

# The Arabic, Hebrew and Latin Reception of Avicenna's Metaphysics

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# The Arabic, Hebrew and Latin Reception of Avicenna's Metaphysics

edited by

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# Avicenna's 'Giver of Forms' in Latin Philosophy, Especially in the Works of Albertus Magnus

Dag Nikolaus Hasse

The giver of forms (*wāhib aṣ-ṣuwar*, *dator formarum*) is a piece of Avicennian philosophy that went against the grain of most scholastic philosophers.<sup>1</sup> It is part of Avicenna's emanation theory, which the Latins knew from books 8 and 9 of the *Ilāhiyyāt* (*Divine Things*) of *Kitāb aṣ-Ṣifā'* (*Book of the Cure*): the emanation of intelligences and accompanying celestial spheres from the first cause, the necessary being (*wāḡib al-wūḡūd*, *neesse esse*), which is an eternal efficient cause. In a number of passages, Avicenna calls one of the celestial intelligences the 'giver of forms'.<sup>2</sup> He apparently refers to the lowest intelligence, from which emanate the substantial forms of the sublunar world.<sup>3</sup> This intelligence is called 'the active intellect' in other passages.<sup>4</sup> The forms emanate from the lowest intelligence when the elemental mixture reaches a certain disposition towards a form.

In most of his writings, Avicenna uses the concept of a giver of forms not in an epistemological but in an ontological sense: the *wāhib aṣ-ṣuwar* is not the giver of intelligible forms, but of the forms that combine with prepared matter.<sup>5</sup>

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- 1 I am grateful for the advice of Amos Bertolacci, Jon Bornholdt, Katrin Fischer, Jörn Müller, Adam Takahashi and for suggestions from the audiences in Menaggio, Jena and Berlin (Leibniz-Kreis), where the paper was presented. Research on this paper was funded by the Volkswagen Foundation.
  - 2 Avicenna mentions the 'giver of forms' in five passages outside the *Tā'liqāt*: (1) Avicenna, *Metaphysics*, c. IX,5, p. 335, line 18 ('the principles giving forms'); (2) *ibid.*, c. IX,5, p. 337, line 26 ('When it becomes prepared, it attains the form from the giver of forms'). These two passages appear in the same wording in Avicenna's *Naḡāt* (*The Salvation*). (3) Avicenna, *al-Kawn wa-l-fasād* (*On Generation and Corruption*), c. 13, p. 187, line 3 ('the giver of forms'); (4) *ibid.*, c. 14, p. 190, line 14 ('the giver of forms'); this passage is cited below, see n. 44. (5) Avicenna, *Fī l-af'āl wa-l-infi'ālāt* (*On Actions and Passions*), p. 256, line 10 ('the giver of forms'). See also n. 7 below for one occurrence in the *Dānešnāme*.
  - 3 Avicenna, *Metaphysics*, c. IX,5, p. 335: 'It follows necessarily, then, that the separate intellects – rather, the last of them, which is close to us, is the one from which there emanates, in participation with the celestial movements, something having the configuration of the forms of the lower world ...'.
  - 4 Avicenna, *Metaphysics*, c. IX,4, p. 331: 'This is the state of affairs in each successive intellect and each successive sphere, until it terminates with the active intellect that governs our selves'.
  - 5 As I have argued in my *Avicenna's 'De anima'*, pp. 187–9.

An exception is Avicenna's late treatise *Tā'liqāt* (*Notes*), where the expression appears more than twenty times in various contexts, some of them epistemological. In the *Tā'liqāt*, the *wāhib aṣ-ṣuwar* supplies substantial forms in the first place, but also provides first principles of knowledge, the forms of the things known (*ṣuwar al-ma'lūmāt*), an excellent moral disposition and the actualisation of light.<sup>6</sup> In the inflationary usage of the expression 'giver of forms', the *Tā'liqāt* resemble a text by a later author: al-Ġazālī's *Maqāṣid al-falāsifa* (*Intentions of the Philosophers*) of the late eleventh century AD. Here the expression is used, for instance, in the context of the theory of odours and visual forms.<sup>7</sup> It is likely, therefore, that the epistemological interpretation of the expression was developed by Avicenna toward the end of his life and adopted by some of his readers, such as al-Ġazālī. When the scholastics refer to the *dator formarum*, they do this in the context of theories of substantial forms and not of intelligible forms (with very few exceptions).<sup>8</sup> In modern literature, however, Avicenna's concept is often misrepresented as epistemological.<sup>9</sup>

Around 1160 in Toledo, Dominicus Gundisalvi translated the metaphysics part of *aṣ-Ṣifā'* into Latin under the title *Liber de philosophia prima sive scientia divina*. Among its first Latin readers in the twelfth and early thirteenth century, there are some who adopt central doctrines of Avicenna's emanation system: Gundisalvi himself in his treatise *De processione mundi* and the anonymous author of *The Book of First and Second Causes* (*Liber de causis primis et secundis*).<sup>10</sup> But the great majority of the later scholastic tradition considers Avicenna's emanation theory to be in conflict with the idea that the world is created. This creation is not a necessary process, it is argued, but depends upon

6 As shown by Janssens, *The Notions*, pp. 551–62, esp. pp. 554–7.

7 al-Ġazālī, *Maqāṣid*, p. 350, line 17; p. 352, line 14; p. 359, line 5; p. 369, line 12. One might suspect that the *Maqāṣid* reflect Avicenna's original usage of the term, since Avicenna's *Dānešnāme-ye 'Alā'ī* (*Philosophy for 'Alā'-al-Dawla*) is the ultimate source of the *Maqāṣid* (see Janssens, *Le Dānesh-Nāmeḥ*, pp. 163–77). But, in fact, only one of the eight occurrences of the term 'giver of forms' in al-Ġazālī's text has a parallel in Avicenna's *Dānešnāme* (see Janssens, *The Notions*, p. 552; the Persian expression is: *ṣūra dinanda*).

8 Hasse, *Avicenna's 'De anima'*, p. 189, n. 620. Possible exceptions are the following: Thomas Aquinas, *De veritate*, q. 11 a. 1, p. 349 ('formas omnes sensibiles esse ab agente extrinseco quod est substantia vel forma separata, quam appellant datorem formarum vel intelligentiam agentem') and Anonymous (Van Steenberghen), *Quaestiones de anima*, 2.19, p. 228, line 47 ('... et datricem intelligibilium et naturalium quam dixit [sc. Avicenna] motricem decimi orbis').

9 Examples are: Weisheipl, *Aristotle's Concept*, p. 150: 'to be receptive of new concepts from the *dator formarum*, the "agent intellect"'; Dales, *The Problem of the Rational Soul*, p. 8: 'intelligible objects provided by the Giver of Forms'.

10 Anonymous (de Vaux), *Liber de causis primis et secundis*.

the will of God, and it is not dependent upon intermediaries such as angels and intelligences, and hence not upon a giver of forms.<sup>11</sup>

It is remarkable that, in spite of this, the *dator formarum* is often mentioned in Latin sources, well into the seventeenth century. The theory, which is usually attributed to Plato or Avicenna, was obviously thought to be important – so important that it could not be passed over in silence. I suspect that the reception was not so entirely negative as it appears. I have therefore been searching for authors and passages with a positive reaction to Avicenna's theory of the giver of forms – indications that the theory was thought to be a strong theory, even if it was refuted. I start with a brief overview of the Latin *fortuna* of the concept and then discuss the rare positive reactions to it, four briefly – those of William of Auvergne, John Buridan, Marsilio Ficino and Tiberio Russiliano – and one at length: that of Albertus Magnus.

## I The Latin *fortuna* of the Giver of Forms

The Avicennian theory of the giver of forms never firmly set foot on Latin soil. This contrasts with Avicenna's theory that the active intellect is a separate substance, which was adopted by a good number of authors, especially in the thirteenth century. Some of them identified this separate substance with God, thus forming what Étienne Gilson has called the position of 'Augustinisme avicennisant'. These authors combine Avicenna's teaching of 'abstractions emanating from the active intellect' (*De anima* V,5) with Augustine's theory of *illuminatio*. Early exponents of this current are Jean de la Rochelle, the *Summa fratris Alexandri* and Vincent of Beauvais; later in the thirteenth century, the active intellect was identified with God by Roger Bacon, John Pecham, Roger Marston, Vital du Four, and also Henry of Ghent (though only in parts of his work).<sup>12</sup> As far as I can see, the epistemological current of 'Augustinisme avicennisant' did not have a parallel in ontology. The two Avicennian concepts, that is, the active intellect as the source of intelligible forms, and the giver of forms as the source of substantial forms, saw a very different Latin reception. It is remarkable that the *dator formarum* concept was unsuccessful even within the Franciscan tradition that favoured Avicennian epistemology.

11 See, for example, Thomas Aquinas, *Summa contra gentiles*, c. II.26, vol. 13, p. 332: 'Per haec autem excluditur quorundam philosophorum positio dicentium quod ex hoc quod deus seipsum intelligit, fluit ab ipso de necessitate talis rerum dispositio: quasi non suo arbitrio limitet singula et universa disponat, sicut fides catholica profitetur.' Ibid., c. II.42, vol. 13, p. 365: 'Excluditur autem ex praedictis opinio Avicennae, qui dicit quod deus, intelligens se, produxit unam intelligentiam primam ... Et sic inde procedens diversitatem rerum causarum instituit per causas secundas'.

12 Hasse, *Avicenna's 'De anima'*, pp. 203–23.

The scholastics preferred other explanations for the origin of forms. An early example is provided by a passage from Bonaventure, in the second book of his commentary on the *Sentences*, dating from about 1248.<sup>13</sup> There are four opinions on the coming-to-be of forms (*eductio formae in esse*), Bonaventure says – and many similar divisions of opinions can be found in later scholastic literature,<sup>14</sup> all the way until Francisco Suarez' *Metaphysical Disputations*.<sup>15</sup> First, the theory of *latitatio* or *latitudo formarum* of Anaxagoras (as presented by Aristotle in *Physics*, 187a26–b7): the forms are latent in matter and are only made manifest by an agent. Second, the theory of more modern philosophers (*philosophorum magis modernorum* – here Avicenna is implied) that all forms derive from a creator. The efficient cause of everything is God; the particular causes only prepare matter for the reception of a form.<sup>16</sup> Third, the position of Aristotle and of the *doctores in philosophia et theologia* that the forms are in the potentiality of matter and are made actual by the particular agent. There are two variants of this position, according to Bonaventure: either you say that the form derives from an agent which multiplies its own form, or – and this is opinion four – you say that the form is already in matter before it is actualized. Bonaventure favours this last position, the pre-existence of forms. One advantage of this position, in the eyes of Bonaventure, is that it accords with Augustine's well-known theory of 'seminal reasons' which exist in matter (*rationes seminales*).

The scholastic discussion of substantial generation is mainly about the last two alternatives: do the forms preexist in matter somehow, as Bonaventure, Albertus Magnus and others say, or: is the role of matter purely passive, as Thomas Aquinas insists?<sup>17</sup> Whether there is a small or a large difference between

13 Bonaventure, *In quatuor libros Sententiarum*, lib. II dist. VII p. II a. 2 q. 1, pp. 197–8.

14 See the references in the editors' scholion: Bonaventure, *ibid.*, p. 200.

15 Suarez, *Disputationes metaphysicae*, disp. XV sect. II, pp. 505–12, esp. p. 508 (on Plato and Avicenna).

16 Bonaventure, *ibid.*, p. 198: 'Alia fuit positio philosophorum magis modernorum, quod omnes formae sunt a creatore. Et haec positio potest dupliciter intelligi: uno modo quod deus sit principaliter agens et producens in omni rei educatione, et sic habet veritatem; vel ita quod deus sit tota causa efficiens, et agens particulare non faciat nisi materiam adaptare, ut sicut producit animam rationalem, ita et alias formas; et iste intellectus videtur fuisse illorum philosophorum. Et iste intellectus est impossibilis, quia agens particulare aut inducit aliquid aut nihil. Et si nihil, ergo nihil agit. Si aliquid inducit, ergo videtur quod aliquam efficiat dispositionem; sed qua ratione potest in unam et in aliam? Quare ista positio non est rationabilis.'

17 See, e. g., Thomas Aquinas, *De veritate*, q. 11 a. 1, p. 350: 'Et ideo secundum doctrinam Aristotilis via media inter has duas tenenda est in omnibus praedictis: formae enim naturales praeexistunt quidem in materia, non in actu, ut alii dicebant, sed in potentia solum de qua in actu reducuntur per agens extrinsecum proximum, non solum per agens primum, ut alia opinio ponebat'.

the position of Albertus and Thomas is a matter of dispute in modern scholarship, but that need not concern us here.<sup>18</sup> Both sides of the medieval discussion jointly maintained that all substantial forms are educed from matter, with the exception of human souls, which are created by God.

This is the general picture of the reception of Avicenna's theory. Let me point to some distinctive features of it. A noteworthy feature is the association of the giver of forms with the term *colcodea* (or *colcodrea* or *colchodea*).<sup>19</sup> This is a Latin term derived from Arabic astrological literature. In many Arabic sources, the length of life is calculated by *al-kadhudāh*, a planet with specific attributes on the birth chart. The source of the association of the two concepts was probably Pietro d'Abano, the early fourteenth-century author of the *Conciliator*, as Bruno Nardi has shown.<sup>20</sup> Pietro explains the astrological term *alcocoden* with a reference to the giver of forms: *quando* [scil. Saturn and Mars]  *fuerint alcocoden, idest datores formarum vitae*.<sup>21</sup> In Pietro's eyes, the *alcocoden* can be called a 'giver of forms' because it is a source of life and a secondary cause (the first and universal cause being the heaven); both are true also of the giver of forms. The term *colcodea* was presumably derived from *alcocoden*, but not (according to the present state of our knowledge) by Pietro d'Abano, since a phrase with the term *cholcodea* in Pietro's *Conciliator* is missing in the earliest two Renaissance editions and in at least three manuscripts and thus seems to be a Renaissance addition.<sup>22</sup> It is usually assumed that Agostino Nifo coined the term for his commentary on Averroes' *Destructio destructionum* of 1495. But in fact Niccolo Tignosi already uses *colcodrea* several times in 1474 when discussing Avicenna's giver of forms theory in his *De anima* commentary, as in the sentence: 'Avicenna has posited the Colcodrea, that is, an intelligence which is the giver of forms to the things below' (*ipsum posuisse colcodream, id est, intelligentiam datricem formarum istis inferioribus*).<sup>23</sup> Later, the term also appears in texts by Agostino Nifo,<sup>24</sup> Pietro Pomponazzi,<sup>25</sup> Marcantonio Zimara,<sup>26</sup>

18 On this difference see Suarez, *Disputationes metaphysicae*, disp. XV sect. II, p. 506; Nardi, *La dottrina*, pp. 69–101, esp. pp. 92–8; Weisheipl, *The Axiom*, pp. 455–6.

19 On this term see Nallino, *La 'Colcodea' d'Avicenna*, pp. 84–91, Wolfson, *Colcodea*, pp. 573–6, and Porro, *Colcodea*, pp. 2009–2010.

20 Nardi, *Origine*, p. 234, n. 1.

21 Pietro d'Abano, *Conciliator*, diff. 10, propter tertium, fol. 16<sup>vb</sup>.

22 This was again shown by Nardi. See Pietro d'Abano, *Conciliator*, diff. 71, propter tertium, fol. 108<sup>tb</sup> ('quam cholcodeam vocabat') and Nardi, *Origine*, p. 235, n. 1.

23 Tignosi, *In De anima commentarii*, p. 384: 'Ad Avicennam dicatur ipsum posuisse colcodream, id est, intelligentiam datricem formarum istis inferioribus et ipsam irradiare supra intellectum possibilem'.

24 Nifo, *In librum Destructio destructionum Averrois*, fols 97<sup>vb</sup>, 98<sup>ra</sup> ('dator formarum latine, arabice vero colcodea'), 101<sup>ra</sup>; Nifo, *In librum de anima*, c. II.34.

25 Pomponazzi, *In XII Metaphysicae*, quoted from Nardi, *Origine*, p. 234n: '... et tandem venit ad Colchodeam omnium creatricem formarum istorum inferiorum; quae

Tiberio Russiliano<sup>27</sup>, Julius Caesar Scaliger,<sup>28</sup> Daniel Sennert<sup>29</sup> and, in the early seventeenth century, Tommaso Campanella.<sup>30</sup> It was employed because it was thought to be the original Arabic term. As Agostino Nifo writes: *colchodea quam latine dator formarum exponitur*: ‘Colcodea, which in Latin is rendered as *dator formarum*.’<sup>31</sup> The term also appears in Hebrew sources of the sixteenth and seventeenth centuries that are influenced by Nifo.<sup>32</sup>

Another remarkable feature is that the Latin reception of Avicenna’s concept was much influenced by Averroes. Averroes, in his *Long Commentary on the*

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Colchodea est intellectus agens. ... Avicenna autem, quia tenet quod formae substantiales non possunt agere immediate et quia accidentia non possunt agere substantis, ideo oportet ponere datorem formarum. Non enim ipse videbat agens immediatum formarum, quia non accidens neque substantia; ergo est Colchodea; and Pomponazzi, *Utrum deus concurrat ...*, quoted from Nardi, *Origine*, p. 234: ‘... aut in opinionem Avicennae, qui tenuit quod immediate [sc. anima creetur] a Colcodea ...’, and p. 237: ‘... non quia creetur anima nostra a deo, ut solvit Scotus, aut (a) Colcod(e)a, ut voluit Avicenna’.

- 26 Zimara, *Contradictionum solutiones*, fol. 421<sup>vb</sup>: ‘... quia secundum Avicennam aliae formae, quae de novo inducuntur in materia, non sunt eductae de potentia materiae, sed sunt ab extrinseco motore, quem datorem formarum appellat seu colcodeam’.
- 27 Russiliano, *Apologeticus*, disp. 5, p. 177: ‘... cum illa [sc. anima rationalis] secundum Avicennae mentem fuerit infusa ex colcodea omnium formarum generatrice; modo colcodea, dum sufficientem dispositionem in materia habeat, semper formam inducit, vel illa sit ex seminis habita praeparatione vel ex putrefactione’. I discuss Russiliano’s reception of the giver of forms theory in section II of this article.
- 28 Scaliger, *De subtilitate*, c. 97, p. 333: ‘Colcodea, nescio quae, ut aiunt, ab Avicenna ficta est, quae formarum conda, et proma, imo vero fabra esset, tuus iste liber, qui etiam dictamo putrido vitam molitur, etiam sesquicolcodea dici mereatur’.
- 29 Sennert, *Hypomnemata physica*, lib. IV c. 2, p. 150: ‘Avicennas animas viventium non a parentibus, sed a quadam formarum datrice seu, ut Scaliger, *exerc. 97*. loquitur, formarum proma conda intelligentia, quam Colcodeam nominat, provenire statuit ... Procul dubio autem istam sententiam ex Platone et Platonicis hausit Avicennas.’ See Hirai, *Atomes vivants*, pp. 479–80.
- 30 Campanella, *De homine*, c. I.1, p. 14: ‘Avicenna autem Colchodeae hoc munus permandat utenti elementorum materia et qualitibus: propterea putat omnia animalia et homines posse oriri sponte, sicubi tellus sit apta ad Colchodeae sigillum suscipiendum, quod philosophi multi, licet animae mundi vel casui hoc opus adscribant, olim et nunc docent’; *ibid.* c. V.5, p. 70: ‘Verum cum oblivio contingat et scientia deleatur, putavit Avicenna quod, licet ab ideis sit scientia, non tamen, inquit, ab innatis (sic enim nulla fieret oblivio), sed a defluentibus a Colchodea, quae sit ultimus intellectus aut anima mundi secundum alios, in nostram animam, quae a sensibus movetur ut ad illas respiciat ideas’; *ibid.*, c. V.5, p. 78: ‘... per quas excitatur ad species ex Colchodea effluentes considerandas’.
- 31 Nifo, *In librum Destructio destructionum Averrois*, fol. 97<sup>vb</sup>. Cf. n. 24 above.
- 32 See Wolfson, *Colcodea*, pp. 573–6. On the Hebrew reception of the giver of forms theory, see Goldstein, *Dator formarum*, pp. 107–21.

*Metaphysics*, VII.31 and XII.18,<sup>33</sup> criticizes Avicenna for holding that all substantial forms derive from the active intellect, 'which he calls "giver of forms"'.<sup>34</sup> Averroes refutes the theory and adds that al-Fārābī and Avicenna are in fundamental agreement with Plato on this issue. As a result, Latin scholastics often attack Plato and not Avicenna for holding the *dator formarum* theory.<sup>35</sup> Averroes' association of the giver of forms with Plato influenced the understanding of Avicenna's theory in the West.<sup>36</sup> Latin knowledge of Plato was, for the most part, confined to the *Timaeus*. And hence, in the scholastic view, the Platonic standpoint was that the forms are given by the second gods of the *Timaeus*, as Albertus Magnus puts it: 'everything is generated by the second gods (*a diis secundis*), who were given the seed of generation by the god of gods (*deus deorum*)'<sup>37</sup> – or, in the Renaissance interpretation, by the world soul, *anima mundi*.<sup>38</sup> Hence it came that Plato's *anima mundi* and Avicenna's *colcodea* were thought to mean the same and that Plato and Avicenna were considered to be the major exponents of a giver of forms theory.

That the Platonic association tainted the understanding of Avicenna's *Metaphysics* is evident in that the scholastics often use the term *creare* for the activity of Plato's and Avicenna's *dator formarum*. An example is provided by the passage by Bonaventure which I cited above: the second of the four possible positions on the generation of forms was the theory that all forms derive from a

33 Averroes, *Tafsīr*, c. VII.31, pp. 881–6, c. XII.18, pp. 1496–8; Averroes, *Commentarium in libros Metaphysicorum*, fols 181<sup>ra-vb</sup>, fols 304<sup>ra-va</sup>. The latter passage is translated in: Genequand, *Ibn Rushd's Metaphysics*, pp. 107–9.

34 Averroes, *Tafsīr*, c. VII.31, p. 882, line 19; Averroes, *Commentarium in libros Metaphysicorum*, fol. 181<sup>ra</sup>: 'Et ideo quia Avicenna oboedit istis propositionibus, credit omnes formas esse ab intelligentia agente, quam vocat datorem formarum'.

35 Hasse, *Plato Arabico-Latinus*, pp. 42–5. For the early reception of Averroes' commentary in general see Bertolacci, *The Reception*, pp. 457–80.

36 Averroes' understanding of Plato was influenced by Themistius (d. 388 AD), who had argued in his paraphrase of Aristotle's *Metaphysics*, book XII, that the forms of the living beings are implanted in matter by the gods and that this is Plato's theory; see Hasse, *Spontaneous Generation*, pp. 154 and 158–9.

37 Albertus, *Metaphysica*, lib. II tr. 1, c. 8, p. 468b: 'Platonis igitur sententia est omnia fieri a diis secundis, quibus deus deorum dedit sementem generationis. Dii autem secundi sunt stellae et orbes caelestium moventes materiam ad omnium generabilium productionem. Et illa sementis dicitur forma quaedam formans materiam ad conveniens sibi in nomine. Hanc enim et huiusmodi formam dicit communicari materalae per datorem formarum et ipsam materiam aptari formae recipiendae per qualitates activas et passivas'.

38 Nifo, *Expositiones in libros Metaphysices*, lib. 7 disp. 12, p. 201<sup>r</sup>: 'Virtus autem generandi est in anima mundi apud Platonem, quae ab Avicenna dicitur colchodea.'; Campanella, *De homine*, c. V.5, p. 70: 'Colchodea, quae est ultimus intellectus aut anima mundi secundum alios'. Cf. the pseudo-Paracelsian *Apocalypsis Hermetis* of ca. 1560, as quoted by Jantz, *Goethe's Faust*, p. 176: 'Dieser Geist [sc. the quintessence] wirdt von Avicenna genandt die Seel der Welt'.

creator.<sup>39</sup> But ‘creation’ does not adequately describe Avicenna’s theory of emanation. He had redefined the term ‘creation’ (*ibdāʿ*) as the permanent causation of the existence of a thing, in *Ilāhiyyāt*, chapters VI.2<sup>40</sup> and VIII.3<sup>41</sup>. There is existence after non-existence, but the posteriority is essential, not temporal. The giver of forms does not create forms, but continuously reacts with the emanation of forms if the material disposition in the sublunar world requires it. When the elemental qualities change and exceed certain limits, argues Avicenna, matter becomes disposed towards a new form, which flows upon matter from the giver of forms: ‘The augmentation and reduction [of the elemental qualities] has two well-defined limits; when they are exceeded, the entire disposition of the matter towards its form is extinguished, and it becomes completely disposed towards a different form. It is characteristic of matter that when it is completely disposed towards a form, that this form flows upon the matter from the giver of forms to matter, and that it receives this form.’<sup>42</sup> The Latin term *create* fails to capture the necessity and automatism of the process.

The Platonic colouring of Avicenna’s theory is obvious in Thomas Aquinas’ presentation of it: Plato and Avicenna, says Thomas in *De potentia*, posit an *agens supernaturale*, ‘a supernatural agent’, which is able to produce *ex nihilo*.<sup>43</sup> This, however, is in disaccord with Avicenna, who clearly holds that the active

39 See n. 13 above. Another example is Albertus, *Super Dionysium De divinis nominibus*, c. 4, p. 194b: ‘Quidam enim, ut Plato et Avicenna et plures alii, formas dicunt advenire ab extrinseco, ponentes eas dari a datore, et sic ponebant esse per creationem, non quod non fiant in aliquo subiecto, sed quia non fiunt ex aliquo suae essentiae praeeistente.’

40 Avicenna, *Metaphysics*, c. VI.2, p. 203: ‘This, then, is the meaning that, for the philosophers, is termed “creation” (*ibdāʿ*). It is the giving of existence to a thing after absolute nonexistence. For it belongs to the effect in itself to be nonexistent and [then] to be, by its cause, existing. That which belongs in the thing intrinsically is more prior in essence for the mind ([though] non in time) than that which belongs to it from another. Hence, every effect constitutes an existence after non-existence, in terms of essential posteriority’. Cf. *ibid.*, p. 204: ‘It is good [however] to call everything not coming into existence from a previous matter not “generated” (*mutakawwin*), but “created” (*mubdāʿ*).’ For context, see Marmura, *Efficient causality*, p. 184.

41 Avicenna, *Metaphysics*, c. VIII.3, p. 272: ‘This is the meaning of a thing’s being created (*mubdāʿ*) – that is, attaining existence from another. ... Thus, origination from absolute nonexistence, which is creation, becomes false and meaningless [sc. if this posteriority were temporal]. Rather, the posteriority here is essential posteriority’.

42 Avicenna, *al-Kawn wa-l-fasād*, c. 14, p. 190; Avicenna, *Liber tertius naturalium de generatione et corruptione*, c. 14, p. 139.

43 Thomas Aquinas, *De potentia*, q. 3 a. 8, p. 61: ‘Et quia operatio naturae non potest esse ex nihilo, et per consequens oportet quod sit ex praesuppositione, non operabatur secundum eos natura nisi ex parte materiae disponendo ipsam ad formam. Formam vero, quam oportet fieri et non praesupponi, oportet esse ex agente qui non praesupponit aliquid, sed potest ex nihilo facere; et hoc es agens supernaturale, quod Plato posuit datorem formarum. Et hoc Avicenna dixit esse intelligentiam ultimam inter substantias separatas’.

intellect is part of nature. Like all existents of the sublunar world, it is a possible existent *per se* and a necessary existent only through something else. Avicenna in this sense downplays very much the difference between the supralunar and the sublunar world – a position which Averroes criticizes with vehemence in the *Tahāfut at-Tahāfut*, because he prefers to describe the supralunar world, in contrast to the sublunar, as 'necessary through its substance'.<sup>44</sup> The term *supernaturale* shows that the gist of Avicenna's theory was lost to Thomas Aquinas, partly because it was understood through the eyes of Averroes.

## II Positive Reactions: William of Auvergne, John Buridan, Marsilio Ficino and Tiberio Russiliano

If Avicenna's theory never set firm foot in the West, what was the context in which it nevertheless was found attractive? The first context is theories which attribute a greater power of daily creation to God. As was said above, the principal scholastic line was to reserve the generation of souls to God, whereas all other forms are educed from matter. William of Auvergne and John Buridan diverge from the mainstream position in that they extend God's role to the forms of all animate beings.

William of Auvergne, who is writing in the 1230s, is among the first readers of Avicenna's *Metaphysics*, after the translator, Dominicus Gundisalvi.<sup>45</sup> William adopts from Avicenna the description of God as the *necesse esse per se*<sup>46</sup> and as that whose existence is its being.<sup>47</sup> But William at the same time criticizes the Arabic followers of Aristotle, as he calls them, for denying the freedom of the creator<sup>48</sup> and for describing his creative activity as eternal.<sup>49</sup> He also rejects the

44 Averroes, *The Incoherence of the Incoherence*, vol. 1, p. 238.

45 See also the article by Amos Bertolacci in this volume. On Avicenna's influence on William's metaphysics, see the articles collected in Teske, *Studies*.

46 William of Auvergne, *De universo*, IIa IIae c. 10, p. 853b: 'Proprium nomen vero seu propria nominatio est quam impossibile est naturaliter praedicari de multitudine, quare necesse esse per se est propria nominatio ipsius'; id., *De trinitate*, c. 3, p. 25: 'Iam igitur incipit nobis elucere ens essenziale esse necesse, aeternum et incorruptibile, non causatum.'

47 William of Auvergne, *De trinitate*, c. 1, p. 17: '... ens, cuius essentia est ei esse et cuius essentiam praedicamus cum dicimus "est"'. See Teske, *Individuation*, p. 77.

48 William of Auvergne, *De universo*, Ia Iae c. 27, pp. 623b-4a. The critique is levelled against 'sequaces Aristotelis et qui famosiores fuerunt de gente Arabum in disciplinis Aristotelis' (ibid., p. 618b).

49 William of Auvergne, *De trinitate*, c. 10, p. 66: '... opinati sunt inter philosophantes praecipui, scilicet peripatetici, eiusdem operationes aeternas esse'.

idea that the tenth intelligence is the source of the causation of many things and of the human souls in particular.<sup>50</sup>

Despite this criticism, Avicenna's influence is still felt. Everything is educed into being and falls back into non-being through God, William says, or through an intermediate cause dependent upon God. There is no being in the world which is not from God and not sustained through him<sup>51</sup> – which reminds one of the Avicennian ontological theory of causation. God fills the world in the way the light of the sun illuminates the universe. At first sight, William simply appears to continue a Christian tradition holding with the apostle Paul that 'everything is from him, through him and in him' (*omnia ex ipso, per ipsum et in ipso*, Rom. 11:36).<sup>52</sup> But, in fact, William attributes to God what Avicenna had claimed for the active intellect: according to William, God reacts upon the preparedness of matter by giving forms fitting to that part of matter. A telling case are animals that are generated spontaneously, that is, without there being any parents, such as worms in decay: These animals are created *a virtute omnipotentissima creatoris*:

[The fire which is said to lead to generation] prepares matter by removing from it the dispositions which offer resistance to the generated form and which deter it from the matter in which they are. But the most generous and virtuous goodness of the creator is ready to immediately give the form (*dat formam*) which is adequate to the part of matter. And this appears clearly in the generation of animals. Wherever matter is prepared to receive life or soul, the creator immediately infuses it into the matter. There is no room for any idiocy whatsoever to hallucinate or feign that there is some power in cheese or wood or in very solid rock which could infuse or bring life or soul into the aforementioned animals [sc. animals generated without parents].<sup>53</sup>

50 See Teske, *Individuation*, pp. 84–5.

51 William of Auvergne, *De universo*, Ia Iae c. 27, p. 624a: 'Non intellexerunt ... fortitudinem virtutis eius [sc. creatoris] qua attingit a summo universi usque deorsum ... omnia continens, tenens et retinens, prout vult et quamdiu vult, alioquin reciderent in non esse, unde educta sunt ab ipso et per ipsum'; id., *De trinitate*, c. 5, p. 35: 'Omne igitur ens debet suum esse et omne ens debet se primo enti, cum non sit ens nisi ab ipso et per ipsum, et per hoc manifestum est, quod universum est fluxus et exuberantia esse eius, quod est fons universalis essendi.' Cf. *ibid.*, p. 45, line 11; p. 47, line 46.

52 Cited in: William of Auvergne, *De trinitate*, c. 7, p. 48.

53 William of Auvergne, *De anima*, c. V.1, p. 112a-b: '[sc. ignis qui dicitur generans ad generationem] materiam praeparat removendo ab ea dispositiones quae repugnant formae generati et prohibent eam a materia in qua sunt. Praesto autem est largissima bonitas ac virtuosissima creatoris quae in materiae parte statim dat formam convenientem illi. Et hoc apparet evidenter in generationibus animalium; ubicumque enim materia parata est ad recipiendum vitam vel animam, statim eam illi creator infundit. Non enim est qualiscunque desipientia delirare vel fingere virtutem aliquam in caseo vel ligno esse vel rupe durissima quae vitam vel animam praenominatis animalibus infundere valeat vel praestare.'

It is apparent that Avicenna's theory of the giver of forms had several advantages for William: it is part of a system of causation in which the entire universe is understood as permanently dependent upon God; it explains generation with the preparedness of matter for the reception of life; and it offers a solution for the problem of spontaneous generation.<sup>54</sup>

I suspect that these advantages were also seen in the later scholastic tradition. In the fourteenth century, commentaries on Aristotle's *Metaphysics* book 7 sometimes discuss a question with the title: 'Whether because of the generation of inferior substances it is necessary to posit separate substances'. Unfortunately, only a few *Metaphysics* commentaries have been published, so that it is difficult to spot Avicennian influences. I am aware of two authors addressing the question directly: John of Jandun and John Buridan. John of Jandun (d. 1328) flatly rejects Avicenna's theory, in the footsteps of Averroes' critique:

In view of this, one has to answer to this question in accordance with Aristotle and the Commentator that it is not necessary to posit abstract substances, such as ideas or a giver of forms, for the sake of the generation of inferior beings, and this is shown by four arguments of the Commentator ...<sup>55</sup>

John Buridan (d. 1361), in contrast, takes the opposite position:

One has to answer to this question that the most important reason, it seems, for concluding that there are separate substances (or at least one separate substance) can be drawn and inferred from the generation of the sense-perceptible substances.<sup>56</sup>

The principal argument in support of this conclusion is that spontaneous generation cannot be explained without assuming the existence of separate substances. It is not sufficient to assume that material principles in combination with heavenly bodies are responsible for the generation of the forms of inferior substances. The material principles do not have the degree of perfection which a substantial form has, and hence there must exist an immaterial generating principle (*principale generans*), which produces the substantial forms. This principle is God<sup>57</sup> – and not ideas, as Plato thought.

54 For the history of the spontaneous generation problem in Greek, Arabic and Latin philosophy, see Hasse, *Spontaneous Generation*, pp. 150–75 (on William pp. 162–3).

55 John of Jandun, *In duodecim libros Metaphysicæ*, lib. 7 q. 22, p. 101<sup>vb</sup>: 'His visis dicendum ad quaestionem secundum intentionem Aristotelis et Commentatoris quod non oportet ponere substantias abstractas, ut ideas vel datorem formarum, propter generationem inferiorum, et hoc probatur quatuor rationibus Commentatoris ...'

56 Buridan, *In Metaphysicæ*, lib. VII q. 9, fol. 46<sup>va</sup>: 'Ad questionem respondendum est quod sicut mihi videtur ratio maxima ad concludendum substantias separatas vel saltem substantiam potest sumi et argui ex generatione substantiarum sensibilium.'

57 Buridan, *In Metaphysicæ*, lib. VII q. 9, fol. 46<sup>vb</sup>: 'Illa substantia separata assistit presentialiter et indistanter toti mundo et cuilibet eius parti, et sic erat sufficienter simul

The thrust of this argument is that substantial forms, even if they are the forms of inferior substances, cannot be generated by material principles only. Authors of the scholastic mainstream position would reply that Buridan mistakenly thinks that forms are generated – whereas in fact only the compound of form and matter is generated. This argument comes from Aristotle's *Metaphysics* Zeta 8 (1033b17–18). Since there is no generation of forms, there is no need to posit a giver of forms. All we need are material principles, because inferior substances like animals, plants and stones, always remain within the limits of natural agency, as Thomas Aquinas puts it (*De potentia* q. 3 a. 11, *Summa theologiae* Ia q. 118 a.1). Buridan would probably reply that, even in a compound, the formal information has to have an origin that is not material.

When turning to the Renaissance, it is difficult to encounter a favourable attitude towards the Avicennian theory of the giver of forms, even within Renaissance Platonism. The *dator formarum* theory is mentioned regularly, but is usually refuted. Marsilio Ficino (d. 1499) is an exception to this trend. He praises Avicenna as 'the prince of the Arabic theologians'<sup>58</sup> and Avicenna and al-Gazālī as thorough friends of Plato.<sup>59</sup> In the *Platonic Theology*, he refers approvingly to Avicenna's theory that the substantial forms are imprinted by 'some divine mind', a producer of forms (*formatrix*), into properly disposed matter and that likewise the human mind, when properly disposed, turns toward a divine intelligence, by which it is 'informed'. Ficino's true interest, however, is not Avicenna's theory of substantial generation, but of intellectual knowledge. The context is epistemological: Ficino seeks support for his claim that we cannot attain intellectual knowledge if we are not 'informed' by divine ideas.<sup>60</sup>

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cum materia rane, dico simul per indistantiam, ita quod ipsa posset ex illa materia producere formam substantialem rane. Et credo quod illa substantia separata est ipse deus omnipotens'.

58 Ficino, *Theologia platonica*, c. XV.2, p. 26: 'Avicenna theologorum arabum princeps'. Avicenna is cited as holding that the mind is a form of the body while also being incorporeal. His hierarchy of intelligences is approvingly referred to a little later (*ibid.*, p. 40): 'Praeterea multum probanda videtur distinctio illa platonica in *Metaphysicis* Avicennae, videlicet in mundo intelligibili procedendum esse ab intelligibili summo ad intellectus multos, tamquam a formatore ad vires inde formabiles.'

59 See next n.

60 Ficino, *Theologia platonica*, c. XII.1, pp. 10–11: 'Huic autem Platoniorum mysterio similis ex quadam parte videtur esse Avicennae Algantelisque opinio. Opinantur enim materiam tum elementalem tum intellectualem sub luna divinae cuidam menti tamquam formatrici subesse, cuius instrumenta sint ad elementalem materiam disponendam formae corporeae, sed ipsa tandem praeparatae materiae substantiales imprimat formas. Similiter humanam mentem per imagines corporum per sensus phantasiamque acceptas ita saepe disponi, ut in divinam illam intelligentiam se convertat atque ab illa quatenus convertitur eatenus formari quotidie ... Sed mittamus Arabes in praesentia, quamvis Platoni satis amicos. Ad Platonica redeamus.'

One author, however, shows open sympathies for the ontological side of Avicenna's theory: Tiberio Russiliano (d. after 1519). Russiliano, in a series of public disputations in 1519, defended a number of provocative philosophical theories: on the value of magical knowledge about Christ, on the eternity of the world, and on the trinity. He barely escaped the inquisitorial prosecution which followed. His fifth disputation discusses phenomena of spontaneous generation, among which he counts the first human being ever – at least, he says, 'if we discuss the case in purely natural terms' (*cum phisice tantum disputemus*) – and Americans, because the human beings on these newly discovered islands cannot have reached them by boat.<sup>61</sup> In this context, he defends Avicenna's theory of the spontaneous generation of human beings as most probable philosophically. It is sensible to assume that spontaneous generation is the result of material mixtures that trigger the deliverance of forms from the first craftsman and creator, which, Russiliano finds, is equivalent to Avicenna's *colcodea*:

In accordance with Aristotle, we can argue in two ways, either by holding that the rational soul is perishable and mortal ... or by holding that it is immortal, and then we will say that just like the Colcodea necessarily creates appropriate forms due to a certain disposition of matter, likewise the first craftsman produces a rational soul, be it in the semen or in decay, as long as both preparations are sufficient for attaining it.<sup>62</sup>

Again, as in Buridan, spontaneous generation is a problem that led Western thinkers to adopt Avicenna's giver of forms theory.<sup>63</sup> The alternative was to say with Averroes and Thomas Aquinas that spontaneous generation is due to the influence of the stars. But then it remains unclear where the formal information comes from that explains the generation of a specific animal.

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61 Russiliano, *Apologeticus*, disp. 5, p. 174: '... hominibus noviter in insulis incognitis repertis ...', and p. 175: 'Unde secundum omnem philosophie semitam cogimur dicere hominem et cuncta animalia ex terra habuisse originem'. Cf. also p. 177: '... cuncta animalia tum perfecta tum imperfecta prima generatione ex putrefactione prodire'.

62 Russiliano, *Apologeticus*, disp. 5, p. 177: 'Secundum vero Aristotelis mentem dupliciter dicere possumus vel tenendo illam [sc. animam rationalem] esse caducam et mortalem ... vel illam esse immortalem, et sic dicemus quod sicut colcodea necessario habita materiae dispositione creat convenientes formas, sic etiam erit de primo opifice, quod ita indifferenter producit animam rationalem in semine et putrefactione, dummodo ambae praeparationes sint sufficientes ad illam capescendam.'

63 See Hasse, Spontaneous Generation, and, with special reference to the Renaissance: Hasse, Arabic Philosophy and Averroism, pp. 125–9. Cf. also Thorndike, *History*, vol. 5, p. 236, on the mentioning of Avicenna's *datrix formarum* in an astrological prediction for 1521.

### III Albertus Magnus: the Origin of the Intellectual Soul

Albertus Magnus' attitude towards the giver of forms theory is interesting because it is not clearcut and because over his long and very productive life Albertus comes back to the topic several times.<sup>64</sup> He was instrumental in formulating the scholastic mainstream position on the generation of forms: that only the rational soul comes from outside, *ab extrinseco*. This position is formulated already in his early *De homine* of 1243,<sup>65</sup> but it also appears in later works, e.g., in the commentary on the *Metaphysics*, which dates ca. 1262.<sup>66</sup>

The formula *ab extrinseco* derives from Aristotle's *Generation of Animals*, chapter II.3: 'It remains that intellect (*nous*) alone enters from outside (*thurathen*) and it alone is divine' (736b27–28). One problem for Albertus is to specify this external cause. In *De homine*, he says, like many scholastics after him, that the rational soul is created by God.<sup>67</sup> But Albertus changes his position on this point, and one can observe that the theological interpretation that God is the origin of the souls is rivalled by an Avicennian interpretation that the origin is the separate active intellect. In *De animalibus* (dating 1256–60), Albertus interprets Aristotle's term *ab extrinseco* variously as meaning: 'from the light of the active intellect', or: 'from the light of the first active intellect', or: 'from the principle of generation, which is the intellect whose work is the work of nature'.<sup>68</sup> Some interpreters conclude that the reference here is to the divine

64 Albertus' reception of this Avicennian doctrine is discussed in: de Libera, Albert le Grand et le Platonisme, pp. 101–2; de Libera, Albert le Grand ou l'Anti-platonisme, pp. 260–62; de Libera, *Métaphysique et noétique*, pp. 156–68; Anzulewicz, Pseudo-Dionysius, pp. 258–64; Hasse, *Avicenna's 'De anima'*, pp. 188–9; Hasse, Plato-Arabico-Latinus, pp. 42–5; Takahashi, *Nature*, p. 476. On the textual traces of Avicenna's *Prima philosophia* in Albertus Magnus' *Metaphysica* see Bertolacci, 'Subtilius speculando', pp. 261–339, and id., *Le citazioni implicite*, pp. 179–274.

65 See n. 67 below.

66 Albertus, *Metaphysica*, lib. 2 tr. 1 c. 9, p. 473b: 'Ex his etiam patet, cum omnes formae educantur de potentia ad actum, sicut diximus, et solus intellectus adeptus sit ingrediens ab extrinseco, quod ...'.

67 Albertus, *De homine*, c. 3.3, p. 141, line 7: 'Dicimus quod anima rationalis, hoc est anima hominis cum omnibus potentiis suis, hoc est vegetabilibus et sensibilibus et rationabilibus, non est in semine sicut in effectivo neque per substantiam, sed creatur a deo et infunditur corpori.'

68 Albertus, *De animalibus*, lib. XVI tr. 1 c. 11, p. 1094, § 63: 'Propter quod a toto extrinseco materiae spermatis et virtutum eius a luce intellectus qui secundum Anaxagoram et Aristotelem est primum agens in omnibus praeinductis virtutibus, in conceptum inducitur anima rationalis et intellectualis'; *ibid.*, § 64: 'Et ideo principium ipsius nihil aliud est nisi lux primi intellectus agentis. Intellectus enim hic purus est et immixtus et impassibilis omnino, sicut ostendimus in libro tertio *De anima*'; *ibid.*, c. 12, p. 1096, § 67: 'Sequitur necessario quod ipse solus sit ab extrinseco materiae datus a

intellect, which is called 'active' in this context.<sup>69</sup> But Albertus himself adds that this is the intellect which he has described as *purus, immixtus* and *impassibilis* (following Aristotle, 430a17–18) in his own *De anima*, where the active intellect is clearly distinct from the First Cause.<sup>70</sup>

Albertus, in his own *De anima*, which was written in the same years as *De animalibus*, that is, in the late 1250s, explicitly and approvingly uses the term *dator formarum*:

Likewise, the claim (of Alexander of Aphrodisias) that the intellectual soul is educed from semen, is completely false. Rather, (the intellectual soul) enters from outside from a giver (*dator*) into matter, and it is the likeness of the giver of forms (*similitudo datoris formarum*), which is the first intelligence and unmixed with the body, whereas the power or form of the body is mixed, and hence this (argument) too is wrong. It is true, however, that (the intellectual soul) is the aim of generation, but this aim is not brought about in matter through the power of primary qualities which transform matter, but an intelligence is giving it when the matter is (properly) disposed through natural principles.<sup>71</sup>

This is one of the very few passages in scholastic literature where the ontological concept of the giver of substantial forms is used approvingly. Note that it is combined with Avicenna's doctrine of the preparedness of matter: *quando materia est disposita per principia naturalia*. Earlier in the same treatise, Albertus had formulated the *ab extrinseco* theory not in Avicennian terms, but with reference to 'some philosophers', in fact to the Neoplatonic *Liber de causis* translated from Arabic, holding that 'the soul is created by mediation through an intelligence'.<sup>72</sup>

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principio generationis quod materiae non commiscetur, et hoc est intellectus cuius est opus naturae sicut primo moventis et causantis.'

69 Weisheipl, *The Axiom*, p. 451.

70 See n. 68 above.

71 Albertus, *De anima*, lib. 3 tr. 2 c. 4, p. 183: 'Similiter autem, quod dicit, quod intellectualis anima educatur de semine, falsum est omnino, sed potius ipsa est ingrediens ab extrinseco a datore in materiam, et est similitudo datoris formarum, qui est intelligentia prima et non commixta corpori, sicut commiscetur virtus vel forma corporis; et ideo hoc etiam est falsum. Verum est tamen, quod ipsa est finis generationis, sed hic finis non efficitur in materia virtute qualitatum primarum transmutantium materiam, sed potius intelligentia dat eum, quando materia est disposita per principia naturalia.'

72 Albertus, *De anima*, lib. 1 tr. 2 c. 13, p. 54: '[sc. intellectualis anima] est similitudo quaedam agentis primi. Propter quod dixerunt philosophi quidam mediante intelligentia animam creari'. Cf. Pseudo-Aristotle, *Liber de causis*, § 3, p. 166: 'causa prima creavit esse animae mediante intelligentia'. On this passage in Albertus see de Libera, *Métaphysique et noétique*, pp. 278–81.

Some years later, in the *Metaphysics* commentary (dating 1262–63), Albertus arrives at a terminological clarification. He now distinguishes an active intellect in the soul and a separate intellect outside.<sup>73</sup> About the latter he writes:

The entirely separate intellect is the intellect of the intelligence, of which the human intellect is an image (*imago*), that surrounds its movable (carrier), which is the human body, just as the separate intelligence surrounds its movable (carrier), which is the sphere. The human intellect is in (the separate intellect), just like the inferior lights are in the superior light, from which they receive both the forms and the movement (*formas et motum*) by way of influence. This influence of form and movement continues until the first cause, which moves the first, universally influential sphere and is thoroughly pure light that does not receive anything from any other (light).<sup>74</sup>

In this passage, Albertus does not call the origin of the forms a ‘giver of forms’ or an ‘active intellect’ anymore. The Avicennian influence is nevertheless apparent. The separate intellect is not the first cause, but an inferior intelligence which belongs to a heavenly sphere. In Avicennian terms, this would be the active intellect, and indeed, the separate intellect gives ‘forms and movement’ to the human intellect.

It is true that ‘forms’ here means ‘intelligible forms’, but the term *imago* indicates that the passage is a comment also on the origin of the intellectual soul: The human intellect is the *imago* of the separate intelligence, and it exists in it. The term *imago* is important, because it is a repeated claim of Albertus that the intellectual soul is the likeness (*imago* or *similitudo*) of an intelligence – and not the likeness of God, as one might expect. This claim appears in the commentaries on *De divinis nominibus*, *De animalibus* and *Metaphysics*. One such passage, in the commentary on *De divinis nominibus*, will be discussed below.

The *similitudo* theory shows that Albertus in these works does not adopt either a naturalistic standpoint or the theological view on the origin of the soul. The intellectual soul’s most intimate link is with an inferior intelligence, even in terms of origin. The strength of Avicenna’s position is apparent in these passages: the intelligence is the source of intelligible forms and of movement in the sublunar world. It is the proximate cause of many effects in the sublunar

73 For further passages in Albertus’ works on the active intellect, within or outside the soul, see Anzulewicz, *Entwicklung und Stellung*, pp. 198–9 and 207–8.

74 Albertus, *Metaphysica*, lib. II tr. 1 c. 9, pp. 472–3: ‘Intellectus autem omnino separatus est intellectus intelligentiae, cuius intellectus hominis est imago quaedam ambiens suum mobile, quod est corpus hominis, sicut intelligentia separata ambit suum mobile, quod est sphaera. Et intellectus hominis est in illo, sicut lumina inferiora sunt in lumine superiori, a quo recipiunt et formas et motum per influentiam. Et continuatur huiusmodi influentia formae et motus usque ad causam primam, quae movet sphaeram primam universaliter influentem, quae est penitus lux pura, quae a nulla aliquid recipit.’

world. It is reasonable, therefore, not to attribute the origin of the soul to the remote cause, God, but to the more proximate cause, the intelligence. Avicenna thus enables Albertus to move halfway from a theological towards a naturalistic theory of the origin of the rational soul. The full way would have been Alexander of Aphrodisias' element theory or Aristotle's 'man is begotten by man and by the sun' (*Physics*, c. II.2, 194b14).<sup>75</sup>

#### IV Albertus: the Origin of the Forms of Inferior Substances

We have seen that Avicenna's theory of the giver of forms falls on fertile ground with Albertus when it comes to the origin of the intellectual soul. In one work, *De anima*, Albertus even openly adopts the giver of forms theory. When we turn our attention to the other substantial forms – that is, to those of inferior beings such as animals, plants, minerals etc. – the case seems to be more straightforward, because here Albertus clearly favours the theory of *inchoatio formae*: everything comes to be out of indeterminate beginnings of its essence, which preexist in matter.<sup>76</sup> The origin of form lies in matter's never-ending desire for successive forms.<sup>77</sup> This theory owes much to Averroes.<sup>78</sup>

Nevertheless, Avicenna's theory appeals to Albertus in three contexts.

(1) The first context is the question of whether God could have created things better. In his commentary on the first book of the *Sentences* (dating ca. 1245), Albertus says that with respect to substantial being the answer is: 'no'. God could not have given a greater *capacitas* to the things (that is, greater powers tied to the forms) because the giving of forms is dependent upon the disposition of matter, *ut dicit Avicenna*. The *dator formarum deus* fills everything with forms according to the disposition (of matter): forms of elements, forms of elementary compounds, forms of plants, animals and human beings, depending upon the degree in which the material mixture reaches a balance. Albertus

75 Albertus' theory of the rational soul is indebted to Avicenna also in other ways; see Hasse, *The Early Albertus Magnus*, pp. 232–52.

76 To quote a representative passage: Albertus, *Metaphysica*, lib. 2 tr. 1 c. 8, p. 470: 'Quartum est quod nihil fit ex nihilo penitus secundum naturam, sed quaecumque fiunt procedunt ex indeterminatis et confusis inchoationibus suarum essentiarum, quae indita sunt materiae'. On Albertus' doctrine see Nardi, *La dottrina*, pp. 69–101; Snyder, *Albert*, pp. 63–82; Takahashi, *Nature*, pp. 451–81.

77 Albertus, *De generatione et corruptione*, I, tr. 1 c. 22, p. 130: '[sc. materia] non desiderat formam unam tantum, sed omnem formam successive, cum simul eas habere non possit. Hoc autem desiderium formae inchoatio est in materia, quae educitur de ipsa'.

78 Cf. Averroes, *Commentarium medium in De generatione*, c. 17, pp. 26–7: 'tunc necesse est ut generatio non abscondatur quoniam per successionem formarum super subiectum quod est materia non denudatur illud ex quo generatio fit simpliciter ...'.

concludes: *Et per hoc patet solutio ad totum.*<sup>79</sup> This is pure Avicennian philosophy – employed, however, for a theory not of the active intellect, but of the Christian creator God. The advantage of Avicenna's theory is that it offers an explanation of the diversity and variety of sublunar nature. The variety is the result of the combination of forms with corresponding material mixtures.

Some years later, in the commentary on Pseudo-Dionysius' *De divinis nominibus* (dating 1250), Albertus has changed his attitude. He now rejects the Avicennian (and, in his view, Platonic) principle that all forms are given according to the preparedness of matter, because the position cannot account for the origin of matter. What proceeds from the first cause, is only forms. Hence, one would have to posit an eternal matter, but this is against faith.<sup>80</sup>

(2) However, the giver of forms theory is still present in *De divinis nominibus*, albeit in a different context: Albertus extends the above-mentioned *similitudo* theory to *all* forms, not only to the intellectual soul. All forms arise from matter when the light of the intelligence meets matter and turns it into actuality. The form is a likeness of the first cause:

It has to be said that, according to Avicenna and to those who posit the giver of forms, the form of each thing is nothing else but the ray of the intelligence, or of the first cause ... We, in contrast, maintain in a manner more appropriate for theology and philosophy according to the opinion of Aristotle that all forms are educed from the potentiality of matter. Hence, the form, in virtue of its essence, is not the embodied light of the first cause. However, since all actions of those things which are composed of a mover and a moved, have in them the power of the mover and the moved, as is obvious in the action of the natural heat which digests that which is not turned into ashes, but moves towards the form of flesh according to the power of the soul, likewise in the action of the heaven, insofar as it educes forms from the potentiality of matter, as it is said that 'man begets man and the sun', there is the power of the first mover, towards whose likeness matter rises through being turned into actuality, as far as it can. Hence, the form is not the embodied light of the first cause, but its likeness caused by it (*similitudo eius causata ab ipsa*). And it is in this way that one should understand what Dionysius says, that the divine ray appears

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79 Albertus, *In I Sententiarum*, dist. 44 B a. 2, p. 392: 'Et sic est etiam de datore formarum deo quod omnia implet esse substantiali secundum eorum capacitatem, quaedam forma elementi, quaedam forma mixti, quaedam autem anima vegetabili et quaedam sensibili et quaedam rationali, secundum quod magis recedunt ab actu contrarietatis ad temperamentum et uniformitatem complexionis, quia in hoc accedunt ad naturam coeli, ut ipse [sc. Avicenna] dicit. Et per hoc patet solutio ad totum.'

80 Albertus, *De divinis nominibus*, c. 2, p. 73: 'Et hoc est quod Plato dixit quod formae omnes dantur a datore secundum meritum materiae ... Secundum hoc autem ... non inveniretur modus quo procederet materia ab ipso; unde oporteret ponere materiam aeternam, quod est contra fidem. Et ideo sequimur opinionem Aristotelis, quae magis videtur catholica'. This passage is discussed in Anzulewicz, Pseudo-Dionysius, pp. 258–64.

above all beings, not as embodied, but so that each thing rises towards its (sc. the divine ray's) likeness, as far as it can.<sup>81</sup>

Remember that Albertus, in the *Metaphysics* commentary, has described the human soul as the *imago* of an intelligence associated with a heavenly sphere. In the present passage, the likeness is not with an inferior intelligence, but with the divine cause. *Radius divinus* is the term Albertus adopts from Pseudo-Dionysius Areopagita; he likens it to Avicenna's ray of the intelligence and to the power of the first mover in the heaven. In Albertus' view, it is not enough to say with Aristotle that the forms of inferior substances arise from the potentiality of matter; they are also caused by an immaterial supralunar cause, whose likeness they are.<sup>82</sup> Hence, it is true that Albertus rejects Avicenna's giver of forms theory and the idea that forms are 'embodied light' (*lux incorporata*), but he follows Avicenna's basic assumption that the origin of forms has both sublunar and supralunar causes.

(3) The third context is causation theory. In his *Physics* commentary (dating 1251–57), Albertus contrasts Avicenna's giver of forms theory with the position of 'most Peripatetics' that the forms are educed from matter. 'This is the position of the two parties', Albertus says, 'and everybody may choose as he likes. We, however, say, as it appears to us, that both opinions are true in some way.'<sup>83</sup> Albertus argues as follows: In all things moved by the first cause, there is one essence (*essentia*), but the being (*esse*) is manifold. Avicenna maintains that in the

81 Albertus, *De divinis nominibus*, c. 1, p. 15: 'Solutio: Dicendum quod secundum Avicennam et ponentes datorem formarum forma uniuscuiusque nihil aliud est quam radius intelligentiae sive causae primae ... Nos autem aliter dicimus convenientius theologiae et philosophiae secundum opinionem Aristotelis, quod formae omnes educuntur de potentia materiae. Unde forma per suam essentiam non est lux primae causae incorporata. Sed cum omnis actio eius quod compositum est ex motore et moto, habeat se in virtutem motoris et moti, sicut patet in actione caloris naturalis digerentis quod non incineratur, sed agit ad formam carnis secundum virtutem animae, ita in actione caeli, secundum quam educit formas de potentia materiae, sicut dicitur, quod "homo generat hominem et sol", est virtus primi motoris, in cuius similitudinem consurgit materia per reductionem in actum, quantum potest. Unde forma non est lux primae causae incorporata, sed similitudo eius causata ab ipsa. Et sic est intelligendum, quod dicit Dionysius, quod superapparet radius divinus omnibus existentibus, non tamquam incorporaretur eis, sed ut in cuius similitudinem consurgit unaquaeque res, quantum potest.'

82 Compare the parallel passage in: Albertus, *De ecclesiastica hierarchia*, c. 5, p. 123: 'Quicquid autem sit verum de hoc [sc. Avicenna's theory], in hoc tamen est simile, quod similiter divinus radius, secundum quod se tenet ex parte infudentis, supereminet et manet in sua simplicitate, diversificatur autem secundum quod recipitur in diversis dissimiliter proportionatis ad ipsum.'

83 Albertus, *Physica*, lib. II tr. 2 c. 3, p. 103, line 29: 'Ecce, haec est sententia utrarumque opinionum, et eligat unusquisque quod vult. Nos autem dicimus, prout nobis videtur, quod utraque istarum opinionum vera est secundum aliquem modum.'

universe there must be one being which, in virtue of its essence, is the efficient cause of everything.<sup>84</sup> It is the essence of the first being which exerts all efficient causality in the world, just like warm objects and lucid objects are such only because the essence of heat warms in them and the essence of light shines in them.<sup>85</sup>

Hence we want to say that there is one essence through which the first mover and all subsequent things are moving ... Therefore, with respect to the essence through which the first mover moves, Avicenna is right, because in this way the first mover alone educes from potentiality to actuality and perfects matter.<sup>86</sup>

But the other Peripatetics are right too in saying that the essence has manifold existence (*diversum habet esse*).<sup>87</sup> And, in fact, it is closer to the truth (*verius*) to say that matter is perfected by natural causes, and not by divine causes.<sup>88</sup> It is typical of Albertus that he tries to harmonize Aristotle and the Arabic philosophers. But it remains astonishing that he does so in this question, since the scholastics usually treat the two alternatives – giver of forms and material principles – as antagonistic. Albertus shows his preferences for the proximate cause, which is the material principles, rather than the first cause, and he does not adopt the giver of forms theory. But he is convinced that a theory of generation has to integrate a first essence which is the cause of all efficient causality in the world.

In these three contexts, Albertus qualifies his often repeated theory of *inchoatio formae*: that everything is generated from preexisting formal information in matter. His qualification is due to Avicennian influence and may be summed up as follows: The generation of forms also depends upon a higher immaterial cause. The relation between the forms and the higher cause (a relation called *similitudo* by Albertus) is of varying degrees due to the different degrees of preparedness of matter. The natural causes, which determine the generation process, would not work without an essence that is the principle of all efficient causality. The essence of things receives greater variety with increasing distance from the first cause, as a result of the diversity of matter.

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84 Albertus, *ibid.*, p. 102, lines 43–51.

85 Albertus, *ibid.*, p. 102, lines 51–6.

86 Albertus, *ibid.*, p. 103, lines 67–76: ‘Sic ergo intendimus dicere quod una est essentia qua movet primum movens et omnia consequenter moventia ... Ed ideo quantum ad essentiam qua movet primum movens, verum dicit Avicenna, quia sic solum primum movens educit de potentia ad actum et perficit materiam’.

87 Albertus, *ibid.*, p. 103, line 69.

88 Albertus, *ibid.*, p. 103, line 83.

In view of this, we realize that Albertus did not fully take over the *eductio formarum* theory from Averroes, as is sometimes claimed.<sup>89</sup> It is true that Albertus distances himself from Plato and Avicenna and that he criticizes the *dator formarum* theory.<sup>90</sup> But his position nevertheless remains close to Avicenna.<sup>91</sup> From Albertus' standpoint, matter has its own dynamism and is in need of a supralunar immaterial causality in order to be actualized and to reach the *similitudo* which is the result of the generation process. Note, however, that Albertus discusses the functions of the giver of forms under the label *causa divina*, as distinct from *causa naturalis*, and that this is in disaccord with Avicenna's concept of a giver of forms, which is not a supernatural entity. The scholastics were not able to, or did not want to, integrate Avicenna's basic idea that the sublunar and supralunar worlds are united in one system of the causality of existence. It remains remarkable, though, that Albertus, in very few passages, identifies the cause of the human soul not with God, but with a separate intelligence surrounding a heavenly sphere.

We are now in a better position to understand why the scholastics bothered to discuss the theory they attributed to Plato and Avicenna, which almost all of them rejected. First, of course, because Plato and Avicenna are famous philosophers. But a second reason appears to be that it seemed, after all, a good philosophical idea to make the lowest intelligence, and not God, responsible for the origin of souls, and to assume that the generation of inferior substances was dependent not only on lower but also on higher causes. If the scholastics did not see the advantages themselves, they found them lurking in the much read works of Albertus Magnus, where the attraction of the Avicennian standpoint is clearly felt.

## Bibliography

Albertus Magnus, *De anima*, ed. C. Stroick, in *Opera omnia ... edenda ... curavit Institutum Alberti Magni Coloniense*, 7,1, Münster: Aschendorff, 1968.

89 de Libera, *Métaphysique et noétique*, p. 167. But I agree with the following (de Libera, *Albert le Grand et le Platonisme*, p. 102): 'Tout en rejetant le *Dator formarum*, le Colonnais [sc. Albertus Magnus] n'a aucune raison de rejeter l'intégralité d'une doctrine – même imparfaite – de la création; une doctrine qui, faisant place à un Dieu des dieux et à une influence des étoiles et des sphères, laisse ouverte la possibilité d'une théologie des Intelligences qui, on le sait, reste, à ses yeux, la fine pointe du péripatétisme. Une fois amendé par l'*eductio formarum* le platonisme est une philosophie à peu près viable'.

90 Especially in: Albertus, *De divinis nominibus*, c. 2, p. 73 (n. 81 above), and id., *Metaphysica*, lib. II tr. 1 c. 8, pp. 468–71.

91 As was also pointed out by de Libera (as in n. 89 above) and Takahashi, *Nature*, p. 476: '... it [sc. the giver of forms theory] is evidently not so far removed from his own theory of the generative role of the prime intellect of the universe'.

- , *De generatione et corruptione*, ed. P. Hossfeld, in *Opera omnia ... edenda ... curavit Institutum Alberti Magni Coloniense*, 5,2, Münster: Aschendorff, 1980.
- , *De homine*, ed. H. Anzulewicz and J.R. Söder, in *Opera omnia ... edenda ... curavit Institutum Alberti Magni Coloniense*, 27,2, Münster: Aschendorff, 2008.
- , *Commentarii in primum Sententiarum (dist. XXVI–XLVIII)*, ed. A. Borgnet, in *Opera omnia*, vol. 26, Paris: Vivès, 1893.
- , *Metaphysica*, ed. B. Geyer, in *Opera omnia ... edenda ... curavit Institutum Alberti Magni Coloniense*, 16, Münster: Aschendorff, 1964.
- , *Physica*, ed. P. Hossfeld, in *Opera omnia ... edenda ... curavit Institutum Alberti Magni Coloniense*, 4, 2 vols, Münster: Aschendorff, 1987/1993.
- , *Super Dionysium De divinis nominibus*, ed. P. Simon, in *Opera omnia ... edenda ... curavit Institutum Alberti Magni Coloniense*, 37,1, Münster: Aschendorff, 1972.
- , *Super Dionysium De ecclesiastica hierarchia*, ed. M. Burger, in *Opera omnia ... edenda ... curavit Institutum Alberti Magni Coloniense*, 36, 2, Münster: Aschendorff, 1999.
- Anonymous (Van Steenberghe), *Quaestiones de anima*, ed. F. Van Steenberghe, in B. Bazán, M. Giele and F. Van Steenberghe, eds, *Trois commentaires anonymes sur le traité de l'âme d'Aristote*, Louvain: Publications universitaires, 1971, pp. 123–348.
- Anonymous (de Vaux), *De causis primis et secundis et de fluxu qui consequitur eas*, ed. R. de Vaux, (Notes et textes sur l'avicennisme latin), Paris: Vrin, 1934, pp. 88–140.
- H. Anzulewicz, Pseudo-Dionysius Areopagita und das Strukturprinzip des Denkens von Albert dem Grossen, in T. Boiadjev et al., eds, *Die Dionysius-Rezeption im Mittelalter*, Turnhout: Brepols, 2000, pp. 251–95.
- , Entwicklung und Stellung der Intellekttheorie im System des Albertus Magnus, *Archives d'histoire doctrinale et littéraire du moyen âge*, 70, 2003, pp. 165–218.
- Pseudo-Aristotle, *Liber de causis*, ed. O. Bardenhewer, Freiburg im Breisgau: Herder, 1882, reprinted Frankfurt a.M.: Minerva, 1961.
- Averroes, *Tafsīr mā ba'da at-ṭabī'a*, ed. M. Bouyges, 3 vols, Beirut: Imprimerie Catholique, 1938–48.
- , *Commentarium medium in Aristotelis De generatione et corruptione libros*, eds F.H. Fobes and S. Kurland, Cambridge, Massachusetts: The Mediaeval Academy of America, 1956.
- , *Commentarium in libros Metaphysicorum*, in Aristotle/Averroes, *Aristotelis Stagirite omnia quae extant opera ... Averrois ... commentarii aliique ipsius in logica, philosophia et medicina libri*, Venice: Giunta, 1562, reprinted Frankfurt a.M.: Minerva, 1962, vol. 8.
- , *Tahafut al-tahafut (The Incoherence of the Incoherence)*, transl. and ed. S. Van den Bergh, 2 vols, London: Luzac, 1954.
- Avicenna, *The Metaphysics of 'The Healing'*, transl. and ed. M.E. Marmura, Provo, Utah: Brigham Young University Press, 2005.
- , *as-Šifā', at-Ṭabī'yyāt, al-Kawn wa-l-fasād (On Generation and Corruption)*, ed. M. Qassem, Cairo: al-Hay'a al-Miṣriyya al-Āmma, 1969.
- , *as-Šifā', at-Ṭabī'yyāt, Fī l-afāl wa-l-infālāt (On Actions and Passions)*, ed. M. Qassem, Cairo: al-Hay'a al-Miṣriyya al-Āmma, 1969.
- , *Liber tertius naturalium de generatione et corruptione*, ed. S. van Riet, Louvain-la-Neuve/Leiden: Brill, 1987.
- A. Bertolacci, 'Subtilius speculando'. Le citazioni della *Philosophia Prima* di Avicenna nel Commento alla *Metafisica* di Alberto Magno, *Documenti e Studi sulla Tradizione Filosofica Medievale*, 9, 1998, pp. 261–339.

- , Le citazioni implicite testuali della Philosophia prima di Avicenna nel commento alla Metafisica di Alberto Magno: analisi tipologica, *Documenti e Studi sulla Tradizione Filosofica Medievale*, 12, 2001, pp. 179–274.
- , The Reception of Averroes' *Long Commentary on the Metaphysics* in Latin Medieval Philosophy until Albertus Magnus, in L. Honnefelder et al., eds, *Via Alberti. Texte – Quellen – Interpretationen*, Münster: Aschendorff, 2009, pp. 457–80.
- Bonaventura, *Commentaria in quatuor libros Sententiarum*, in *Doctoris Seraphici S. Bonaventurae ... opera omnia*, 4 vols, Quaracchi: Typogr. Coll. S. Bonaventurae, 1882–89.
- Campanella, Tommaso, *De homine (Theologicorum liber IV)*, ed. R. Amerio, 2 vols, Rome: Centro Internaz. di Studi Umanistici, 1960–61.
- R.C. Dales, *The Problem of the Rational Soul in the Thirteenth Century*, Leiden/New York/Cologne: Brill, 1995.
- Dominicus Gundisalvi, *De processione mundi*, ed. G. Bülow (Beiträge zur Geschichte der Philosophie und Theologie des Mittelalters, Band 24, Heft 3), Münster: Aschendorff, 1925.
- Ficino, Marsilio, *Theologia platonica (Platonic Theology)*, transls and eds M. J. B. Allen, J. Hankins, 6 vols, Cambridge, Massachusetts: Harvard University Press, 2001–06.
- al-Gazālī, *Maqāsid al-falāsifa*, ed. S. Dunyā, Cairo: Dār al-Ma'ārif, 1960.
- Ch. Genequand, *Ibn Rushd's Metaphysics: A Translation with Introduction of Ibn Rushd's Commentary on Aristotle's Metaphysics, Book Lām*, Leiden: Brill, 1986.
- H. Goldstein, Dator formarum: Ibn Ruschd, Levi ben Gerson, and Moses ben Joshua of Narbonne, in I. al-Faruqi, ed., *Islamic Thought and Culture*, Washington DC: International Institute of Islamic Thought, 1982, pp. 107–21.
- D.N. Hasse, *Avicenna's 'De anima' in the Latin West: The Formation of a Peripatetic Philosophy of the Soul, 1160–1300*, London/Turin: The Warburg Institute/Nino Aragno Editore, 2000.
- , Plato arabico-latinus: Philosophy-Wisdom Literature-Occult Sciences, in S. Gersh and M.J.F.M. Hoenen, eds, *The Platonic Tradition in the Middle Ages: A Doxographic Approach*, Berlin/New York: deGruyter, 2002, pp. 31–65.
- , Spontaneous Generation and the Ontology of Forms in Greek, Arabic, and Medieval Latin Sources, in P. Adamson, ed., *Classical Arabic Philosophy: Sources and Reception*, London/Turin: The Warburg Institute/Nino Aragno Editore, 2007, pp. 150–75.
- , Arabic Philosophy and Averroism, in J. Hankins, ed., *Cambridge Companion to Renaissance Philosophy*, Cambridge: Cambridge University Press, 2007, pp. 113–36.
- , The Early Albertus Magnus and his Arabic Sources on the Theory of the Soul, *Vivarium*, 46, 2008, pp. 232–52.
- H. Hirai, Atomes vivants, origine de l'âme et génération spontanée chez Daniel Sennert, *Bruniana & Campelliana*, 13, 2007, pp. 477–95.
- J. Janssens, Le Dānesh-Nāmeḥ d'Ibn Sīnā: un texte à revoir?, *Bulletin de philosophie médiévale*, 28, 1986, pp. 163–77, reprinted in id., *Ibn Sīnā and his Influence on the Arabic and Latin World*, Ashgate: Ashgate Variorum, 2006, art. VII.
- , The Notions of Wāhib Al-Šuwar (Giver of Forms) and Wāhib Al-'Aql (Bestower of intelligence) in Ibn Sīnā, in M.C. Pacheco, J.F. Meirinhos, eds, *Intellect et imagination dans la Philosophie Médiévale*, 3 vols, Turnhout: Brepols, 2006, vol. 1, pp. 551–62.
- H.S. Jantz, *Goethe's Faust as a Renaissance Man: Parallels and Prototypes*, Princeton: Princeton University Press, 1951.

- John Buridan, *In Metaphysicen Aristotelis questiones argutissimae*, Paris: Badius Ascensius, 1518, reprinted Frankfurt a.M.: Minerva, 1964 (with wrong date 1588 on the titlepage).
- John of Jandun, *In duodecim libros Metaphysicae*, Venice: Scotus, 1553, reprinted Frankfurt a.M.: Minerva, 1966.
- A. de Libera, Albert le Grand et le platonisme. De la doctrine des idées à la théorie des trois états de l'universel, in E.P. Bos, ed., *On Proclus and His Influence in Medieval Philosophy*, Leiden et al.: Brill, 1992, pp. 89–119.
- , Albert le Grand ou l'antiplatonisme sans Platon, in M. Dixsaut, ed., *Contre Platon*, 2 vols, Paris: Vrin, 1993, vol. 1, pp. 247–71.
- , *Métaphysique et noétique: Albert le Grand*, Paris: Vrin, 2005
- M.E. Marmura, The Metaphysics of Efficient Causality in Avicenna (Ibn Sina), in M.E. Marmura, ed., *Islamic Theology and Philosophy: Studies in Honor of George F. Hourani*, Albany, New York: State University of New York Press, 1984, pp. 172–87.
- C.A. Nallino, La 'Colcodea' d'Avicenna e T. Campanella, *Giornale critico della filosofia italiana*, 6, 1925, pp. 84–91.
- B. Nardi, La dottrina d'Alberto Magno sull' 'inchoatio formae', in id., *Studi di filosofia medievale*, Rome: Edizioni di Storia e letteratura, 1960, pp. 69–101.
- , Origine dell' anima humana, in id., *Studi su Pietro Pomponazzi*, Florence: Le Monnier, 1965, pp. 231–46.
- Nifo, Agostino, *In librum Destructio destructionum Averrois commentationes*, Venice: Bonatus Locatellus, 1495.
- , *In librum De anima Aristotelis et Averrois commentatio*, Venice: Petrus de Quarengiis Bergomensis, 1503.
- , *Expositiones in libros Metaphysices*, Venice: Scotus, 1559, reprinted Frankfurt a.M.: Minerva, 1967.
- Pietro d'Abano, *Conciliator controversiarum quae inter philosophos et medicos versantur*, Venice: Giunta, 1565, reprinted Padua: Antenore, 1985.
- P. Porro, Colcodea, in V. Melchiorre, ed., *Enciclopedia filosofica*, Milan: Bompiani, 2006, vol. 3, pp. 2009–2010.
- Russiliano, Tiberio, *Apologeticus adversus cucullatos. Una reincarnazione di Pico ai tempi di Pomponazzi*, ed. P. Zambelli, Milan: Il Polifilo, 1994.
- Scaliger, Julius Caesar, *Exotericarum exercitationum liber XV de subtilitate ad Hieronymum Cardanum*, Frankfurt: Wechel, 1582.
- Sennert, Daniel, *Hypomnemata physica*, Frankfurt: Schleich, 1636.
- S.C. Snyder, Albert the Great, *inchoatio formae*, and the Pure Potentiality of Matter, *American Catholic Philosophical Quarterly*, 70, 1996, pp. 63–82.
- Suarez, Francisco, *Disputationes metaphysicae*, in *Opera omnia*, ed. C. Berton, vols XXV–XXVI, Paris: Vivès, 1866, reprinted Hildesheim: Olms, 2009.
- A. Takahashi, Nature, Formative Power and Intellect in the Natural Philosophy of Albert the Great, *Early Science and Medicine*, 13, 2008, pp. 451–81.
- R.J. Teske, William of Auvergne on the Individuation of Human Souls, *Traditio*, 49, 1994, pp. 77–93, reprinted in id., *Studies in the Philosophy of William of Auvergne, Bishop of Paris (1228–1249)*, Milwaukee, Wisconsin: Marquette University Press, 2006, pp. 121–43.
- , *Studies in the Philosophy of William of Auvergne, Bishop of Paris (1228–1249)*, Milwaukee, Wisconsin: Marquette University Press, 2006.
- Thomas Aquinas, *Summa contra gentiles*, in *Opera omnia iussu Leonis XIII P.M. edita*, vol. XIII–XV, Rome: Editori di San Tommaso, 1918–30.

- , *Quaestiones disputatae de veritate*, in *Opera omnia iussu Leonis XIII P.M. edita*, vol. XXII, Rome: Editori di San Tommaso, 1970–76.
- , *De potentia*, in *Quaestiones disputatae*, eds R. Spiazzi and P.M. Bazzi, vol. 2, Turin/Rome: Marietti, 1953.
- L. Thorndike, *A History of Magic and Experimental Science*, 8 vols, New York: Columbia University Press, 1923–58.
- Tignosi, Niccolò, *In libros Aristotelis de anima commentarii*, Florence: Ex Bibliotheca Medicea, 1551.
- J.A. Weisheipl, The Axiom 'Opus naturae est opus intelligentiae' and its Origins, in G. Meyer OP and A. Zimmermann, eds, *Albertus Magnus – Doctor Universalis 1280/1980*, Mainz: Matthias-Grünwald-Verlag, 1980, pp. 441–63.
- , Aristotle's Concept of Nature: Avicenna and Aquinas, in L.D. Roberts, ed., *Approaches to Nature in the Middle Ages*, Binghamton, New York: Center for Medieval and Early Renaissance Studies, 1982, pp. 137–60.
- William of Auvergne, *Opera omnia*, 2 vols, ed. F. Hotot, with *Supplementum*, ed. B. Le Feron, Orléans/Paris: Billaine, 1674, reprinted Frankfurt a.M.: Minerva, 1963 (vol. 1: *De universo*, vol. 2: *De anima* et al.).
- , *De Trinitate*, ed. B. Switalski, Toronto: Pontifical Institute of Mediaeval Studies, 1976.
- H.A. Wolfson, Colcodea, קולקודיא, in id., *Studies in the History of Philosophy and Religion*, 2 vols, Cambridge, Massachusetts: Harvard University Press, 1973–77, vol. 2, pp. 573–6 (originally: *The Jewish Quarterly Review*, n.s. 36, 1945, pp. 179–82).
- Zimara, Marcantonio, *Contradictionum solutiones in hos Metaphysicorum libros*, in Aristotle and Averroes, *Aristotelis opera cum Averrois commentariis*, Venice: Giunta, 1562, reprinted Frankfurt a. M.: Minerva, 1962, vol. 8, fols 401–24.

