

## Chapter 1. Introduction. Albert's Philosophical *scientia*

### *Origins, Geneses, Emergences*

**Wagner.**

*Ach Gott! die Kunst ist lang;  
Und kurz ist unser Leben.  
Mir wird, bey meinem kritischen Bestreben,  
Doch oft um Kopf und Busen bang'.  
Wie schwer sind nicht die Mittel zu erwerben,  
Durch die man zu den Quellen steigt!  
Und eh' man nur den halben Weg erreicht,  
Muß wohl ein armer Teufel sterben.*

**Faust.**

*Das Pergament, ist das der heil'ge Bronnen,  
Woraus ein Trunk den Durst auf ewig stillt?  
Erquickung hast du nicht gewonnen,  
Wenn sie dir nicht aus eignere Seele quillt.<sup>1</sup>*

Albert the Great (c. 1200–80) was one of the great philosophers, if not the greatest, among the thirteenth-century Scholastics. Yet he has been under-appreciated by modern scholars, who tend to focus on his far more famous student, Thomas

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<sup>1</sup> Goethe, *Faust: Ein Fragment*, p. 15. The English translation (Goethe, *Faust*, trans. Taylor, pp. 48–49) runs as follows. 'WAGNER: Ah, God! but Art is long, | And Life, alas! is fleeting. | And oft, with zeal my critic-duties meeting, | In head and breast there's something wrong. | How hard it is to compass the assistance | Whereby one rises to the source! | And, haply, ere one travels half the course | Must the poor devil quit existence. FAUST: Is parchment, then, the holy fount before thee, | A draught wherefrom thy thirst forever slakes? | No true refreshment can restore thee, | Save what from thine own soul spontaneous breaks.'

Aquinas (c. 1225–1274). This is especially true for the English-speaking world.<sup>2</sup> Lamentable as the situation is, it has begun to change — thanks in great part to studies by the illustrious scholars who have contributed to this volume. *Albert the Great and his Arabic Sources: Medieval Science between Inheritance and Emergence* aims to continue this trend by examining one major aspect of Albert's philosophy: his use of the Arabic sources available to him at the time.

For present-day historiography of philosophy, the 'source' is a destination in itself. It symbolizes the ideal point of origin and appears to be the fountainhead of historical truth, or at least the most reliable witness to the originator's proper intention. But was that what the Arabic sources symbolized for Albert? And what do they symbolize for us in this book?

Albert himself did not and could not walk the path *ad fontes* in our sense of the term. Unlike us, he was not heir to the Renaissance, the theology of Martin Luther, the Romantic critical historiography of Johann Gustav Droysen, or the objective historiography of Leopold von Ranke. Albert saw *fontes* as things in nature: springs, the heart, or intellectual material. The Arabic Peripatetic 'sources', as we call them, were, in Albert's eyes, material to be read, interpreted, and used mostly on an equal footing with the texts of Aristotle. He saw their usefulness as dependent on the context:

It should be known as a consequence that Augustine ought to be trusted to a greater extent than the philosophers in matters concerning faith and morals, if there is disagreement. As far as medicine is concerned, however, I would trust Galen or Hippocrates to a greater extent, and speaking of the natures of things, I trust Aristotle more or another who is experienced in the natures of things.<sup>3</sup>

The other experienced natural philosophers besides Aristotle whom Albert trusted regarding 'the natures of things' are easily identified as philosophers hailing from Arabic-speaking lands — and Aristotle himself was known to Albert in part through the mediation of the Arabic-speaking Peripatetic philosophers. As will become clear in the contributions presented in this volume, the most important of these thinkers for Albert's purposes were Avicenna and Averroes, followed by Alfarabi, Algazel, Avempace, and Maimonides.

At the time when Albert was completing his early anthropological treatise *De homine* (1240–42), he was teaching on the *Sentences*, and in these lectures directly referred to more than a dozen Arabic-speaking figures — not only

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2 The books currently available in English on Albert are Resnick and Kitchell, *Albertus Magnus and the World of Nature*; Blankenhorn, *The Mystery of Union with God*; O'Meara, *Albert the Great*; Resnick, *A Companion to Albert the Great*; Vost, *St Albert the Great*; Cunningham, *Reclaiming Moral Agency*; Bonin, *Creation as Emanation*; Weisheipl, *Albertus Magnus and the Sciences*; and see the special issue Wallace, 'Albertus Magnus'.

3 Albertus Magnus, *Commentarii in II Sententiarum*, d. 13C, a. 2, ed. by Borgnet, p. 247a: 'Unde sciendum, quod Augustino in his quae sunt de fide et moribus plusquam Philosophis credendum est, si dissentiunt. Sed si de medicina loqueretur, plus ego crederem Galeno, vel Hipocrati: et si de naturis rerum loquatur, credo Aristoteli plus vel alii experto in rerum naturis.'

Peripatetic philosophers, but also thinkers best known as experts in medicine, astronomy, or mathematics — whose works were available to him in Latin: Alfraganus (al-Farḡhānī, d. after 861 CE), Alkindus/Alkindi (al-Kindī, d. 873), Iohannitius (Ḥunayn ibn Iṣḥāq, d. 873), Constabulus (Qusṭā ibn Lūqā, d. 912), Albategnius (al-Battānī, d. 929), Ysaac Iudaeus (Iṣḥāq ibn Sulaymān al-Isrā'īlī, d. c. 955), Alfarabius/Alfarabi (al-Fārābī, d. 970), Avicenna (Ibn Sinā, d. 1037), Algazel (al-Ghazālī, d. 1111), Avempace (Ibn Bājja, d. 1138, indirectly through Averroes), Alpetragius (al-Bīṭrūjī, fl. 1185–92), Averroes (Ibn Rushd, d. 1198), Rabbi Moyses (Maimonides, Mūsā ibn Maymūn, d. 1204), and the anonymous *Liber de causis*. One Jewish thinker writing in Arabic is conspicuously absent from the sources woven into Albert's *De homine*: Avicebron (Ibn Gabirol, d. 1058) made his debut in Albert's commentary on the *Sentences*, Book I.<sup>4</sup>

Whether Albert counted some of the experts he mentions in the passage we have quoted under the category of medicine and others under that of natural philosophy can be determined only in part, on the basis of similar pronouncements later in his philosophical corpus.<sup>5</sup> However, the passage does indicate Albert's intellectual concern to select sources relevant for particular disciplines, and his considerable skill in discerning the specific expertise that each source offered. He notes in his *Metaphysica*:

Therefore, let this be the end of this disputation [on Aristotle's *Metaphysica*], in which I have said nothing according to my own opinion, but everything said is in accordance with the positions of the Peripatetics. And whoever wishes to examine [*probare*] this, let them read their books diligently, and praise or blame not me, but them.<sup>6</sup>

For Albert, therefore, his Arabic sources were not points of destination. They were points of departure. They were authorities to be trusted in their value of

4 Albertus Magnus, *Super I librum Sententiarum*, XXV, d. 24, A, art. 2, ed. by Borgnet, p. 609a: 'Item, Philosophus in libro Fontis vitae: Primum quod recipit a primo, est recipiendo duo: quia recipiens et receptum: ergo cum unitas creata recipiat esse suam a primo, ipsa erit duo, et non unum. For a recent discussion of Albert's use of Avicebron in his entire subsequent oeuvre, see Miteva, 'The Reception of Ibn Gabirol's *Fons vitae* in Albertus Magnus'.

5 Examples can be found at Albertus Magnus, *Super Ethica*, III.13, ed. by Kübel, p. 207, vv. 4–16: 'circa delectationes tactus in dictis duabus partibus corporis est temperantia, quia istae sunt validissimae et in eis maxime opus est principali virtute refrenante. Quare autem istae delectationes sint validissimae, causa potest assignari secundum naturalem et secundum theologum et secundum ethicum. Secundum naturalem, quia Avicenna et Constantinus dicunt, quod quia per huiusmodi partes coniunguntur in nobis ea quae sunt ad conservationem naturae in specie vel individuo, ideo posuit in eis natura maximum delectamentum, ut sollicitetur animal circa huiusmodi et non negligatur salus naturae'; Albertus Magnus, *Quaestiones super De animalibus*, XII.17, ed. by Filthaut, p. 231, v. 31: 'Isaac in Dietis'=Isaac Israeli, *De dietis universalibus*. See Jacquart, 'La place d'Isaac Israeli'.

6 Albertus Magnus, *Metaphysica*, I.13, tr. 2, c. 4, ed. by Geyer, p. 599, vv. 61–66: 'Hic igitur sit finis disputationis istius in qua non dixi aliquid secundum opinionem meam propriam, sed omnia dicta sunt secundum positiones Peripateticorum. Et qui hoc voluerit probare, diligenter legat libros eorum, et non me, sed illos laudet vel reprehendat'.

truth, but always within disciplinary limits. They were stewards of philosophical positions that he, with his own erudition and synthetic capacity, could bring into the Latin world. They proposed views that he voiced to his peers and students by balancing contradictory accounts and presenting them, more often than not, as a single Peripatetic voice. Truth, certainty, and comprehensiveness were the epistemic values that Albert cherished dearly, and the Peripatetic positions helped him to put these values into practice.

Albert's discourse on these positions took place in Paris in 1242, in Cologne in 1252, in Orvieto and Viterbo in 1261, and in Würzburg in 1264, to name only some of the many locations and periods where he worked. He did not pursue that discourse — as we mostly do today — as a comparison or dispute between two parchments, of which the 'source' parchment presents an idea's point of origin and his own parchment records it. Albert debated with his sources not by reporting, representing, or preserving their content to the letter, but by conveying its meaning afresh in his own times, in harmony with other sources, replacing the errors, faults, and blunders he spotted, and adding new information or even new books to the corpus so as to achieve comprehensive truth and certainty as goals of his *scientia*.

The metaphor of the *source*, we suggest in this volume, stands not for the correct transmission of information alone, but equally for a 'loss of continuity as the emerging current meets and traverses the terrain', as Christopher Wood has aptly noted. 'The uneven, ramifying flow of water symbolizes the relaying of messages forward in time. The liberated water seeks level ground, forms channels, splits into streams.'<sup>7</sup> What, then, were the messages that Albert meant to relay into the future as his Arabic sources met and traversed the terrain of the Latin medieval world?

## The Intrinsic Value of Philosophy

Our book follows the current of Albert's scientific creativity from the early 1240s to the late 1260s and asks how he drew on the Arabic sources he had at hand at any given time. In twelve detailed case studies, it investigates how Albert tackled particular research questions within the philosophical programme that he built up over those years in Paris, Cologne, Worms, Agnani, Regensburg, Viterbo, Orvieto, Würzburg, and Strasbourg.

We take this chronological approach to our book because we view the unfolding of Albert's *scientia* as the *explanans* of the ways in which he used his Arabic sources, and not vice versa.<sup>8</sup> Albert chose how to read, what to select, and which

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<sup>7</sup> Wood, 'Source and Trace', p. 6.

<sup>8</sup> The predominant model of interpretation in the history of philosophy does the opposite of our approach and makes the historical source texts of any given (medieval) thinker the *explanans* of their philosophical argumentation and knowledge. There are many epistemic problems with this model of

way to order these sources in light of the views on *scientia* that he himself held. This autonomous engagement with his sources, we argue, stabilized the content of the body of knowledge found in the sources in many meaningful ways. In other ways, however, it changed that content to accord with the 'images of knowledge' that were dominant in Albert's Latin context.<sup>9</sup>

Images of knowledge, as the historian of science and philosophy Yehuda Elkana explained, are 'beliefs held about the task of science'. They depend on the time and culture of the historical actor at stake and determine which problems are chosen for study.<sup>10</sup> This volume reads Albert's use of his Arabic sources as a way of harnessing concepts, discourses, and bodies of knowledge to the purposes of his own philosophy. Without the sources as material and instrumental ingredients, he could never have realized or even pursued those purposes. In no case, as our studies show, was Albert's use of the Arabic sources a simple 'reconstruction' of the material<sup>11</sup> — neither was this the intention of his scientific practices, even though he makes claims that look like it, as we saw in the *Metaphysica* passage above. Rather, his philosophy was a unique composition that he shaped out of an inherited body of knowledge in his own engagement with novel interpretations or doctrines not always in accord with the doctrines of his sources.

Amidst the variety of this book's contributions, several themes related to inheritance — and its consequence, emergence — recur, but one in particular stands out. This is Albert's self-imposed mission of asserting the role of philosophical *scientia* as an intrinsically valuable activity in the Latin world of the Scholastic academy. Philosophical *scientia*, he proposes, has value in enabling the search for *proximate* causes (instead of remote ones) and, through that search, the perfection of one's own human nature: *homo in quantum homo solus intellectus*.<sup>12</sup>

This is the primary context in which we place Albert's use of his Arabic sources, and what we take to be the *explanans* of the ways in which Albert gave these sources new epistemic meanings, identities, and roles. It implies, too, that Albert was clearly moving in a different direction from the efforts of some of his Latin contemporaries — among them towering figures such as Bonaventure of Bagnoregio, Roger Bacon, and Thomas Aquinas — whose interests lay, each in his

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interpretation, but the major one is that it ascribes far more agency to texts than to people. The model also subscribes to an impoverished and reductionist causal history, entailing that the whole meaning an author inscribes into a philosophical text is *either* already contained in his source texts *or* presents us with novel ideas — ideas that we, as historians of philosophy, can then excavate from the text in front of us. Yet historical texts are not simply presentations of ideas; they are representations of the lived worlds of located people. It is these lived worlds — those of the source texts and those of the recipients — that we wish, at least in some of their facets, to investigate in our book.

<sup>9</sup> The notion of change in line with new images of knowledge is Yehuda Elkana's. Elkana, 'A Programmatic Attempt at an Anthropology of Knowledge'.

<sup>10</sup> Ibid.

<sup>11</sup> Canguilhem, *Ideology and Rationality in the Life Sciences*, p. 2.

<sup>12</sup> This finds its origin in Aristotle, *Nicomachean Ethics* IX.4, 1166a17. For Albert, however, this axiom of the human final causality takes centre stage in his natural philosophy as well. See also below.

own idiosyncratic way, in establishing theology as the ultimately decisive *scientia*. Their reductionist models did not impress Albert, as is evidenced in the writings he produced after the mid-1240s. His unique vision was to give a place, indeed intellectual freedom, to the rationality that he discovered in philosophy and the robustness of the logical, epistemological, and psychological foundations upon which it rested.

This idea of pursuing philosophical *scientia gratia scientiae* — as one may call Albert's will to liberation here — did not occur to him overnight. It dawned on him gradually, in a hard-earned process of intellectual labour through which he simultaneously acquired comprehensive knowledge of his sources and ordered it in his own ways. This labour began in the 1240s, when Albert naturalized Arabic-Peripatetic anthropology in the second part of his *Summa de creaturis*, the *De homine*. It came to its first autonomous fruition in his first commentary on the *Ethica Nicomachea*, the *Super Ethica*, written around 1250–52. And it culminated in the conclusion of his scientific system with a commentary on the *Politics*, written soon after 1264.

It is striking that it was the 'practical sciences' (*philosophia moralis*) — ethics and politics — which historically framed Albert's erection of his very own edifice of philosophical *scientia*. The practical sciences may have offered Albert a call to human action in the emergent medieval cities. For Albert, however, such action meant predominantly an action performed on the self — a self that, despite usually standing within the civic sphere and law, was nonetheless called to perfection.<sup>13</sup> This is because, in line with Aristotelian ideals, Albert regarded philosophical ethics as a prerequisite for politics for the man of education. Accordingly, we find both chronological and substantive overlap between Albert's writing on practical sciences and his composition of a full-fledged philosophical *scientia*, his assimilation of all philosophical knowledge available at the time, and, most importantly, the development of his very own intellect in the process. That third endeavour was Albert's instantiation of the ethical programme he found in his Arabic sources.<sup>14</sup>

This self-perfective aspect of Albert's scientific activity is momentous. The philosophical system he set out was not meant to be an objective, detached, self-standing one that could then be studied in the same way — objectively, neutrally, and independently of the scientist as its subject. Quite the contrary: his philosophical system was what made Albert, and all who followed his path, human in the full sense, as *homo inquantum homo solus intellectus*. It is only within this subject-centred perspective (which is not to be confused with the contemporary curtailment of 'subjectivity') that Albert's philosophy as a whole and his use of the Arabic sources can be understood.<sup>15</sup>

13 See, for instance, Cassirer, *The Philosophy of the Enlightenment*.

14 Krause and Anzulewicz, 'Albert the Great's *Interpretatio*'.

15 On this matter, see also Krause, 'Albertus Magnus zur Philosophie und Theologie'. These thoughts are developed in more detail in Krause's forthcoming book *Albert the Great*.

In Albert's sights, we argue, was the search for a philosophical *scientia* in service of the human scientist who studied it, and that system had itself to follow certain ideals. Albert's programme was saturated with Aristotle's ideal of truth, the ideal of certainty he inherited from the Latin translations of Aristotle's works, and the ideal of human intellectual perfection obtainable in this life (through the comprehensive study of philosophical *scientia*) and in the afterlife (through contemplating separate substances) that was transmitted to him from his Arabic Peripatetic sources.<sup>16</sup> In addition to the specific thematic legacies that are charted in each chapter of this book, it was these three larger ideals that guided, directed, and focused Albert's practices of engaging with his sources. No less than Albert's programme-building practices, those ideals have their own history in his intellectual and Scholastic activity.

The challenge that Albert explicitly issued was to erect a new scientific programme built on a philosophical procedure rather than a theological one.<sup>17</sup> This was a programme that would, in Albert's idealizing view of his intended audience, suit the specific needs of the thirteenth-century Latin world.<sup>18</sup> His way of meeting his own challenge was to utilize the transmitted ideas of his Peripatetic sources.

In reality, however, Albert's construction of a new scientific programme was no mere utilization. It was an unprecedented, originative, and deliberate response to multiple inheritances from ancient Greek *sophia*, *technē*, and *epistēmē* and their counterparts in the Arabic language. It revolutionized the Latin practice of *scientia*. The case studies in this volume offer a magnifying glass through which to discern the meticulousness, the colossal memory, and the acquaintance with the inherited knowledge that Albert brought to the task of constructing his philosophical programme. By focusing on particular doctrines that he developed in conversation with his Arabic sources, we can identify the building blocks of Albert's scientific practice and programme.

Still, there is a more fundamental question that needs to be asked before we can begin to grasp Albert's philosophical *scientia*: the question of the historical conditions. How did Albert distance himself from his own Latin tradition by legitimizing philosophical *scientia*'s independence at the outset of his scholarly career?

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16 On the afterlife, see Albertus Magnus, *De natura et origine animae*, tr. 2, cc. 13–17, ed. by Geyer, p. 37, v. 61–p. 44, v. 23.

17 See Krause and Wietecha, 'Albert the Great on Negative-Mystical Theology'.

18 Albertus Magnus, *Physica*, I.1.1, ed. by Hossfeld, p. 1, vv. 9–22: 'Intentio nostra in scientia naturali est satisfacere pro nostra possibilitate fratribus ordinis nostri nos rogantibus ex pluribus iam praecedentibus annis, ut talem librum de physicis eis componeremus, in quo et scientiam naturalem perfectam haberent et ex quo libros Aristotelis competenter intelligere possent. Ad quod opus licet non sufficientes nos reputemus, tamen precibus fratrum deesse non valentes, postquam multotiens abnuimus, tandem annuimus et suscepimus devicti precibus aliquorum ad laudem primo dei omnipotentis, qui fons est sapientiae et naturae sator et institutor et rector, et ad utilitatem fratrum et per consequens omnium in eo legentium et desiderantium adipisci scientiam naturalem.'

Let us briefly take a step back from Albert to contemplate, at least in extremely broad contours, the wider backdrop of his system. Across disciplines as varied as theology, medicine, and philosophy, thirteenth-century Europe saw an unprecedented rise in ancient Greek and Arabic Peripatetic forms of knowledge at its newly founded educational institutions in Bologna, Paris, Oxford, Cambridge, and elsewhere.<sup>19</sup> Yet for the first forty years or so of that century, few figures had the erudition required to take on the challenge of scientific reform, rearrange the curricula of the arts faculties in accordance with the new forms of knowledge, and propose a practical systematization to guide those students bright enough to embark on the most complex intellectual activities being undertaken at the time.

The new legacies inherited from the Arabic-speaking sphere were thus initially slotted, by default, into the older curricula of the *artes liberales* and theological *sapientia*, as James Weisheipl, for instance, has eloquently argued.<sup>20</sup> Moreover, William of Auxerre, Philip the Chancellor, William of Auvergne, Alexander of Hales, Jean de la Rochelle, Odo Rigaldus, and William of Middleton — to name just a few leading theologians — all integrated Aristotelian concepts and discourses into their existing theological questions and answers.<sup>21</sup>

This certainly led to a more robust defence of theological doctrines, but it also occasioned some perturbation and in some cases even chaos within what had been a well-organized network of concepts and premises. Any ‘newly discovered component brings disquiet, if not disorder, into the entire system’, as Yehuda Elkana put it, ‘if one has not already developed a new architecture into which it fits.’<sup>22</sup> Ultimately, the more new components, the more perturbation, and the more need for a new architecture. This, we believe, is one reason why the route of integration was not the one that Albert the Great took. His was a path of naturalization, of taking the epistemic commitments entailed in his Peripatetic sources seriously and following them through.<sup>23</sup> He thus elevated the pursuit of philosophical *scientia* from something purely instrumental to something with a truly intrinsic value.<sup>24</sup> In so doing, Albert greatly impacted Latin education, research, and institutions for at least four centuries to come. But how did he reach this point of naturalizing philosophy as something with its very own intrinsic value?

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19 See, for instance, Brungs, Mudroch, and Schulthess, ‘Institutionelle Voraussetzungen.’

20 Weisheipl, ‘Classification of the Sciences in Medieval Thought.’

21 See, for instance, Suarez-Nani, ‘Die theologische Fakultät Paris in der ersten Hälfte des Jahrhunderts’, with references to secondary literature on pp. 619–22; Putallaz, ‘Die Ersten Franziskaner’, with references to secondary literature on pp. 622–27.

22 Elkana, *Leben in Kontexten/Life in Contexts*, p. 81.

23 For the particular use of the concept ‘naturalization’, see Sabra, ‘The Appropriation and Subsequent Naturalization of Greek Science in Medieval Islam.’

24 See Honnefelder, ‘Einleitung’, p. 21.



## Modalizing *Scientia*

Our answer to that question in this volume turns on the development of Albert's work before his *Super Ethica* and the 'theological rationality', as we wish to call it, that he developed there. We cannot detail this entire development in our short introduction, both for reasons of space and because much of it has been lost to history. We do, however, wish to pinpoint some aspects that we deem most important.

Awareness of the immediate 'historical conditions *under which*' and the closest 'means *with which*' Albert naturalized philosophy's intrinsic value in his own way is the most important point in this respect,<sup>25</sup> because it is these that contextualize the genesis of Albert's system by way of its proximate history. They contextualize not by shedding light on the material, instrumental, or even accidental components of the early body of knowledge that Albert penned, but by shedding light on the *formal* source of that body of knowledge: Albert's own scientific practices as they arose in the space and time he inhabited.

As a result, these conditions and means *explain* how the autonomy of Albert's philosophical *scientia* took shape. Such a historicization of epistemology, as historian of science Hans-Jörg Rheinberger has written, implies subjecting any 'theory of knowledge to an empirical-historical regime, grasping its object as itself historically variable, not based in some transcendental presupposition or a priori norm.'<sup>26</sup> What better place to start, then, than by subjecting Albert's evolving view of *scientia* to the regime of historical epistemology and following its transformation into an autonomous philosophical programme.

If we had to pick out the most critical moment in the scientific activities of Albert, it is surely the composition of his commentary on Peter Lombard's *Sentences* (1242–45). Insightful scholarship has long regarded this commentary as the main witness to a new beginning — a beginning at which Albert conventionalizes *sapientia cum affectu* as the modality of his *scientia theologiae*.<sup>27</sup> Some of its inspiration derived from structural considerations concerning the divisions of *scientiae*. Albert knew very well that an all-encompassing *scientia*, as theology was for him, could not be separated from the *scientia* of philosophy by divorcing particular aspects in subject matter from others. If the subject matter failed to be all-encompassing, then so did the *scientia* of theology.

But Albert also knew, most likely from his acquaintance with the translation of Avicenna's *Summa de convenientia et differentia subiectorum* in Dominicus Gundissalinus's *De divisione philosophiae*, that two different *scientiae* could also be separated by distinguishing between the different aspects entailed by overlapping

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<sup>25</sup> Thus the fundamental historiographical questions proposed by Hans-Jörg Rheinberger. Rheinberger, *On Historicizing Epistemology*, p. 2.

<sup>26</sup> *Ibid.*, p. 3.

<sup>27</sup> See Anzulewicz, 'The Systematic Theology of Albert the Great'.

subject matters.<sup>28</sup> Medicine and natural philosophy, in the example given by the Persian philosopher Avicenna (Ibn Sinā, 980–1037), overlap in subject matter, but each studies that subject matter under a different aspect: medicine under the aspect of health and disease, natural philosophy under the aspect of nature or essence.<sup>29</sup>

Albert's pronouncement that theology's all-encompassing subject matter is to be studied under the aspect (*secundum rationem determinatam*) of the final causality of the beatifying end (*finis beatificans*), which he considers to be operant in theology, looks like a similar move. Whatever is studied in theology is studied under the aspect of this final causality of the beatifying end. God as the objective *finis beatificans* thus belongs to theology most intimately as its subject matter, but created reality and human actions also do so insofar they are conducive to attaining that end.

Albert's effortless combination of theology's universal subject matter under the aspect of its teleology also reflected back on the type of *scientia* that theology was for him. The eternal end of theology, viewed as an objective and a subjective end, could not be a merely speculative truth; it had to be an affective truth (*veritas affectiva beatificans*). The union reached with God as objective, eternal end and good bestowed delight on the saint as his subjective, eternal end and good, and as a direct result of his beatific knowledge. For Albert, the object of theology — truth in accordance with piety (*veritas secundum pietatem*) — was thus inseparable from truth and the good. Unlike philosophy, therefore, theology had the potential to perfect both the human intellect and human affect, in a unified fashion. In that sense, it was God-like, and it led to this end by its very own principles of faith and meritorious actions.

By proposing this holistic and unifying modality of theology, Albert also accomplished yet another clear distinction between theology and philosophy. He began to distinguish the different rationalities of philosophy and theology more clearly — a project he brought to its initial climax when he lectured at the new Dominican *studium generale* in Cologne between 1248 and 1254.

It was there, in front of students including Thomas Aquinas, Giles of Lessines, and Ulrich of Strasbourg, that Albert realized the limitations of systematic theology for pursuing the end of the *scientia* of theology. Systematic theology, worked out as a branch of theology in the *Sentences*, is capable only of defending faith argumentatively and establishing its truths exhortatively.<sup>30</sup> Negative theology,

28 Dominicus Gundissalinus, *De divisione philosophiae*, ed. and trans. Fidora and Werner, pp. 237–52.

See also Janssens, 'Le *De Divisione philosophiae* de Gundissalinus', especially pp. 561–62.

29 In other words, the physician adds a *per se* accident to body as the more general subject matter of natural philosophy. See Strobino, *Avicenna's Theory of Science*, pp. 114–18.

30 Albertus Magnus, *Super I librum Sententiarum*, d. 1, c. 1, ed. by Borgnet, p. 15, vv. 23–42: 'Quod concedimus dicentes quod habitus eius lumen fidei est. Instrumentum autem duplex secundum duplicem finem doctrinae et artis, qui duplex finis praemissus est in auctoritate Apostoli: scilicet exhortari in doctrina sana et contradicentes revincere. Et quoad exhortationem habet quadruplicem expositionem: scilicet historiale, allegoricam, morale et anagogiam, quorum modorum numerus

which Albert found in Dionysius's works and especially his *Mystical Theology*, is the one branch of theology that proved potent enough to achieve theology's end: union with the objective *finis beatificans* to the extent that it is possible in this life. Albert's view of the *corpus Dionysiacum*'s importance for the modality of his *scientia* of theology highlighted the value of Peter Lombard's *Sentences* and the *corpus Dionysiacum* as two different branches of theology, while also establishing an innovative relationship between them. The former branch follows modes of reasoning proper to humans; the latter transcends these in an intellectual movement that reaches out to its primary object, God, beyond creaturely ways of knowing.

Theology therefore now included two ways of knowing one and the same object under the aspect of its finality: *scientia affectiva* and *scientia mystica* or *scientia experimentalis*.<sup>31</sup> The two branches constituted two sides of the one coin of *scientia theologiae*, because they both pursued their subject matter teleologically. Biblical theology, as the third branch, entered the picture later on, when Albert began to write his commentary on the Gospel of Matthew in 1257–64. We will not discuss any of these intricate matters further here.

What all these considerations on Albert's *scientia* of theology tell us is that his intrinsic valorization of philosophy as its own *scientia* began in and with his thinking on theology as its own *scientia* — in comprehensively developing theological rationality before philosophical rationality. The moment of reflection that Albert integrated at the outset of his *Sentences* to explain what theology as a *scientia* is, how precisely it produces its knowledge, and what it aims for in producing knowledge — namely, the union of subject and object — became an immovable standard. None of Albert's subsequent works, whatever generic *scientia* they belonged to, could do without this moment of reflection.

As a consequence, when Albert applied similar reflections to philosophy for the first time — his first commentary on Aristotle's *Ethica Nicomachea*, composed in the Cologne classroom between 1250 and 1252 — there was no doubt that they spoke to the theological modality he had previously described. Albert's reflections demanded that philosophy be erected on its own, independent scientific norms, as its own, independent *scientia speculativa*. But how exactly did Albert express this independence in practice?

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dupliciter potest accipi: scilicet quoad exponentem et quoad exposita; quoad exponentem sic: primo occurrit sensus ostendens historiam, et ideo historicus sensus est in intellectu, secundum quod refertur ad sensum. Circumstant autem adhuc tria intellectum: scilicet habitus illuminans, qui est fides, et sic in ipso est allegoricus sensus, qui aedificat fidem, sicut dicit Gregorius. Circumstat etiam ipsum intellectus practicus, et sic in ipso per reflexionem ad praxim sive opus est sensus moralis. Tertium quod circumstat ipsum est finis beatificans, et sic in ipso per conversionem ad ipsum est sensus anagogicus. Cum autem non plura circumstant intellectum, non sunt plures sensus scripturae.

<sup>31</sup> See, for instance, Anzulewicz, "The Systematic Theology of Albert the Great".

## The Tools to Discipline Philosophy

Entire books could be written to answer that question; here, we raise three points that we consider central, and that allow us to appreciate the all-important relationship between the historical conditions under which the autonomy of philosophical *scientia* arose and the precise epistemic role the Arabic sources played in shaping that autonomy.

First, like his theology, Albert's philosophy was a *scientia* that was split into branches. Most generically, it was divided into a rational (*scientia rationalis*), a real (*scientia realis*), and a practical branch (*scientia moralis*). On the next level, real philosophy was divided into natural philosophy, metaphysics, and mathematics; in turn, natural philosophy was divided into altogether twenty-two different branches.<sup>32</sup>

In contrast to theology, where the divisions were made possible by different ways of knowing, philosophy was divided by subject matters of a particular genus of being, for instance, substances that move and change (as in the *Physics*). This is an approach that Aristotle had proposed in *Analytica Posteriora* I.28, and Albert followed his lead. At the beginning of his *Physica* and *Meteora* commentaries, especially, Albert goes into great detail as he divides the general scientific subject matter of natural philosophy — substances that move and change — into its varied branches.<sup>33</sup>

Although the natural scientific programme Albert thus composed was framed, at least in time, by two commentaries on authentic works of Aristotle, it added to these considerably. Albert penned no fewer than eight additional, completely autonomous works, encompassing matters that ranged from geographical location to the nature and origin of the soul: *De natura loci* (1251–54), *De nutrimento* (1256), *Liber de motibus animalium* (1256), *De spiritu et respiratione* (1256), *De aetate* (1256), *De morte et vita* (1256), *De intellectu et intelligibili* (1256), and *De natura et origine animae* (1263). He added commentaries on the pseudo-Aristotelian works *De causis proprietatum elementorum et planetorum* (1251–54), *Libri de mineralibus* (1254–57), and *De plantis* (1256).<sup>34</sup> Last but not least, he considerably expanded upon Aristotle's natural philosophical works, and in particular on *De animalibus*, on which he wrote a long commentary (the first commentary he wrote in Cologne before teaching the *De animalibus* in the form of *quaestiones* there between 1258 and 1263).

Albert certainly saw the chief value of these additional works and considerations as lying in their capacity to complement his own natural scientific programme,<sup>35</sup> which was the first of its kind in the Latin West and endured in

32 Krause and Anzulewicz, 'Albert the Great's *Interpretatio*', especially pp. 118–21.

33 See Albertus Magnus, *Physica*, I.1.4, ed. by Hossfeld, p. 6, v. 34–p. 8, v. 13.

34 See Krause and Anzulewicz, 'Albert the Great's *Interpretatio*', appendix 1.

35 Albertus Magnus, *De somno et vigilia*, I.1.1, ed. by Borgnet, p. 123a, and III.1.1, p. 178a: 'Et hoc ipsum quidem quod de divinatione dicit Aristoteles, breve quidem est et imperfectum, et habens

its uniquely comprehensive scope well into the sixteenth century. Indeed, what Albert took to hold together the generic branch of real philosophy as a whole, including its largest branch of natural philosophy, was its aim as a *scientia*: its aim of explaining reality as it is in itself.

This aim could be achieved only by correctly applying permissible instruments, and this is the second point we wish to highlight. For Albert — once again in reliance on Aristotle's logic — those instruments consisted in definition, which he believed could capture the essences of existing things, and syllogistic reasoning, which he believed could account for the proximate causes of those things. Albert saw possible further instruments for accomplishing the aim of accounting for reality as it is in itself: analogies and signs were useful descriptive tools, though they ranked less highly on the epistemic ladder of bringing forth true and certain knowledge.<sup>36</sup> Albert's panoply of philosophical instruments and their aims thus differed considerably from those of theology, where practices of exhortation and negation were built on the habit of faith (each, of course, in its own way) and ultimately aimed at union with God.

These instruments of reason — describing, defining, explaining — could only fulfil their aim of accounting for reality as such if they had some material to

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plurimas dubitationes. Dico autem *breve*, quia carens probatione, sed simplex, et parum philosophiae habens videtur esse narratio, nec species somniorum neque probationem somnii aliquid significandi in se continens. *Imperfectum* autem est, quoniam licet sine magicis et astronomicis non possit ars interpretandi somnia adipisci, tamen solis physicis sufficienter scitur ex quibus et qualibus simulacris consistit somnium de quo debet esse divinatio: et hoc neque ab Aristotele, neque a Philosophis quidquam determinatum est. *Plurimas autem dubitationes habet*, quia in incerto relinquitur causa talium somniorum.

36 See, for instance, Albertus Magnus, *Analytica posteriora*, I.5.1, ed. by Borgnet, p. 128a: 'Tertia autem ratio, quod potior est demonstratio, propter quam non errabitur de quo fiat demonstratio, hoc est, propter quam non dubitabitur de quo demonstretur, quam illa propter quam errabitur et dubitabitur de quo demonstretur. Est autem universalis demonstratio (secundum quod maxime universalis est) huiusmodi quae facit errare et dubitare de quo demonstretur: cuius probatio est, quia demonstratores procedentes ad magis universale, quod est analogum sive secundum analogiam commune multis, sicut proportionale quod commutabiliter est in numero, tempore, linea, solido, et plano, demonstrant de ipso secundum quod est aliquid in se praeter haec: unde neque in linea est secundum quod linea, neque in numero secundum quod numerus, neque est solidum secundum quod solidum, neque planum secundum quod planum, sed secundum quod est aliquid praeter haec. Si igitur haec demonstratio est magis universalis inter demonstrationes, et est de eo quod minus est quam particularis, et sic facit opinionem falsam, quod hoc scilicet quod minus est, magis sit quam id quod magis sit: indignior utique erit demonstratio universalis, quam particularis'; *ibid.*, I.2.1, ed. by Borgnet, p. 21b–22a: 'Probat tamen per signum, quod scire verum huiusmodi sit aliquid quale jam dictum est: et hoc est signum: quia quoties vere scientes et non vere scientes opinantur se scire (cum id quod omnes opinantur sit probabile) illud est signum, quod sit verum scire hoc modo qui dictus est, cum omnes etiam non vere scientes opinantur scire quando habent causam et sciunt quod illius causa est, et quod non contingit illud se aliter habere: ergo hoc est verum scire. Sed differentia est: quia scientes tunc arbitrantur se scire et vere sciunt: non scientes autem propter similitudinem quam habent cum scientibus opinantur se hoc modo vere scire, quamvis non vere sciunt. Propter hoc omnis ejus cuius est scientia (quae simpliciter et per se est scientia) hoc est impossibile aliter se habere quam dictum est'.

work with and on. For Albert, that material consisted in the concrete scientific concepts, arguments, analogies, and signs he found in the source texts on the desk in front of him. These scientific objects were nothing other than cognitive abstractions from the things in the world. However, the abstractions were made not by Albert himself, or at least not by him alone, but by different thinkers in the long tradition of Aristotelian philosophy. Those thinkers' mental operations of imagination and thought together produced these abstractions — which now challenged Albert to order them anew, compare and contrast them, analyse and synthesize them, using his own reason in order to establish certain and comprehensive knowledge about them.

Just as he did with Aristotle's works, then, Albert viewed his Arabic sources as intellectual material that contained truths and errors, correct definitions and false ones, accurate demonstrations and flawed ones, proper inductions and improper ones, good analogies and bad analogies. He treated and used this material accordingly. Admittedly, he had clear preferences, as we saw in the passage quoted earlier in this introduction.<sup>37</sup> But especially in those areas of philosophy where advantages could not be made out on the basis of the expertise that his authorities possessed in either theology, medicine, or philosophy, Albert sifted through his sources with the single, lofty aim of establishing the truth about things in reality and reality as a whole in itself. The goal before Albert's eyes, in other words, was nothing less than to comprehensively institute the equivalence of the human mind with the world. That equivalence was mediated in part through his sources.

The criterion of comprehensiveness is evidenced by the way that Albert went about building his own philosophical programme as a whole; this is our third and final point. Alongside his concerns about the micro-level of particular themes in the body of knowledge he produced, Albert expanded the Aristotelian corpus considerably by composing eight books in natural philosophy alone, as discussed above. Importantly, some of these took their inspiration in content, layout, and even approach from independent Arabic texts in Latin translation. A good example is Albert's *De intellectu et intelligibili* (1256), which shows the impact of Alexander of Aphrodisias, Alfarabi, and Alkindi. Nevertheless, here too, Albert gave the works in his philosophical system their own identity and place, for example by counting his *De intellectu* among the works of natural philosophy rather than metaphysics.<sup>38</sup>

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37 Albertus Magnus, *Commentarii in II Sententiarum*, d. 13C, a. 2, ed. by Borgnet, p. 247a, as quoted in note 3.

38 Albertus Magnus, *Physica*, I.1.4, ed. by Hossfeld, p. 7, v. 8–64: 'Sed scientia de animatis habet duas partes. Cum enim anima sit principium animatorum et principium oporteat cognoscere ante principiatum, oportet haberi scientiam de anima, antequam habeatur scientia de corporibus animatis. Scientia autem de anima duas necessario habet partitiones, quoniam aut est de ipsa anima et potentiis sive partibus eius aut scientia de operibus animae, quaecumque habet in corpore, et de passionibus eius, quas patitur in corpore, et scientia quidem de anima secundum se et potentias eius habet tradi in libris de anima dictis. Opera autem eius duplicia sunt, quia aut sunt animae in corpus, ita quod non per potentias, sed per se operatur anima, aut operator secundum potentias.

Perhaps the most distinctive mark that Albert left on philosophy in general was a superstructure he inherited from, but also created out of, his Arabic sources: the notion that the *scientia* of philosophy, which primarily tries to get to grips with the objects of science as they are in reality, also pursues another, secondary goal. This secondary goal is not to be mistaken for a goal intrinsic to the *scientia* of philosophy. Rather, it is extrinsic to the *scientia* of philosophy, but nonetheless useful in affecting the scientist, in the form of the realization of the scientist's human nature through his own pursuit of philosophy, the scientist's perfection as *homo inquantum homo solus intellectus* once all of that knowledge has been incorporated.

None of Albert's unique applications and arrangements of his tools to build an independent programme of philosophy is reducible to any of his predecessors, even if individual elements can be traced back to them. His achievement was to endow the ideas, views, and elements of knowledge he found in his sources with a new form of intellectual being — a new *forma totius* — that was fully present in his mind and has remained partially accessible to us in the extant philosophical works to this day.

The twelve chapters of this volume trace, in detail and mostly at the micro- and meso-levels of specific doctrines in single texts or groups of books, how Albert accomplished the momentous autonomy and comprehensiveness of his own philosophical programme. They examine in even greater detail the mechanisms that he employed to appropriate the many Arabic insights about reality into his philosophical *scientia*. Through the book's chronological structure, the chapters

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Et opus animae quidem per substantiam animae factum in corpore est vita, cui mors opponitur. Et hoc opus determinatur in libro de causa vitae et mortis et causis longioris vitae. Opera vero animae alia sunt multiplicata secundum potentias vegetabilis, sensibilis et intellectualis animae partis, et opera quidem vegetabilis sunt nutrire et augere et generare. Sed duo illorum sufficienter determinantur in libro de generatione, scilicet generatio et augmentum. Tertium autem in genere habet determinari in libro de nutrimento. Opera vero sensibilis duo sunt in genere, scilicet sentire et movere secundum locum. Opus autem sensibilis secundum sentire tripliciter variatur; aut enim accipitur secundum comparisonem sensus ad animal, scilicet secundum quod sensus egreditur vel ingreditur in animal, vel secundum comparisonem sensus ad sensibile aut secundum reditum ex specie sensibili servata apud animam in rem prius acceptam in sensu. Et primum horum trium quidem in libris de somno et vigilia traditur, secundum autem in libro de sensu et sensato, tertium autem in libro de memoria et reminiscentia. Secundum autem quod motiva est anima sensibilis, dupliciter movet, scilicet secundum locum, aut mutando locum aut dilatando et constringendo corpus in eodem loco, et utrumque horum traditur in libro de motibus animalium. Hic autem motus est generalis omnibus animalibus sub disiunctione acceptis, quoniam omne animal aut movetur motu processivo aut dilatationis et constrictionis motu aut utroque. Facit autem specialem motum in habentibus pulmonem, qui est ad refrigerium pectoris per spiritum attractum, quem movet trahendo et retinendo et emittendo, et huius scientia traditur in libro de respiratione et inspiratione. Et ad adminiculum eius est liber Costa-ben-Luca, quem composuit de differentia spiritus et animae. Opus autem animae secundum partem intellectualem tractatur in scientia subtili de intellectu et intelligibili. Quibus habitis sufficit addere scientiam de corpore animato vegetabili et sensibili, cuius differentiae quoad vegetabilia traduntur in libris de vegetabilibus, et quoad differentias animalium traditur scientia sufficiens in libris de animalibus. Et ille liber est finis scientiae naturalis.

mirror the current of Albert's intellectual life and the history of his reliance on his Arabic sources when composing his philosophical programme.

Our book is framed by two contributions — by Jorge Uscatescu Barrón and David Twetten — that bracket the whole range of Albert's scholarly activity from the nascent stage of his *scientia*, in *De natura boni*, to the matured and fully independent development of the two *scientiae* of philosophy and theology, in *De causis* and *Summa theologiae* respectively. The papers between these two, with few exceptions, concentrate on a single work by Albert and select themes in whose development the Arabic sources played the leading part.

## Between Inheritance and Emergence

There is no doubt that many notions recur through Albert the Great's corpus from its very beginning to its very end. One is that of the good, to which **Jorge Uscatescu Barrón** devotes his attention in a study diachronically covering the two disciplinary realms of philosophical ethics and theology. Beginning with Albert's earliest work, *De natura boni*, and ending with one of his last, the *Summa theologiae*, Uscatescu Barrón examines the different meanings that Albert ascribes to the good against the background of selected philosophical and theological sources. Initially, Albert relies on an ontologically motivated definition of the good, which he himself traces back to Avicenna but which in fact, as Uscatescu Barrón points out, he borrows from Philip the Chancellor's *Summa de bono* — a source that profoundly influenced his early writings. Yet Albert did not shy away from adapting his loans in accordance with his own teachings. Those teachings, argues Uscatescu Barrón, became increasingly oriented on Aristotle's teleological understanding of the good and were the reason that Albert ultimately disfavoured Avicenna's definition of the good. Nonetheless, for Albert disavowing one particular definition (as derived from one source) compared to another (as derived from another source) did not imply its rejection. As Uscatescu Barrón shows, Albert's interpretive resourcefulness was seemingly limitless: restricting the application of the Avicennian notion of the good to its teleological goal ultimately led Albert to rescue it in his *Summa theologiae* and to combine it once again with new meanings, which he now derived from an even greater pool of sources including Boethius, Algazel, and the *Liber de causis*.

In his chapter, Jorge Uscatescu Barrón reveals the historical depth of Albert's appropriations in their dependence on a variety of internal textual factors. The sources that Albert chooses for specifying the meanings of the good at any given moment change substantially with the disciplinary, and even the particular argumentative, contexts in which they are embedded. In the discipline of philosophical ethics, theological sources and their meanings of the good barely play a role, whereas in theology, philosophical sources may (but do not necessarily) take the lead. These are some of the reasons why Albert's selections of Arabic sources — Avicenna and Algazel in this case — seem to elude generalization as regards



the mechanisms of his appropriations. In fact, the context-dependence of Albert's appropriation practices points to their emergent character, which itself will come to the fore elsewhere in the volume.

In the next chapter, **Richard C. Taylor** re-examines the complex history of Latin Averroism from a fresh perspective and with stimulating new results, stemming from his analysis of Albert's early appropriations of the long commentaries on Aristotle's *De anima* and *Metaphysica* by Averroes (Ibn Rushd, 1126–98). The conventional view of Latin Averroism distinguished between a First Averroism, characterized by seriously flawed and thus infertile misreadings among the Latin appropriations of Averroes's teachings, and a Second Averroism, marked by correct and highly productive, albeit controversial, interpretations. As Taylor shows, Albert's *De homine* contains the very misreading that characterized First Averroism, yet that misreading was far from resulting in blind alleys. On the contrary, Albert himself and later his student Thomas Aquinas developed their own teachings of the individual human intellect against the background of First Averroism's famous misreading, as well as against the background of other Peripatetic philosophers, such as Avicenna. Furthermore, Taylor corrects some conventional readings of Ibn Rushd's own doctrine in the literature, themselves tainted by Latin First Averroism, and alleviates the continued perplexity about these matters among contemporary scholars.

Richard C. Taylor's contribution allows us to understand in greater complexity the decisive role that Albert's *De homine* played in the building of his later scientific system. Located at the philosophical heart of the treatise, Albert's initial appropriation of Averroes's teachings on the nature of the human intellect was, despite its deviation from the original Ibn Rushd, bound to endure in his own teachings (and in those of his student Thomas Aquinas). And this is despite unequivocal corrections in his later interpretation of Averroes's genuine teachings. As well, Albert's own novel interpretive construction and attribution to Averroes of a monopsychism with the post mortem existence in a single unitary soul — a doctrine not found in Ibn Rushd — prompted him to refute that view and to assert his own teaching on the personal immortality of individual human beings.

What mattered most for Albert in his early appropriations of the Arabic material was not a correct reading of a single Arabic source. Rather, it was the doctrinal fit between different sources and the doctrinal fit with Latin convictions about the human soul, the afterlife, and happiness. Taylor's paper, like other recent historiography and, if in different ways, also like the chapters by Tracey, Müller, Anzulewicz, and Krause in this volume, suggests the need to attend more carefully to the appropriators' practices and contexts than has been commonly done so far in the history of philosophy.<sup>39</sup>

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39 The history of science pays far more attention to these questions, not least because of the various 'turns' in its approaches. Many valuable studies could be listed here, but the three following examples are particularly suited to building methodological bridges: Sabra, 'The Appropriation and

Albert's overarching division between the two *scientiae* of philosophy and theology, and accordingly the different epistemic functions that he assigns to his sources, is very pronounced in his *Super Ethica*. In this first commentary on the *corpus Aristotelicum*, Albert grapples with the dilemma of subject matters overlapping between philosophical ethics and theology (such as ethical conduct and the virtues) and the different solutions proposed in each of the *scientiae*.

The stubborn question of the double truth of these subject matters is analysed by **Martin Tracey** in a chapter that reads Albert's solution in a novel way with attention to striking textual passages. The conventional reading, as propounded by René-Antoine Gauthier, is that, for Albert, philosophical *scientia* had to concur with theological *scientia* in its conclusions. At the time, this implied that both *scientiae* had to Christianize Aristotle's *Ethica Nicomachea*. Tracey shows that this is an insufficiently nuanced reading of Albert's commentary, since he insisted on different standards of rational reasoning rather than concurrence of conclusions. Albert allowed for the possibility of different solutions — for instance, in matters of fear of death, shame, justice and blameworthiness, usury and allowances (*permissiones*) — whenever supported by proper rational justification.

As Tracey suggests, this insistence on the correct way of reasoning is also perfectly consistent with Albert's discussions of his sources, such as the ancient Scholiast, on whose grounds he rejects Averroes's view of the human soul and ultimate happiness as a distortion of the truth of the matter. But what exactly is the epistemic role that Albert's rejection of Averroes plays in his *Super Ethica*? Martin Tracey's chapter provides detailed evidence that Albert's motivation to pursue the truth of a matter by means of the philosophical approach strongly influenced his appropriation practices. Invoking a particular source, Averroes in this case, to show that it violates a well-reasoned truth helped Albert to sustain his own coherence as what we wish to call a 'restrictive confirmation tool'. By putting restrictions on other possible reasonings and conclusions given beforehand, the source confirms or corroborates his own reasoning and conclusion. This particular epistemic function of source appropriation does not aim at carrying over any particular content from Averroes. Rather, it aims to borrow only formal elements, in which a particular teaching is presented, detaching these elements from its original context.<sup>40</sup> This is a factor in Albert's use of his Arabic sources that has hitherto escaped closer analysis, probably because (as will become clear in the papers by Müller and López-Farjeat) his appropriation of Averroes in his *De anima* followed different epistemic functions and does not show the same formal separation.

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Subsequent Naturalization of Greek Science in Medieval Islam'; Ragep, Ragep, and Livesey, *Tradition, Transmission, Transformation*; Krause, Auxent, and Weil, 'Making Sense of Nature in the Premodern World'.

<sup>40</sup> For an extensive discussion on this type of detachment, see Krause, 'Transforming Aristotelian Philosophy'.

At approximately the same time that Albert the Great penned his first commentary on Aristotle's *Ethica Nicomachea*, he also began his commentary project on what he called Aristotle's *philosophia realis*, including, as mentioned earlier in this introduction, the disciplinary realms of natural philosophy, metaphysics, and mathematics.<sup>41</sup> Contemporary scholars have repeatedly identified Albert's commentary on Aristotle's *Physica*, the commentary that initiated this project, as a turn away from theology, but others have disputed that view, given that his *Super Ethica* was written, or at least begun, somewhat earlier at Heilig Kreuz in Cologne.<sup>42</sup> There is certainly no doubt that Albert entered a new scholarly phase with his commentary on the *Physica*, and he admits as much openly at the very beginning of the book, but the full implications of this new phase may be much more visible with hindsight than they were from his own perspective.

Albert's more proximate intention was — if we are to believe the opening words of his *Physica*, the most general of the books on natural science or physics — to accede to the urging of his Dominican friars to teach them about physics, and to do so in a way that would supply them with a comprehensive *scientia* of it.<sup>43</sup> For Albert, this criterion of comprehensiveness implied rejecting Aristotle's opinion wherever it was false, but also, and more importantly, supplementing it wherever it was incomplete or unclear.<sup>44</sup> What was to be added, and derived from whom? This question can only be answered by focusing in on Albert's *digressiones* (his favoured way of commenting) and attending, as Tracey does in his contribution, to the exact nuances of his definitions and demonstrations.

**Josep Puig Montada's** contribution does just that with regard to the eternity of motion, which Albert discusses in Book VIII of his *Physica*. Puig Montada takes us on a detailed tour of Albert's argument and the use of his sources, showing that Albert meticulously combed Aristotle, Boethius, Avicenna, and Averroes for what

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41 Albertus Magnus, *Physica*, I.1.1, ed. by Hossfeld, p. 1, vv. 43–49: 'Cum autem tres sint partes essentiales philosophiae realis, quae, inquam, philosophia non causatur in nobis ab opere nostro, sicut causatur scientia moralis, sed potius ipsa causatur ab opere naturae in nobis, quae partes sunt naturalis sive physica et metaphysica et mathematica, nostra intentio est omnes dictas partes facere Latinis intelligibiles.'

42 Weisheipl, 'Classification of the Sciences in Medieval Thought'.

43 Albertus Magnus, *Physica*, I.1.1, ed. by Hossfeld, p. 1, vv. 9–22, as quoted in note 18 above.

44 *Ibid.*, I.1.1, ed. by Hossfeld, p. 1, vv. 23–41: 'Erit autem modus noster in hoc opere Aristotelis ordinem et sententiam sequi et dicere ad explanationem eius et ad probationem eius, quaecumque necessaria esse videbuntur, ita tamen, quod textus eius nulla fiat mentio. Et praeter hoc digressiones faciemus declarantes dubia suborientia et suppletentes, quaecumque minus dicta in sententia Philosophi obscuritatem quibusdam attulerunt. Distinguemus autem totum hoc opus per titulos capitulorum, et ubi titulus simpliciter ostendit materiam capituli, significatur hoc capitulum esse de serie librorum Aristotelis, ubicumque autem in titulo praesignificatur, quod digressio fit, ibi additum est ex nobis ad suppletionem vel probationem inductum. Taliter autem procedendo libros perficiemus eodem numero et nominibus, quibus fecit libros suos Aristoteles. Et addemus etiam alicubi partes librorum imperfectas et alicubi libros intermissos vel omissos, quos vel Aristoteles non fecit vel forte si fecit, ad nos non pervenerunt.'

he considered to be the truthful insights in their work. He discusses how Albert carefully weighed the right combination of his sources in order to reach his own solution: that motion is eternal once created, but that the world itself is created outside of time. This solution, as Puig Montada notes, built on different elements inherited from the different sources. Albert's understanding of eternity draws loosely on Boethius, his view on God's causal priority vis-à-vis the world echoes Averroes, and his position on the creation of movement by atemporal emanation resonates with Avicenna. Yet for Albert, none of this, particularly the creation of the world, amounted to demonstrative certainty. *Pace* Aristotle and following Maimonides, Albert maintained that the natural science of physics could yield only probable knowledge in these matters.

In our view, the attitude to Aristotle's fallibility expressed by Albert here is indicative of a value judgment that subordinates authority to the epistemic criteria of truth and comprehensiveness in *scientia*.<sup>45</sup> To a high degree and right from its start, Albert's commentary on Aristotle's *Physica* displays these two epistemic values, which accompany his commentary project as a whole. The sources — be they Greek, Arabic, or Latin — were above all instruments put to the service of these lofty ideals. As we read in Puig Montada's chapter, Albert chose them carefully and integrated them with deliberation. The reconciliation of different elements in Albert's natural philosophical argument for the eternity of motion thus results in a complex doctrine featuring a range of ordered characteristics that exceeds each of its parts and remains irreducible to them. But how exactly did Albert reconcile these characteristics in general terms?

Both Tracey's and Puig Montada's papers suggest, for different cases, how difficult it is to generalize the mechanisms of Albert's appropriations and practices of coordination around the epistemic values of truth, certainty, and comprehensiveness. What the two chapters do begin to reveal, however, is the extent to which those epistemic values and practices recur in Albert's works.

Another epistemic practice dispersed across Albert's works is the resolving of apparent divergences between teachings from varied sources, perhaps most visibly between Platonic and Aristotelian ones. But throughout, Albert subordinates his resolutions of Plato and Aristotle to the two higher scientific values we have already encountered. He insists that understanding and knowledge of the philosophical teachings in their precise relation to one another is foundational to achieving comprehensive and perfect *scientia* — that is, truth known with certainty — in both approach and content.<sup>46</sup>

If not as fundamentally as in his attempts to coordinate Plato with Aristotle, Albert applied the same approach to his Arabic sources, as **Irven M. Resnick**

45 Ibid., VIII.1.14, ed. by Hossfeld, p. 578, vv. 23–27: 'Et ad illum nos dicimus, quod qui credit Aristotelem fuisse deum, ille debet credere, quod numquam erravit. Si autem credit ipsum esse hominem, tunc procul dubio errare potuit sicut et nos.'

46 See, for instance, Anzulewicz, 'Albertus Magnus als Vermittler zwischen Aristoteles und Platon.'

suggests in his contribution on Albert's *De causis proprietatum elementorum* (1251–54), one of the four natural philosophical books to follow the *Physica* commentary. Resnick submits that Albert resolves a discrepancy between Avicenna and Averroes concerning the universal flood and the potential for the regeneration of species afterwards. He does so by selecting certain teachings in order to craft from them his own concerted solution. This is not unlike the commentary practices discussed by Uscatescu Barrón and Puig Montada. Resnick, however, notes that Albert's resolution of the discrepancy and his subsequent solution can only be appreciated if read against the background of his Latin tradition and theological commitments. Thus, when Albert endorses Avicenna's teachings concerning the possibility of a universal flood and the possibility of the regeneration from matter of most species based on celestial causality, and when he sides with Averroes concerning the possibility of the regeneration of perfect animals and humans on the basis of additional requirements such as coition, he does not lose sight of his own theological commitments — most importantly that God, as the first mover, utilizes different natural causes to produce effects in the world.

Albert's coordination of his divergent Arabic sources with his own commitments found acclaim from the Renaissance scholar Pomponazzi, who praised it as part of a shared medieval practice of appropriation. Resnick finds that praise a little misleading, since coordination like Albert's was not as widely shared a phenomenon among medievals as Pomponazzi thought.

Regardless of this historical appraisal, Albert's reconciliation of seemingly divergent teachings in his Arabic sources constitutes a synthesis of inheritance and emergence. As Resnick shows, Albert aspires to his highest epistemic criteria of truth and comprehensiveness of *scientia* by ordering, in the right manner, selected truths that he finds scattered throughout his different sources. In fact, Albert's practice of giving order to these different truths is one of the most widely shared practices among the Scholastics, and was also reflected upon in the numerous classifications of the sciences and the debates about the different intellectual operations required to reason correctly, which explicitly included that of ordering (*ordinare*).<sup>47</sup> Albert's practice of ordering truths contained in

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<sup>47</sup> See, for instance, Albertus Magnus, *Super Porphyrium De V universalibus*, Tr. de antecedentibus ad logicam, c. 7, ed. by Santos Noya, p. 15, vv. 20–37: 'Quae omnia fiunt actu rationis, qui est ratiocinatio, qui actus discursus rationis est ex uno in aliud. Et ideo tales scientiae a Dionysio vocantur "discursae disciplinae". Non autem potest sic ex uno in aliud discurrere ratio, nisi prius accipiat unum in alio esse per se vel per accidens vel unum ab alio esse divisum per se vel per accidens. Et hoc iterum esse non potest, nisi accipiat unum ordinatum ad aliud per se vel per accidens. Ordo autem est prioris et posterioris secundum naturam et esse, et sic accipit universale et particulare per se vel per accidens. Et sic invenit modum praedicandi unum de altero vel negandi. Et quoad ordinem inventa est Universalium scientia et scientia Praedicamentorum, et quoad modum unum educendi de alio inventa est scientia Divisionum. Rationis enim opus est ordinare, componere et colligere et resolvere ea quae collecta sunt. Quo opere utitur quasi instrumento in accipiendo scientiam, quando procedit a noto ad ignotum.' It should be noted that Albert composed his *Super Porphyrium De V universalibus*

his sources according to criteria of rank, subject matter, method, and suitability, among others, is thus woven into his view of the inmost texture of the human mind by way of its acquired tools of logic. This practice of ordering constitutes yet another emergent factor in Albert's oeuvre, as it points to the overall significance that he assigns to *scientia*, the acquisition of ultimate natural happiness.<sup>48</sup>

Divergent views on particular themes, not just in the Arabic sources — as discussed in Irvén Resnick's paper — but already in Aristotle himself, have always presented a challenge to commentators on the Stagirite's works. This is partly because philosophers in the Aristotelian tradition aimed to give coherent interpretations of Aristotle, including the production of unified explanations. Commentators across the centuries embraced the ideals of coherence and unity, which went hand in hand with an overarching scientific programme that likewise had to be free from contradictions, and applied them to those accounts in Aristotle's work where it proved difficult to make out any coherence and unity.

Albert the Great's commenting practices were no exception to that when it came to Aristotle's seemingly contradictory accounts on the composition of material substances, the topic of **Adam Takahashi's** contribution. Takahashi begins by showing that in his *Physica*, Aristotle endorses a hylomorphic explanation, whereas in *De caelo*, *De generatione et corruptione*, and *Meteora*, he draws on a materialist explanation in which the different mixtures of the four elements of fire, air, water, and earth account for the composition of material substances. Albert's reconciliation of these two seemingly contradictory accounts does not consider Aristotle's template alone. It also critiques an earlier, and in Albert's eyes false reconciliation of Aristotle's different accounts: that offered by Averroes. Takahashi shows that the disagreement between Albert and Averroes over the right kind of reconciliation turns on the question of explanatory reducibility or irreducibility. Can Aristotle's hylomorphism be reduced to the primary qualities of the elements or not? Averroes favoured a reductionist reconciliation, identifying the form of the elements with their primary qualities. For Albert, such reductionism could not hold in light of the truth. His own reconciliation gave precedence to Aristotle's hylomorphic account instead, and it did so by introducing into the debate the new concept of *inchoatio formae*, a quasi-active principle in matter that attracts different

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around the same time that he wrote *De causis proprietatum elementorum*. This suggests that he might have thought about the ways of ordering his sources here along the lines outlined in this quotation.

<sup>48</sup> Albertus Magnus, *Super Porphyrium De V universalibus*, Tr. de antecedentibus ad logicam, c. 3, ed. by Santos Noya, p. 6, vv. 16–29: 'Est autem non tantum necessaria, sed etiam utilis haec scientia. Si enim bonum et felicitas hominis est secundum optimae partis animae hominis perfectissimum actum, hoc est secundum intellectum contemplativum, nec contemplari poterit intellectus, nisi noverit contemplationis principia et sciat invenire quod quaerit contemplari, et diiudicare id ipsum quod iam contemplatur inventum, patet quod prae omnibus utilis est ad felicitatem haec scientia, sine qua non attingitur felicitatis actus et per quam ipse felix actum non impeditae recipit operationis. Haec enim scientia a phantasiis, quae videntur et non sunt, liberat, errores damnat, et ostendit falsitates et lumen dat rectae in omnibus contemplationis. Prae omnibus igitur desideranda est haec scientia.'

forms to the elements. These reductionist versus anti-reductionist tendencies, Takahashi shows, were not singular events in Averroes's and Albert's strategies of speaking the truth. On the closely related theme of the spontaneous generation of living beings, Averroes again proffered a reductionist explanation, granting cosmic heat the role of formative action, whereas Albert appealed to the concept of *virtus formativa* in analogy to the quasi-active power found in human semen.

Unlike the inheritance-oriented emergence of ordering we identified in Irven Resnick's paper, this emergence of two new explanatory concepts might be called a process of innovation bound to rejection. Key to Albert's reconciliation of Aristotle's templates were his very own concepts of *incohatio formae* and *virtus formativa*, which enabled him to unequivocally attribute the explanatory force to hylomorphism rather than to mixture of the elements. But without Averroes's prior, reductive reconciliation of Aristotle's templates, Albert might not have felt the need to propose the concept at all, let alone to mobilize its explanatory scope — in its modified form as *virtus formativa* — for the spontaneous generation of living composites. Albert's indebtedness to Aristotle, then, is but one component of the different historical layers to his explanation. His rejection of Averroes is closely tied to his invention of a new scientific concept. By throwing the concept of *incohatio formae* into the mix, Albert becomes able to rearrange the components of both of Aristotle's accounts in such a way that they constitute a new scientific explanation, one that adheres to the epistemic ideals of coherence and unity.

Albert's intellectual activities of ordering divergent views on a given theme and judging the truth value of those views also play a dominant role in **Luis Xavier López-Farjeat's** contribution. Unlike Resnick, however, López-Farjeat shows that Albert's ordering activity in his *De anima* (1254–57) is already at a matured second stage and takes up a highly sophisticated perspective. In *De homine*, Albert had already devoted much attention to the question of how humans come to know and what the limits of their knowing are. Now, in *De anima*, he returns to these questions and engages in philosophically robust ways with the answers given by his Arabic predecessors. As López-Farjeat shows in detail, Albert now clusters the different views around the key elements of ontology and functionality, separating the wheat from the chaff. First, Albert identifies Alfarabi's and Avempace's views on the material nature of the possible intellect as mistaken; he next recognizes Avicenna's view of the separate agent intellect as 'giver of forms' as equally flawed, then reveals that Averroes's view on the functionality of the agent and possible intellects is true and must thus be adopted into his own teaching. As López-Farjeat observes, Albert made this move despite having previously rejected Averroes's view on the ontologies of both intellects.

The habit of revisiting key philosophical teachings and re-evaluating their truth value should be viewed as a hallmark of Albert's appropriation practices. The most obvious examples are his two *Ethics* commentaries, written with roughly ten years between them, but all teachings anthropological — including human

cognition and intellection, the topic of López-Farjeat's paper — were included in this enterprise of continued re-evaluation. That does not make Albert less of a systematic or coherent thinker. On the contrary, his practice of returning to anthropological themes was inspired by his desire to formulate with ever-increasing precision and clarity what the human being is, does, and can do in its place in the cosmos. Clearly, such repetition also made his *scientia* of the human being more robust, giving it more coherence and unity. At the height of his intellectual activity, Albert synthesized and integrated a breadth and depth of elements in his anthropology that no other Latin thinker before or after him could match. López-Farjeat's paper is the first witness to this highly innovative feature of Albert's intellectual activities; further facets are revealed in Müller's, Anzulewicz's, and Krause's chapters.

Formal coherence and unity, the goal Albert had in mind when considering the composition of material substances, as we saw in Takahashi's paper, was also at work when he dealt with the teaching of intellectual memory. **Jörn Müller** shows that Albert's engagement with Avicenna's denial of intellectual memory was not an open rejection, but instead weighed philosophical against theological outlooks. His pupil Thomas Aquinas strongly held to the role of intellectual memory so as to account for the soul's natural knowledge in the afterlife,<sup>49</sup> but Albert did not worry about memory for the soul's natural knowledge in the afterlife. On the contrary, in his mature doctrine of intellectual memory in the *De anima*, Albert adopts Avicenna's conception of the *intellectus adeptus* and, as Müller shows, adds that intellectual memory matters from a formal rather than a material point of view. Acquired intelligibles matter because of their intellectual light (formal point of view) rather than because of their content (material point of view), and the complete acquisition of their intellectual light equals the acquisition of the *intellectus adeptus*. Albert here embraces an ascending and this-worldly teleology of intellectual development — one that he finds in his Arabic sources — while formulating his own account as regards the cause of such development.

Müller's chapter reveals Albert's systematic adoptions and rearrangements of the explanatory constituents known to him from his sources. Combining them with his own insights — this time, the insight of form in identity with the intellectual light of the intelligibles — Albert builds his very own overarching scientific explanations. The conditions under which Albert could do so were not the Aristotelian template and the Arabic sources per se, but the Aristotelian template and Arabic sources as they were in use among his Latin contemporaries. Müller's paper beautifully demonstrates both the importance of this additional factor of living debates and the difficulty of pinpointing its actual impact on the Latin solutions at hand. For us as historians of medieval philosophy, the living debates of which Albert was part are impossible to reconstruct comprehensively,

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49 See, for instance, Cory, 'Embodied vs. Non-Embodied Modes of Knowing in Aquinas'.



not least because they belonged to a largely oral culture and have left few traces. All the more elusive is the question of what memory in all its implications truly meant for Albert — but his doctrine of a formal, light-bound, content-less memory may at least give us a glimpse.

In Albert's eyes, the human suitability for memory-building and intellectual perfection is not a given for every individual. It depends on certain prior conditions expressed by people's individual natures, conditions that Albert locates in the soul's faculties, the human body, and the environment that humans inhabit. A careful examination of Albert's teaching on these psychological, physiological, geographical, and climatic preconditions for an individual's ability to realize their true rational nature and bring it to intellectual perfection and happiness is offered by **Henryk Anzulewicz**, who takes us on a captivating tour through Albert's oeuvre. Paying special attention to two of Albert's works, *De natura loci* (1251–54) and *De animalibus* (1258), Anzulewicz finds that Albert is completely at ease with borrowing Aristotle's doctrine of the mean for his account of geographical and climatic factors, Galen's and Avicenna's medical teaching of complexion for his explanation of physiological factors, and a mixture of Greek, Arabic, and Latin sources for his account of psychological factors. As a whole, these borrowings offer an unusual insight into Albert's independent intellectual practice of ordering (a practice already described in a different context by Resnick), this time by way of typologies.

In Anzulewicz's view, Albert holds different types of geography and climate causally responsible for different types of human physical constitutions, which are expressed by different complexions of the body; these complexions, in turn, prove responsible for the different types of aptitudes that Albert finds in different humans for realizing their inborn rational nature and attaining perfection of their intellect. It is in this mature view of Albert's on the psychological, physiological, and geographical or climatic preconditions for an individual's aptitude for *scientia* that Anzulewicz finds the natural scientific reasons explaining why certain individuals fulfil their natural desire for knowledge while others fail to do so. Albert advanced a compound typology of explanatory factors in the suitability or unsuitability of certain humans for attaining their natural perfection, and these factors defy reductionism.

More than anything, the complex cooperative and inhibitory interactions of causality on the three different layers of explanation described by Anzulewicz reveal Albert's intellectual practice of ordering his sources by way of epistemic typologies. Once again, it is not the authoritative but the epistemic value of his sources that stands at the heart of Albert's appropriation practices. However, this time, the sources of epistemic significance lie outside the confines of Albert's *scientia naturalis*. Some of his insights are derived from Aristotle's ethics, a *scientia practica*, others from Galenic-Avicennian medicine, an *ars mechanica*.

This reveals two things about Albert's appropriation practices. First, they show that for his *scientia naturalis*, he relies on certain insights that derive from outside the canonical texts of Aristotle's *scientia naturalis*. Second, they reveal how Albert transforms the epistemic value of these external insights, raising medical insights, especially, to the more highly ranked *scientia naturalis* of the *De animalibus*. This factor of emergence in Albert's practices is, we contend, truly unique.

Albert's integrations of anatomical and physiological teachings from *medicina theorica* considerably enlarged the explanatory scope of his *scientia naturalis*. No longer did this *scientia* reign over the teachings of Aristotle and those of his followers as propounded in their books on sentient living beings (*animalia*) alone; it now also acquired a presiding authority over medical teachings that covered the overlapping subject matter of the body of the rational animal.<sup>50</sup> Albert thus transformed and expanded the Aristotelian *scientia de animalibus* on the level of content. But it is possible to detect repercussions of these and similar expansions in scientific scope on the level of *approach* as well. This is particularly the case with regard to Albert's integration of experiential insights and teachings from his Arabic sources.

In her contribution, **Katja Krause** discusses how Albert transformed experience (*experientia*) and doctrine (*doctrina*) from his Arabic sources. Attending first to Albert's *De animalibus*, she examines his integration there of the Galenic-Avicennian medical teaching that 'no bone, apart from teeth, has sensation'. Krause shows that Albert moves away from Avicenna's emphasis on experience as a transmitted piece of knowledge, bequeathed to Avicenna by Galen, to experience as an evidentiary piece of knowledge, warranting the truth of the matter. In this way, Albert turned transmitted experience into empirical verification.

Next, Krause studies Albert's attempt in *De anima* to demarcate taste from touch. Worried by the difficulty of reducing taste to touch (and the danger of ending up with four rather than five external senses), Albert builds his mature doctrine of taste on a formal component derived from Averroes's *Long Commentary on the De anima*: the form-matter relation of flavour to liquid. By identifying flavour as the formal cause and liquid as the material cause of taste, Albert devises the best possible explanation for the experience of tasting saltiness. Both examples of a formal transformation of his sources — the trans-historization of experience and the establishment of a particular teaching as the best explanation of a shared experience — suggest that Albert's appropriations of his sources went far deeper than issues of content alone. His concerns included not only truthfulness to the original, the threat of the double truth, and debates with his Latin interlocutors, but more importantly the epistemic value and function of any given piece of knowledge that he appropriated from his sources.

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<sup>50</sup> See, for instance, Cadden, 'Albertus Magnus' Universal Physiology'; Siraisi, 'The Medical Learning of Albertus Magnus'; Park, 'Albert's Influence on Late Medieval Psychology'; Jacquart, 'Die Medizin als Wissenschaftsdisziplin'; Krause, 'Grenzen der Philosophie'.

In fact, Albert's appropriations were marked as much by concerns of approach as by concerns of content — the former of which have largely gone unnoticed. When Albert turned transmitted experience into evidentiary experience, and when he identified a given doctrine as the best explanation for a shared experience, he determined the formal links between experience as evidentiary and doctrine as explanatory. Experience became proof for the truth of a teaching, and doctrine became the best explanation for a given sensory experience. In both cases, this is a precise epistemic determination that is nowhere found in his sources. What still remains to be investigated is whether these two connections between experience and doctrine themselves followed a new and wider epistemic programme of reconceiving the relationship between experience and explanation: how they were subject to Albert's scientific practices of ordering and rearranging, defining and demonstrating, and how they connected to the scientific goals he sought, truth, certainty, and comprehensiveness of knowledge.

**Amos Bertolacci's** chapter brings us back to questions of content. Just like Puig Montada, Resnick, Takahashi, and Müller in their chapters, Bertolacci zooms in on how Albert reconciled his Arabic sources with each other, this time regarding the metaphysical doctrine of universals. Looking at a pre-existing disagreement among the Arabic sources, Bertolacci's study begins with a close reading of Averroes's portrayal of Avicenna's teaching on the nature of, and relationship between, the two universals of being and oneness. His aim is to show the extent to which Averroes already reinterpreted Avicenna's position. Bertolacci then discusses Albert's reading of both of these Arabic sources and unpacks the precise nature of Albert's doctrinal reconciliation between Avicenna's own position (as read by Albert in the Latin translation of Avicenna's *Metaphysics*), the reinterpreted Avicenna in Averroes's long commentary on Aristotle's *Metaphysica*, and Averroes's own position. The reconciliation, Bertolacci tells us, demanded an array of hermeneutical measures on Albert's part. These ranged from deliberately leaving out Averroes's name in the listed accusations against Avicenna's position, to sweeping Averroes's harshest accusations under the carpet and rephrasing other attacks, to slightly reinterpreting Avicenna's teachings. Albert applied all these to accomplish an entirely new product: a unified and coherent perspective on the nature and relation of the two universals of being and oneness, according to which Avicenna and Averroes are in almost perfect agreement with one another. The purpose of Albert's reconciliation, Bertolacci's discussion suggests, is to fully naturalize Arabic philosophy in general, and Arabic metaphysics in particular, within the world of Latin education.

Albert must have been among the first of the Latin thinkers to succeed in naturalizing the Arabic sources. The generations to come, as is well known, read Aristotle's *Metaphysica* not in isolation but in tandem with his Arabic commentators, whose voices were thus reinterpreted in ever-new polyphonies by Latin scholars until the early modern period. More than anything, Bertolacci's paper traces meticulously how selections, reinterpretations, and informational

rearrangements needed to be made on the micro-level of a single doctrine. It also shows the hermeneutical precision that Albert required for his decisive advance of a doctrinal alignment that helped to catalyse the long-lived success of Aristotle's *Metaphysica* in the Latin West.

Albert's hermeneutical precision is also a key component in **David Twetten's** expansively detailed examination of Albert cosmology. Twetten investigates Albert's treatment of emanation, particularly his mature teaching in *De causis* (1267), presenting the intricate play of inspiration of Greek (Proclus, Pseudo-Dionysius, John the Damascene), Arabic (*Liber de causis*, Isaac Israeli, Avicenna, Moses Maimonides), and Latin (Augustine, Boethius, Anselm of Canterbury, William of Auxerre, Philip the Chancellor, Robert Kilwardby, Bonaventure) provenance in Albert's mature solution.

The motivation of Twetten's chapter, however, lies elsewhere. The much-discussed concern among scholars about double truth merits Twetten's rigorous discussion: Is Albert's view reconcilable with his era's theological truth about creation or not? There is no need to worry about double truth, Twetten responds, because Albert's emanation scheme endorses neither mediate creation nor divine determinism, despite also aiming for the best philosophical explanation of the origin of all there is.

Tackling the question of divine determinism first, Twetten discusses Albert's doctrine of the divine will. At its heart stands the notion of God as *causa sui*, a notion that resolves all fears of determinism. Twetten then turns to Albert's articulation of a law-like scheme of the derivation of creatures from God that distinguishes true creation from information. The scheme's articulation follows the inspiration of Avicenna, writes Twetten, but it equally reveals Albert's own take: since *esse* alone is immediately caused by God *ex nihilo*, all forms other than *esse* require a different cause and a different type of causality. This other cause amounts to what Albert identifies as the Intelligence, and its type of causation is *informatio*, a bringing-about of diversity and composition by specifying *esse* through form. As a consequence, Twetten concludes, Albert is able to affirm equal omnipresence of God in all creatures, thus reducing all worries about mediate creation or divine determinism even further.

Perhaps more sumptuously than any other study in the volume, Twetten shows that although the sources Albert used supplied him with material and inspirational ideas, his own combination of that material was truly unique. In its approach, this composition complied with the high epistemic standards of the philosophical approach; in its aim, it aspired to the ultimate value of truth. For Albert, that implied there was no room for double truth. But contrary to his near-contemporaries — Thomas Aquinas and Duns Scotus are two that Twetten invokes explicitly — Albert did not simply fit new philosophical ideas and images into passed-down theological ones. He thought hard about his reconciliation on an abstract, highly sophisticated level of reason that, to this very day, has de-

manded extraordinary care and attention to detail from his readers in deciphering its true meaning and its pioneering take on reality.

Taken together, this volume's twelve chapters show exactly how Albert made use of his Arabic sources with the ends of truth, certainty, comprehensiveness, and human perfection in mind. They show him gleaning from his sources — Arabic, Greek, and Latin — with a consistent approach: he read and collected all the teachings available on a particular *quaestio*, determined the truth in light of certain principled criteria that he considered most foundational, and gave precedence to those teachings in his authorities that accounted for the world in its multiplicity and variety in the best possible way known to him. These authorities happened to be, in many instances, the Arabic sources that followed, explicated in greater detail, and completed Aristotle's philosophy as an enterprise sharing the very epistemic values that Albert would make his own.

However, Albert's use of these Arabic sources cannot be reduced only to their own teachings, nor is it modelled on the same epistemic values in all cases. This diversity in Albert's deployments applies particularly to those Arabic thinkers who make the most frequent appearances in his writings, Avicenna and Averroes. Their voices, like the voices of the other Arabic authorities in Albert, were never intended as endpoints to be reached, but rather as auspicious points of departure. Respected for their value of truth, for Albert the Arabs were stewards of philosophical teachings that he, with his own erudition, brought into the Latin world and shared with his peers and students alike.

His ultimate aim in so doing — knowledge for the sake of the perfection of the scientist — guided his use of these Arabic sources in a way that allowed new teachings and epistemic values to emerge. The epistemic processes of naturalization and corpus formation that the contributions to this book describe thus reveal how Albert created his own comprehensive medieval philosophical *scientia*, oscillating between his inheritance of the Arabic sources and the emergence of his own thinking.

## Works Cited

### Primary Sources

- Albertus Magnus, *Analytica posteriora*, ed. by Auguste Borgnet, Editio Parisiensis, 2 (Paris: Vivès, 1890)
- , *Commentarii in II Sententiarum*, ed. by Auguste Borgnet, Editio Parisiensis, 27 (Paris: Vivès, 1893)
- , *De resurrectione*, ed. by Wilhelm Kübel, Editio Coloniensis, 26 (Münster: Aschendorff, 1958)
- , *Liber de natura et origine animae*, ed. by Bernhard Geyer, Editio Coloniensis, 12 (Münster: Aschendorff, 1955)
- , *Metaphysica, libri VI–XIII*, ed. by Bernhard Geyer, Editio Coloniensis, 16/2 (Münster: Aschendorff, 1964)
- , *Physica, libri I–IV*, ed. by Paul Hossfeld, Editio Coloniensis, 4/1 (Münster: Aschendorff, 1987)
- , *Physica, libri V–VIII*, ed. by Paul Hossfeld, Editio Coloniensis, 4/2 (Münster: Aschendorff, 1993)
- , *Quaestiones super libris de animalibus*, ed. by Ephrem Filthaut, Editio Coloniensis, 12 (Münster: Aschendorff, 1955)
- , *Summa de creaturis*, ed. by Auguste Borgnet, Editio Parisiensis, 34 (Paris: Vivès, 1895)
- , *Super I librum Sententiarum*, ed. by August Borgnet, Editio Parisiensis, 25 (Paris: Vivès, 1893)
- , *Super Porphyrium De V universalibus*, ed. by Manuel Santos Noya, Editio Coloniensis, 1/1A (Münster: Aschendorff, 2005)
- Aristoteles Latinus, *Metaphysica, lib. I–X, XII–XIV, translatio anonyma sive ‘media’*, ed. by Gudrun Vuillemin-Diem (Leiden: Brill, 1976)
- Avicenna Latinus, *Liber de philosophia prima*, vol. 1 (I–IV), ed. by Simone Van Riet (Leuven: Peeters, 1977)
- Dominicus Gundissalinus, *De divisione philosophiae: Über die Einteilung der Philosophie*, ed. and trans. by Alexander Fidora and Dorothee Werner (Freiburg im Breisgau: Herder, 2007)

### Secondary Works

- Anzulewicz, Henryk, ‘Albertus Magnus als Vermittler zwischen Aristoteles und Platon’, *Acta Medievalia*, 18 (2005), 63–87
- , ‘The Systematic Theology of Albert the Great’, in *A Companion to Albert the Great: Theology, Philosophy, and the Sciences*, ed. by Irven M. Resnick (Leiden: Brill, 2013), pp. 15–67

- Blankenhorn, Bernhard-Thomas, *The Mystery of Union with God: Dionysian Mysticism in Albert the Great and Thomas Aquinas* (Washington, DC: The Catholic University of America Press, 2015)
- Bonin, Marie-Thérèse, *Creation as Emanation: The Origin of Diversity in Albert the Great's 'On the Causes and the Procession of the Universe'* (Notre Dame, IN: University of Notre Dame Press, 2001)
- Brungs, Alexander, Vilem Mudroch, and Peter Schulthess, 'Institutionelle Voraussetzungen', in *Die Philosophie des Mittelalters 4: 13. Jahrhundert*, ed. by Alexander Brungs, Vilem Mudroch, and Peter Schulthess (Basel: Schwabe, 2017), part 1, pp. 41–91
- Cadden, Joan, 'Albertus Magnus' Universal Physiology: The Example of Nutrition', in *Albertus Magnus and the Sciences: Commemorative Essays 1980*, ed. by James A. Weisheipl (Toronto: Pontifical Institute of Mediaeval Studies, 1980), pp. 321–39
- Canguilhem, Georges, *Ideology and Rationality in the History of the Life Sciences*, trans. by Arthur Goldhammer (Cambridge, MA: MIT Press, 1988)
- Cassirer, Ernst, *The Philosophy of the Enlightenment*, trans. by Fritz C. A. Koelln and James P. Pettegrove (Princeton, NJ: Princeton University Press, 1979)
- Cory, Therese Scarpelli, 'Embodied vs. Non-Embodied Modes of Knowing in Aquinas: Different Universals, Different Intelligible Species, Different Intellects', *Faith and Philosophy*, 35 (2018), 417–46
- Cunningham, Stanley, *Reclaiming Moral Agency: The Moral Philosophy of Albert the Great* (Washington, DC: The Catholic University of America Press, 2008)
- Elkana, Yehuda, *Leben in Kontexten / Life in Contexts: Yehuda Elkana*, ed. by Reinhart Meyer-Kalkus (Berlin: Wissenschaftskolleg zu Berlin, 2015)
- , 'A Programmatic Attempt at an Anthropology of Knowledge', *Sociology of the Sciences Yearbook*, 5 (1981), 1–76
- Goethe, Johann Wolfgang von, *Faust*, trans. by Bayard Taylor (New York: Arden, 1900)
- , *Faust: Ein Fragment* (Leipzig: Göschen, 1790)
- Honnefelder, Ludger, 'Einleitung', in *Albertus Magnus und der Ursprung der Universitätsidee: Die Begegnung der Wissenskulturen im 13. Jahrhundert und die Entdeckung des Konzepts der Bildung durch Wissenschaft*, ed. by Ludger Honnefelder (Berlin: Berlin University Press, 2011), pp. 9–26
- Jacquart, Danielle, 'Die Medizin als Wissenschaftsdisziplin und ihre Themen', in *Die Philosophie des Mittelalters 4: 13. Jahrhundert*, ed. by Alexander Brungs, Vilem Mudroch, and Peter Schulthess (Basel: Schwabe, 2017), part 1, pp. 1595–1612
- , 'La place d'Isaac Israeli dans la médecine médiévale', *Vesalius*, special number (1998), 19–27
- Janssens, Jules, 'Le *De Divisione philosophiae* de Gundissalinus: Quelques remarques préliminaires à une édition critique', in *De l'Antiquité tardive au Moyen Âge: Études de logique aristotélicienne et de philosophie grecque, syriaque, arabe et latine offertes à Henri Hugonnard-Roche*, ed. by Elisa Coda and Cecilia Martini Bonadeo (Paris: Vrin, 2014), pp. 559–70

- Krause, Katja, 'Albertus Magnus zur Philosophie und Theologie: Die Rolle des Erkennenden', presentation at the Angelicum, Thomistic Institute, 30 March 2022, <https://www.youtube.com/watch?v=hhNCJRGCTJo>
- , 'Grenzen der Philosophie: Alberts des Großen Kommentar zu *De animalibus* und die Medizin', *Documenti e studi sulla tradizione filosofica medievale*, 30 (2019), 265–93
- , 'Transforming Aristotelian Philosophy: Alexander of Aphrodisias in Aquinas' Early Anthropology and Eschatology', *Przegląd Tomistyczny*, 21 (2015), 175–217
- Krause, Katja, and Henryk Anzulewicz, 'Albert the Great's *Interpretatio*: Converting Libraries into a Scientific System', in *Premodern Translation: Comparative Approaches to Cross-Cultural Transformations*, ed. by Sonja Brentjes and Alexander Fidora (Turnhout: Brepols, 2021), pp. 89–132
- , with Maria Auxent and Dror Weil, 'Introduction: Making Sense of Nature in the Premodern World', in *Premodern Experience of the Natural World in Translation*, ed. by Katja Krause, Maria Auxent, and Dror Weil (New York: Routledge, 2022), pp. 7–19
- Krause, Katja, and Tracy Wietecha, 'Albert the Great on Negative-Mystical Theology as the Epitome of Science', in *The Oxford Handbook of Apophatic Theology*, ed. by John R. Betz and Rik Van Nieuwenhove (Oxford: Oxford University Press, forthcoming)
- Krois, John Michael, 'Cassirer's Revision of the Enlightenment Project', in *Philosophie der Kultur – Kultur des Philosophierens: Ernst Cassirer im 20. und 21. Jahrhundert*, ed. by Birgit Recki (Hamburg: Meiner, 2012), pp. 89–106
- Miteva, Evelina, 'The Reception of Ibn Gabirol's *Fons vitae* in Albertus Magnus', in *Ibn Gabirol (Avicebron): Latin and Hebrew Philosophical Traditions*, ed. by Nicola Polloni, Marienza Benedetto, and Federico Dal Bo (Turnhout: Brepols, 2023), pp. 197–216
- O'Meara, Thomas, ed. and trans., *Albert the Great: Theologian and Scientist* (Chicago: New Priority Press, 2013)
- Park, Katharine, 'Albert's Influence on Late Medieval Psychology', in *Albertus Magnus and the Sciences: Commemorative Essays 1980*, ed. by James A. Weisheipl (Toronto: Pontifical Institute of Mediaeval Studies, 1980), pp. 501–36
- Putallaz, François-Xavier, 'Die ersten Franziskaner', in *Die Philosophie des Mittelalters 4: 13. Jahrhundert*, ed. by Alexander Brungs, Vilem Mudroch, and Peter Schulthess (Basel: Schwabe, 2017), part 1, pp. 287–300
- Ragep, F. Jamil, Sally P. Ragep, and Steven Livesey, eds, *Tradition, Transmission, Transformation: Proceedings of Two Conferences on Pre-modern Science Held at the University of Oklahoma* (Leiden: Brill, 1996)
- Resnick, Irven, ed., *A Companion to Albert the Great: Theology, Philosophy and the Sciences* (Leiden: Brill, 2013)
- , and Kenneth F. Kitchell Jr., *Albertus Magnus and the World of Nature* (Chicago: Chicago University Press, 2022)
- Rheinberger, Hans-Jörg, *On Historicizing Epistemology: An Essay*, trans. by David Fernbach (Stanford, CA: Stanford University Press, 2010)
- Sabra, Abdelhamid I., 'The Appropriation and Subsequent Naturalization of Greek Science in Medieval Islam: A Preliminary Statement', *History of Science*, 25 (1987), 223–43



- Siraisi, Nancy, 'The Medical Learning of Albertus Magnus', in *Albertus Magnus and the Sciences: Commemorative Essays 1980*, ed. by James A. Weisheipl (Toronto: Pontifical Institute of Mediaeval Studies, 1980), pp. 379–404
- Strobino, Riccardo, *Avicenna's Theory of Science: Logic, Metaphysics, Epistemology* (Oakland: University of California Press, 2021)
- Sturlese, Loris, 'Albert der Große', in *Die Philosophie des Mittelalters 4: 13. Jahrhundert*, ed. by Alexander Brungs, Vilem Mudroch, and Peter Schulthess (Basel: Schwabe, 2017), part 2, pp. 861–86
- , *Die deutsche Philosophie im Mittelalter: Von Bonifatius bis zu Albert dem Großen, 748–1280* (Munich: C. H. Beck, 1993)
- Suarez-Nani, Tiziana, 'Die theologische Fakultät Paris in der ersten Hälfte des Jahrhunderts', in *Die Philosophie des Mittelalters 4: 13. Jahrhundert*, ed. by Alexander Brungs, Vilem Mudroch, and Peter Schulthess (Basel: Schwabe, 2017), part 1, pp. 269–86
- Vost, Kevin, *St Albert the Great: Champion of Faith and Reason* (Charlotte, NC: TAN Books, 2011)
- Wallace, William A., ed., 'Albertus Magnus', special issue, *American Catholic Philosophical Quarterly*, 70.1 (1996)
- Weisheipl, James, ed., *Albertus Magnus and the Sciences: Commemorative Essays* (Toronto: Pontifical Institute of Mediaeval Studies, 1980)
- , 'Classification of the Sciences in Medieval Thought', *Mediaeval Studies*, 27 (1965), 54–90
- Wood, Christopher, 'Source and Trace', *RES: Anthropology and Aesthetics*, 63/64 (2013), 5–19