deinde progreditur ad comprehendendas reliquas operationes Dei in essentiis, quousque compleat omnes eas.</p> <p>Ostendit etiam quod in nulla earum est defectus</p>	<p>multitudinem, immo illud est, quod supra omnia dignius est nomine et significatione unius et entis et veri et primi. Deinde ostendit, quod illud tantum, quod est istarum proprietatum, debet credi, quod sit Deus, cuius gloria sublimis.</p> <p>Postea docet, qualiter essentiae proveniunt ab eo et qualiter adeptae sunt esse ab eo. Deinde inquirit de ordinibus essentiarum, et qualiter adveniunt eis illi ordines, et quomodo meretur unaqueque esse in eo ordine, in quo est; et declarat, qualis est connexio eorum ad invicem et quibus rebus sit ipsa connexio. Deinde progreditur ad comprehendendas reliquas operationes Dei in essentiis, usquequo comprehendat eas omnes.</p> <p>Ostendit etiam, quod in nulla earum est defectus neque discordia neque</p>
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<p>omni habenti veritatem preter ipsum, veritatem, et secundum quem modum acquirit illud, et quod penitus non est possibile in ipso esse multitudinem neque aliquo modorum, immo est dignius nomine unius et eius intentione, et nomine entis et eius intentione, et nomine veri et eius intentione, omni re de qua dicitur quod est una, et ens, aut vera preter ipsum, deinde declarat quod illud quod est cum istis proprietatibus, est illud de quo oportet credi quod est Deus cuius est fama sublimis, postea procedit post illud in reliquis quibus narratur Deus gloriosus et sublimis, ut compleat ea omnia.</p> <p>Deinde docet qualiter provenerunt existentia ab eo, et</p>	<p>neque discordia, neque malitia ordinis sive compositionis, nec diminutio, nec superfluitas. Postea destruit errores quorundam de Deo et de operibus eius opinatum superfluitatem et diminutionem in eo et in operibus eius et in essentiis quas creavit.</p>	<p>malitia ordinis sive compositionis nec diminutio neque superfluitas. Postea destruit errores quorundam de Deo et operationibus eius opinantium infinitatem et diminutionem in eo et in operationibus eius et in essentiis, quas creavit.</p>
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<p>qualiter adepta sunt ab eo esse. Postea inquirit de ordinibus existentium, et qualiter advenerunt eis illi ordines, et quare meretur unumquodque ut sit in ordine suo in quo est, et declarat qualis <est> ligatura eorum ad invicem, et eorum connexio, et quibus rebus fit eorum ligatura et ipsorum connexio, deinde procedit ad comprehendendas reliquas operationes eius cuius sublimis est fama, et in existentibus usque quo compleat eas omnes.</p> <p>Et ostendit quod non licet in aliqua earum ut sit falsitas neque error neque effugatio, neque malicia ordinis, neque malicia compositionis, et ad ultimum, non est diminutio penitus in aliqua earum, neque additio manifesta</p>		
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<p>omnino, estimantur de Deo cuius sublimis est fama, et de operationibus eius, ex illis que intromittunt diminutionem in eo et in operationibus eius, et in existentiis que creavit, et destruit eas omnes per demonstrationes que faciunt adipisci scientiam certam in qua non est possibile ut homini ingrediatur hesitatio, neque alteratio in ipsa, et neque est possibile ut redeat ab ea penitus.</p>		
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