

**Tiziana Suarez-Nani, Agostino Paravicini Bagliani (eds.) *Materia: Nouvelles perspectives de recherche dans la pensée et la culture médiévales (XIIe-XVIe siècles)*. Micrologus' Library 83. Florence, SISMELE, 2017. xxiv+396 pp., ISBN: 9788884508072. Cloth: €65**

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In medieval philosophy, few notions are so enveloping, problematic, and consequential as the correlated notions of matter and prime matter. The very distinction between these two cognate terms – *materia* and *materia prima* – is difficult to establish, if we consider the Middle Ages in its entirety, both after and before the translation movements. Is there a proper notion of «prime matter» before the Latin translations of Aristotle's *Metaphysics* and *Physics*? Textually, *materia prima* precedes its 13<sup>th</sup>-century Aristotelian connotation and is accompanied by a large variety of synonyms: *materia primordialis*, *silva*, *materia elementorum*, and so on. Yet until the end of the 12<sup>th</sup> century, only a shadow of the features that would make that *primordial* matter the *prime* matter of Scholasticism accompanied the centuries-long discussion of this term. Thanks to the translations of Aristotle, Avicenna, Averroes, and Ibn Gabirol, a new notion of matter surfaced in the Latin West: a matter intimately related to potency and privation, but in constant business with the form, as both are the «metaphysical ingredients» – as Robert Pasnau calls them – of the ontological recipe of corporeal substances.

However, matter and its base state of prime matter are not speculative items exclusive to metaphysics. As a principle of natural change, matter plays a primary role in medieval natural philosophy and, accordingly, many of the most intriguing discussions about it can be found in the tradition of commentaries and questions on Aristotle's *Physics*. Matter was also considered as to express the generic aspect of the essence of bodies. In the Middle Ages, matter was a concept shared by many disciplines, not only philosophical. As a founding feature of the paradigmatic Aristotelian framework, the notion of matter was fragmented into a plurality of *disciplinary epistemes* far beyond the boundaries of philosophy. From astronomy and meteorology to medicine and alchemy, medieval thinkers engaged themselves with the intricacies proper to the notion of matter in a plurality of theories and practices, assumptions and criticisms, emending and confirming in opposite ways the Aristotelian framework of natural philosophy and its metaphysical foundation.

In light of such a wide-spread presence and relevance of the notion of matter – first or prime, proximate or remote, metaphysical or physical – in the Middle Ages, a comprehensive guide to the centuries-long debates on its existence, scope, and properties has been a *desideratum* for a long time. With the two volumes he dedicated to the concept of matter, Ernan McMullin (*The Concept of Matter in Greek and Medieval*

*Philosophy and The Concept of Matter in Modern Philosophy*. Notre Dame: UNDP, 1965 and 1978) made a first meaningful step in that direction. His volumes have indeed provided scholarship with a reliable guide to some central aspects of the philosophical discussion on matter from Plato to the 20<sup>th</sup> century. Almost in the same years as McMullin's volumes, Michel Ambacher published his short *La matière, dans les sciences et en philosophie* (Paris: Aubier, 1972) – a title with great ambitions accompanied by a humble perspective. A few decades had to pass before another ambitious project was dedicated to the history of the concept of matter, with the special issue of the journal *Quaestio* (vol. 7, 2007: *La materia*) focused on matter in the history of philosophy, from pre-Socratic philosophy to general relativity. Other splendid contributions to the understanding of the medieval notion of matter have been recently published. I want to recall just a few of them: the books dedicated to this topic by Anna Rodolfi on Albert the Great (*Il concetto di materia nell'opera di Alberto Magno*. Firenze: SISMEL, 2004), Jeffrey Brower on Aquinas (*Aquinas's Ontology of the Material World*. Oxford: OUP, 2014), and Antonio Petagine on early Scotism (*Il fondamento positivo del mondo*. Roma: Aracne, 2019). To them, I should add the magnificent volume that Pasnau has dedicated to medieval metaphysics (Robert Pasnau, *Metaphysical Themes 1274–1671*, Oxford: OUP, 2011), to which I have briefly referred above and that has proven to be an invaluable guide to many scholars diving into the intricacies of matter and metaphysics.

Notwithstanding the high level of these books, only a different project could have been able to embrace the medieval debate on matter from a plurality of points of view in both philosophy and science. The volume edited by Tiziana Suarez-Nani and Agostino Paravicini Bagliani goes in that direction. And it provides exactly what the scholarly discussion of medieval matter was missing: an overreaching approach to the interdisciplinary value of matter in the Middle Ages. Suarez-Nani is one of the leading experts on medieval theories of matter, with an impressive number of contributions on the topic. The volume she and Paravicini Bagliani have edited brings the reader to an eventful expedition into the puzzling maze of medieval matter. The expedition begins with the introduction to the volume, where Suarez-Nani recalls Giordano Bruno's theory of matter as an implicit guide for the journey upon which we are about to start. The reader should be aware: in this philosophical journey one can first-handily engage with exotic concepts (like self-multiplying light, diminished potencies, and non-formal acts) and an abundance of perilous problems (like spontaneously generated humans and alchemical reductions to prime matter). It is a journey that also is able to fascinate those who may have no specific interest on medieval matter.

Chronologically, the volume starts with the 12<sup>th</sup>-century shift to Aristotelian matter. Danielle Jacquart's contribution, «La notion de matière dans les commentaires bibliques», discusses the notion of matter as it is presented by some influential Biblical commentaries from the 12<sup>th</sup> to the 14<sup>th</sup> centuries. Her contribution offers a brilliant perspective on how the discussion of this central notion was shaped by the availability of new sources and intertwined with the theological debate on the creation. In the 12<sup>th</sup> century, a common tendency was to consider the primordial matter of the universe as

the elements (like Abelard) and as a matter which can be considered as formless only by reason of its lack of perfection (like Hugh of St Victor and Peter Lombard, in different ways). Almost a century later, Robert Grosseteste's *Hexaemeron* offers a good example of the richness of approaches to the problem of matter and creation. Grosseteste indeed envisions a creation by means of formal light joining prime matter in a union which, in turn, corresponds to the cosmic institution itself. Yet in this case, matter still requires a form in order to come to existence. A final case studied by Jacquart is Nicholas of Lyra's discussion of *Genesis*. Lyra indeed offers a meaningful insight on the history of the notion of matter itself. Jacquart examines different accounts of matter debated by Lyra, paying specific attention to the role that matter plays in the ontological distinction between super- and sublunary worlds. In fact, different conceptions of matter lead to different types of biblical commentaries, as Lyra himself underlines.

With Cecilia Panti's «Matter and Infinity in Robert Grosseteste's *De luce* and *Notes on the Physics*», the discussion returns to Grosseteste's theory of matter. Panti's contribution is intriguing. Her study utterly redefines the main coordinates of the scholarly interpretation of Grosseteste's notion of matter. The chapter is centred on two correlated works by Grosseteste: *De luce* and the *Notes on the Physics*. Yet, while the former is a well-studied text, unfortunately, the *Notes* have received scarce scholarly attention. From this point of view, Panti's study shows how relevant Grosseteste's commentary on Aristotle's *Physics* is for an in-depth understanding of his theory of light and matter in continuity with *De luce*, a treatise that Grosseteste wrote a few years before. Panti's contribution focuses on the notion of infinite self-multiplication of light as the main explanatory device proposed by Grosseteste in order to explain the «leap» from extensionless matter to bodily three-dimensionality. Using Aristotle's works and reverting the Stagirite's criticism of Pythagoras, Democritus, and Plato, Grosseteste's *De luce* presents an intrinsically atomist theory of extended (i.e., secondary) matter which is evidently opposed to Aristotle. In the *Notes on the Physics*, a similar outcome is provided by Grosseteste's discussion of the passive potency of matter. Panti examines Grosseteste's interpretation of Pythagoras's monism in the terms of an infinite replication of numbers (and matter) from which the universe came to be – a discussion which is crucial in order to understand the developments of Grosseteste's physics of light. Indeed, Grosseteste's discussion of Pythagorism allows him to envision a distinction between prime matter's potency and its passive replicability, the latter corresponding to its ability to be replicated by light, and therefore extended into three-dimensionality.

Anna Rodolfi's «Matière, forme et génération» brings into focus another fundamental aspect of the medieval debate on prime matter: the theory of seminal reasons. Rodolfi engages with this crucial theory by examining the late 13<sup>th</sup>-century debate opposing Henry of Ghent and Roger Marston. Henry of Ghent's discussion of *rationes seminales* starts by taking a stance against any correspondence between seminal reasons and the inchoative forms. If that were the case, one would incur a series of contradictions implying that generation ultimately coincides with creation. Rodolfi

points out the two pillars sustaining Ghent's theory of seminal reasons. On the one hand, matter's potency is not absolute, but corresponds to an obediencial potency which enables matter to collaborate with the agent during the generative process. On the other hand, seminal reasons are to be considered as incomplete and active principles of change that are immanent to the subject, whose main function is to orient matter's potency toward the acquisition of a new form. Passing to Roger Marston, the English philosopher shares Ghent's conviction that seminal reasons are incomplete and governing principles. However, this does not imply that Ghent's theory is well-grounded. In order to assess the ontological status of the seminal reasons, Marston proposes his theory of formal degrees, which – in his own view – are consistent with formal pluralism. Marston observes that any process of generation can be read as a gradual specification of generic formal features. As a consequence, the logical articulation presented by Porphyry's tree must be acknowledged as the ontological structure expressed by the form. The gradual specification of this form is nothing else but the actualisation of its more generic potency at the proximate higher level of its ontological structure. Proceeding by degrees (*esse substantialia*), the form acts upon the potency of matter and generation consequently occurs. Rodolfi elegantly describes the irresolvable tension separating Ghent's and Marston's perspective on this delicate matter.

Authored by Anik Sienkiewicz-Pépin, the volume's next contribution – «Matière spirituelle et localisation chez Richard de Mediavilla» – examines Richard of Middleton's theory of matter, especially spiritual matter. First, Sienkiewicz-Pépin presents Middleton's distinction between essence and potency of prime matter. On the one hand, the essence of matter has some degree of actuality (otherwise, it would not be an essence whatsoever) and is a potential nature able to receive a form. On the other hand, the potency of matter is a pure possibility and, accordingly, it cannot be coincident with its essence. Indeed, the potency of matter is meant to be actualised within the process of actualisation of the hylomorphic composite, a fact which shows the fundamental difference between these two features of matter's ontological status. The second part of Sienkiewicz-Pépin's contribution is focused on Middleton's theory of spiritual matter. Sienkiewicz-Pépin argues that the main consideration leading Middleton to assume spiritual hylomorphism was his analysis of motion. Since motion implies matter, and angelic creatures do move, it must be assumed that angels are composed of matter and form. Although inherited from influential Franciscan authors like Bonaventure, spiritual hylomorphism would not be accepted by Duns Scotus. The final part of Sienkiewicz-Pépin's paper assesses the differences between Middleton's and Scotus's theories of angelic being, stressing how both authors used the main operation argument in order to substantiate their opposite stances.

Next, the volume offers a fascinating contribution – surely, one of the best and most enveloping chapters of the volume. Cecilia Trifogli's «Geoffrey of Aspell on Matter» discusses how a very original thinker, Geoffrey of Aspell, envisioned the role of matter as the substrate of natural change. In his *Questions on Aristotle's Physics*, Aspell

distinguishes between two kinds of matter: prime matter and natural matter. Of them, only the latter is the substrate of natural change. Such distinction can be found elsewhere in the 13<sup>th</sup>-century debate. One could expect Aspoll to base the difference between prime and natural matter in the latter's hylomorphic composition, as secondary matter. However, Aspoll refuses this option – natural matter is matter properly speaking, not a composite – and Trifogli analyses the philosophical reasons behind this stance. Aspoll's distinction between prime and natural matter addresses a pivotal question marking medieval Aristotelianism. According to Aspoll, prime matter is not a suitable substrate for natural change, because its potency is the passive potentiality to receive every form. Therefore, a different substrate – natural matter – must be assumed. Yet, if natural matter is completely formless, how can it be different from prime matter and able to perform a function that prime matter is not able carry out? The solution to this problem is offered by Aspoll's notion of diminished potencies (*potentiae diminutae*). Natural matter is the union of prime matter and diminished potencies. As Trifogli's thorough examination points out, diminished potencies correspond to the active potency of natural matter which express both the lack of form and its directedness toward the reception of a form *x* (or its contrary *y*). In his *Questions on Aristotle's Physics*, Aspoll also points out that the diminished potencies are utterly potential inclinations toward the act together with the privation on that act – a puzzling statement, as Trifogli underlines. They are neither forms nor formal aspects, but a different kind of entity related to privation. Diminished potencies govern the material participation in the process of natural change – therefore, they cannot be formal – and are activated by the reception of the (intentional) species, from which natural change begins. Thanks to diminished potencies, Aspoll is able to give a reason for how formless – yet not prime – matter is able to carry out its function of a substrate enduring change. The price of Aspoll's originality, exemplified by this explanatory device, is the admission of a peculiar set of non-Aristotelian entities that are an intriguing consequence of the problematic reception of Aristotle's theory of matter in the Middle Ages.

Related to this point, another aspect of Aristotle's natural philosophy in which matter plays a central role is the doctrine of elemental mixture. In this case, a tension arises from the consideration of a duality in Aristotle's account of the composition of sublunary bodies. On the one hand, they are hylomorphic composites. On the other, however, they are also elemental mixtures. How can these two accounts be harmonised, when both options seem to be mutually exclusive? What is the ontological status of the elements within the mixture in consideration of the latter's hylomorphic composition? These questions are crucial in order to understand the application of hylomorphism to natural philosophy.

William Duba's chapter, «Franciscan Mixtures: William of Brienne on the Elements», deals with this fundamental aspect of the medieval debate. As usual with Duba's studies, his contribution to this volume offers an elegant, thorough, and comprehensive account of this delicate problem. In the introductory part of his

chapter, Duba starts with a historiographical discussion, contrasting Anneliese Maier's perspective with Thomas Ward's and Lucian Petrescu's, who challenged Maier's reading of the medieval discussion of elemental mixtures. Duba observes that both Maier and Petrescu have interpreted the stances of medieval philosophers – particularly Scotus's – from points of view influenced, respectively, by Peter Auriol's and Giacomo Zabarella's positions. As a consequence, Duba raises a crucial question: given this plurality of scholarly interpretations, how does an early Scotist like William of Brienne, interpret Scotus's position? Brienne offers a privileged vantage point to assess Scotus's theory and its early reception. Duba presents the reader with a thorough examination of Brienne's stances. In his commentary on the *Sentences*, Brienne's discussion is developed by contrasting the perspectives of philosophers and theologians on the subject. The framework is established by Brienne's use of Avicenna, Averroes, Scotus, Auriol, and Francis of Marchia as his main sources. Brienne rejects Avicenna's position (claiming that the elements persist substantially in the mixture) and criticises Averroes (who claimed that the elements persist in the mixture in a diminished way) by pointing out that a partial remission of the form is not sufficient to balance their contrariety. The elements cannot be in act either partially or completely within the mixture. As a consequence, their presence in the mixture is only virtual, similar to the virtual presence of the effect in the efficient cause. Brienne's position is therefore plainly consistent with Scotus's, as Duba points out. Duba also underlines Brienne's method in teaching Scotus's and other contemporary solutions to the problem of the elements/mixture relationship, while subtly persuading his students that Scotus's theory was the most valid. In the appendix, Duba offers a transcription of William of Brienne's *Reportantio in libros Sententiarum*, Lectiones 102-103 (Paris, May 1330) from the manuscript Praha, Národní knihovna České republiky, ms VIII.F.14.

Still in the framework of early Scotism, Roberta Padlina's contribution, «Matière et puissance dans la pensée de Jacques d'Ascoli», discusses the theory of matter formulated by Jacob of Ascoli. Working on the first reception of Scotus's works, Padlina has identified Jacob of Ascoli as the author of two anonymous questions preserved in two 14<sup>th</sup>-century manuscripts (Città del Vaticano, BAV, Vat. lat. 1012 and Kraków, Biblioteka Jagiellońska, cod. 732). Following her relevant work, Padlina's chapter offers a fascinating excursion into Ascoli's philosophical reflection on the intricacies of Scotist theories of matter. This already meritorious task is accompanied by a sharp, clear, and comprehensive description of Scotus's theory of potency. Here, the problems of the relationship between matter and potency and the directedness of matter that we have seen earlier in the volume emerge again, yet in different ways. Padlina traces the different meanings of the term *potentia*, considered by Scotus as referring to a consideration of potency as either principle of natural change (therefore distinguished into active and passive potencies) or *differentia entis* (thus distinguishing among metaphorical, logical, and metaphysical potencies). Padlina's reconstruction allows her to introduce the crucial point of Scotus's theory of matter: the distinction between objective and subjective potencies, and the claim that matter coincides with the latter.

According to Scotus, it is only in virtue of its being a subjective potency able to be actualised by the form that matter can perform its primary function as the substrate of natural change. Objective potency, in turn, is connoted by an absolute potency toward being and, as such, would not enable matter to perform its natural functions. The second part of Padlina's contribution focuses on Jacob of Ascoli's reception of these central points of Scotus's theory. Specifically, Padlina examines Ascoli's interpretation of the doctrine of objective and subjective potencies in the terms of the difference between relation and fundament. For Ascoli, indeed, matter can be considered to be an objective potency like the fundament of a relation. In this, prime matter is defined by a purely receptive potency. In turn, matter can be considered as subjective potency like the relation established by that fundament and, as such, matter is said to have potency. Accordingly, Padlina does an excellent job of displaying Ascoli's effort to clarify the manifold tensions that are found in Scotus's production.

The first reception of Scotus's theory of matter is further examined by Antonio Petagine. His contribution, «La matière est-elle un étant positif? La réponse de Jean le Chanoine», is centred on John the Canon. Yet, with his far-reaching approach and profound knowledge of the topic (as I mentioned above, he recently published a brilliant book on theories of matter in the early 14<sup>th</sup>-century), Petagine manages to situate John the Canon's thought in the vibrant philosophical debate of that time. The main characters of that debate are all there: Scotus's acknowledgement of matter as a *positive* entity, Peter Auriol challenging it, the early Scotist defending Scotus, and Francis of Marchia in a middle position. In particular, Petagine points out the indebtedness of John the Canon to Gerald of Odo and Antonius Andreae. John the Canon's Scotism is profoundly influenced by these two authors, in manifold ways. For John the Canon, one has to admit that matter has at least some degree of actuality because, otherwise, it would not be able to perform its function of the substrate of natural change, and the hylomorphic composite could not be properly considered a composite. Much of John the Canon's line of reasoning is derived from Gerald of Odo's criticism of Auriol's positions, especially in consideration of the distinction between objective and subjective potencies. Petagine shows how his doctrinal indebtedness is also accompanied by a set of textual inheritances from Antonius Andreae. Among them, the most striking is perhaps John the Canon's account of matter as provided with *actus entitativus* – a term introduced by Andreae in opposition to the *actus formalis* that matter cannot have per se. Further on, Petagine examines another fundamental problem related to matter: its divisibility, either per se (Scotus) or by means of quantity (Auriol, via Averroes). In this regard, John the Canon complements Scotus's reasoning by a sort of mediation with Averroes's theory of undetermined dimensions. Prime matter is already divided into parts before receiving quantity, but that divisibility also coincides with the undetermined dimensions proper to matter. Inspired by Andreae, but following Gerald of Odo, John the Canon clarifies that such undetermined dimensions correspond to the plurality of its parts, which are then ordered by the quantitative determination. Petagine's reconstruction of John the Canon's stances offers an

intriguing and detailed picture of the 14<sup>th</sup>-century debate on matter. Nonetheless, the chapter is just a hors d'oeuvre of Petagine's in-depth knowledge of the debate – interested readers will enjoy even more the book that he dedicated to the subject.

With Joël Biard's «Matière, forme, qualités. Blaise de Parme et le statut de la matière», the volume moves on to Biagio Pelacani's theory of matter. This chapter is centred on an examination of what Biard calls a «monist temptation» that seems to spread over Pelacani's commentaries on natural philosophy. This refers to the stances held by the Greek natural philosophers refuted by Aristotle and to whom Pelacani alludes repeatedly in his commentaries on *De generatione et corruptione* and on the *Physics*. As Biard himself stresses, the main problem engaged with by Pelacani is whether a reduction of physical change to the interaction of qualities within prime matter can in any way be envisioned. Biard's discussion of Pelacani's treatment of this problem is a masterpiece of historical reconstruction. The chapter leads us to appreciate the refined «phantasy» to which Pelacani alludes in his *Questions on Physics*, articulating the monist positions he found in Aristotle's texts. This phantasy – a term that Pelacani uses in order to soften the epistemic validity of the stance – implicitly claims that a reduction to matter is indeed possible, similar to what the ancient natural philosophers maintained. Pelacani does not embrace this position and, as Biard remarks, he preserves the Aristotelian dogma of the hylomorphic duality. Nevertheless, Biard's examination of additional cases shows that Pelacani presents similar positions elsewhere in connection to ancient monism. Pelacani's stance is quite fluid. He does not abandon the Aristotelian framework, yet suggests that some of the monist positions cannot be completely refuted. And once again, he refers to a «phantasy» while arguing about the mensuration of unequal infinities. Biard's analysis of the recurrence of the positions of the ancient natural philosophers in Pelacani's works, often presented in a rather surprising fashion, is a first step in the overall assessment of Pelacani's monism and materialism, as Biard himself observes. And accordingly, we shall truly hope that Biard will come back to this fundamental and fascinating issue again in the near future.

Aurélien Robert's «Pietro d'Abano et le matérialisme» is another splendid piece of good scholarship. It provides the reader with an excursion into Pietro d'Abano's theory of matter which is enjoyable and scrupulous at the same time. Starting with a discussion of the historiographical prejudice considering Abano an «Averroistic materialist», Robert challenges this assumption in favour of the more fitting label of «astrological materialism» proposed by Danielle Jacquart («La complexion selon Pietro d'Abano», in *Recherches médiévales sur la nature humaine*, ed. D. Jacquart, Florence: SISMEL, 2014, 373-416) and originated by Abano's programme of astrologisation of medicine. Robert engages with a discussion of Abano's Averroism and materialism, which is developed through the consideration of four main aspects of Abano's thought. They are the theory of elemental mixture, the doctrine of occult qualities, his analysis of animal growth, and finally, the problem of spontaneous generation. Through his discussion of these aspects, Robert provides the reader with a far-reaching examination of central points of Abano's natural philosophy and his indebtedness to Averroes. Such indebtedness,



however, does not imply that Abano accepted Averroes's positions always and uncritically. For instance, Robert stresses how Abano tried to defend Alexander of Aphrodisia's position from Averroes's attacks concerning the role of matter in the process of animal growth. In order to do so, Abano used Aphrodisia's *De augmento* as to substantiate even further his reply to Averroes's criticism. On other occasions, Abano follows Averroes but develops the latter's stances further. Or, on still other occasions, he modifies them. An example of this attitude is Abano's theory of elemental mixture. As Robert points out, this theory is based on Averroes's doctrine of the diminished presence of the elements in the mixture, yet recontextualised within a much more Aristotelian context by Abano. In a similar fashion, Abano adheres to Averroes's stance on the astral causation of spontaneous generation, but he does not accept the otherness of species that supposedly characterises spontaneously generated animals (humans aside). In general, Abano's attitude does not imply any adherence to materialism. On the contrary, he tends to criticise the materialist positions proposed by Aphrodisia. According to Abano, if matter is thought to play a role in nature, that function follows its reception of astral influxes that qualify it, as in the case of the occult qualities of the elements. Robert's study brilliantly shows that Abano cannot be considered a materialist, since he constantly accepts and applies Aristotle's hylomorphism. At the same time, Abano was a keen follower of Averroes, but this doctrinal indebtedness does not imply any adherence to noetic materialism, as Robert points out at the end of his examination.

Moving further on in the historical course of philosophy and science, Marc Bayard's contribution, «La conception dynamique de la matière chez Nicolas de Cues», discusses Nicholas of Cusa's notion of matter from a general perspective. Bayard's starting question is somewhat unexpected. What is the theoretical connection of Cusa's theory of matter with the later developments of this notion by early-modern scientists like Galileo and Newton? This intriguing question is only partially addressed by Bayard, who focuses on the dynamic aspect of Cusa's matter. In doing so, Bayard underlines that such «dynamicity» of matter can be appreciated in relation to two main aspects defining Cusa's thoughts. These are his position of matter as non-absolute potentiality – which follows Cusa's conviction that God is the only subject of any absolute attribution – and the dynamic universe envisioned by the German thinker. Examining some preliminary points of Cusa's interpretation of Albert the Great and Thierry of Chartres, Bayard concludes that the dynamic aspect characterising Cusa's matter is grounded on a tension between movement and substance. Hopefully, further studies by Bayard will expand even more on the subject, assessing some of the tantalising questions he offers in his interesting contribution.

From Cusa, the next step to which the volume leads the reader is the appreciation of Suárez's elegant theory of matter. Olivier Ribordy's chapter, «La notion de matière selon Francisco Suárez», offers a reliable and captivating guide to such appreciation. The role of Suárez's *Disputationes metaphysicae* for the history of metaphysics is difficult to overestimate, in consideration of the long-lasting influence of the doctrines therein

discussed and Suárez's wide knowledge of the tradition. Considering the vastness of Suárez's theory, any attempt to condense Suárez's discussion of matter in a single chapter would be a rather ambitious task. Nonetheless, Ribordy performs it brilliantly. His contribution guides us through the main points of the *disputationes* in which Suárez expressively discusses his theory of matter (disputations V, XII, XIII, XV, XXXV, XXXVI, and XL, just to give a taste of Ribordy's task). After having introduced the reasons behind Suárez's inclusion of the study of matter among the goals of metaphysics, the focus shifts to central metaphysical problems. Ribordy examines Suárez's discussion of the role that, according to some thinkers, matter would play concerning individuation and quantity. In this context, Ribordy gives us an insight into the contemporary debate contrasting the positions of (and textual connections between) Suárez and John of St Thomas (whose text is offered in the appendix to the chapter) on the supposition that matter could be a substrate for accidents. Ribordy stresses Suárez's refusal to assimilate matter and quantity and to consider matter as principle of individuation. The main aspect that Ribordy discusses, however, is the positive description of matter given by Suárez. According to Suárez, matter is the fundament of being, a substantial entity which is incomplete and partial in reason of the potency intrinsic to matter. More technically, matter is an incomplete entitative act, a kind of existence different from that of the act. Ribordy briefly explores how Suárez uses his notion of matter also in consideration of the body-soul relationship, and underlines the closeness of Suárez's position with Olivi's.

Exploring the later Middle Ages as a whole, Nicolas Weill-Parot's study, «La matière dans l'explication des phénomènes extraordinaires», engages with the role that matter plays in the explanation of extraordinary phenomena. More specifically, Weill-Parot discusses a rather consequential question. What connexion can be established between the historical actor's theory of occult properties and her doctrine of matter? The occult properties of something *x* are those qualities proper to that physical composite (which is an elemental mixture, in Aristotelian terms), which cannot be reduced to the four elemental qualities composing the mixture itself. A good example of these properties is the attraction between iron and a magnet. In the Middle Ages, diverse theories were formulated in order to explain the presence of these qualities within the physical substance. Weill-Parot's question is therefore central. Are these qualities to be related to the elemental qualities, the substantial form, or matter itself? And, accordingly, how are different theories of matter impacted by the answer to that question? The chapter discusses some meaningful case-studies, beginning with the radical opposition separating Albert the Great and Thomas Aquinas concerning both their notions of matter and individual or specific occult properties, respectively. Weill-Parot then reconstructs the debate by assessing the theories elaborated by late medieval thinkers like Heymeric of Camp, Arnaldus of Villanova, Pietro d'Abano, and Henry of Langenstein. His thorough examination of the debate allows Weill-Parot to underline the influence that different conceptions of matter have exerted on how the historical actors tried to resolve the problem of occult properties.

With the contributions by Michele Bacci and Michel Pastoureau, the volume turns to two different *epistemes of matter* proper to theology and technical science, respectively. Bacci's chapter «Controverses islamo-chrétiennes au sujet de la matérialité religieuse», dives into the critique that Islamic thinkers held against the «religious materiality» of the Christians. Bacci focuses on the eminent case of Taqi al-Din Ahmad ibn Taymiyya and his harsh criticism of central aspects of Christian worship. His attacks against practices like the veneration of tombs, pilgrimage, and the ritual use of material objects were based on his Hanbali beliefs. Bacci's study, therefore, takes the reader to another, yet no less problematic sense of «materiality» which, although historically connoted, still has direct relevance for our present-day understanding of religious behaviours.

In turn, Pastoureau's contribution offers an excursion into an even more tangible, visible notion of materiality. His study, «De la matière à la couleur: teindre en Occident à la fin de Moyen Âge», is indeed focused on practices of dyeing in the late Middle Ages. All five senses are involved into this practice, with the sense of seeing being the most involved. Pastoureau discusses the recipes available at the end of the Middle Ages to examine some central issues inherited by the tradition. He leads the reader to a unique appreciation of the richness of colours, seen and reproduced into a plurality of shades and materials, instructions, and problems the practitioners needed to clarify in order to produce the desired result.

The last chapter of the volume returns to the *epistemes of matter* proper to scientific practices and philosophical reflection. Indeed, Michela Pereira's contribution, «Mother of All Creatures», examines the connection between the philosophical and alchemical *epistemes of matter*. How did alchemists try to integrate their practices within the Aristotelian framework of natural philosophy? And how did they understand the elusive notion of prime matter, considering the similarity of functions carried out by prime matter and alchemical matter? These questions correspond to fundamental aspects of a cross-disciplinary interaction far too often neglected by scholarship. Pereira's contribution starts with the entrance of alchemy in the Latin West with the *Liber de compositione alchemiae*, translated by Robert of Chester in the 1140s. This treatise claims that the entire universe proceeds from a single root, implicitly providing a continuity with the philosophical notion of prime matter as one entity shared by the corporeal realm (what we could call «monohylism»). In the 13<sup>th</sup> century, Constantine of Pisa offers the first Scholastic discussion of alchemy. In his *Liber secretorum alchimiae*, Constantine establishes a meaningful analogy between quicksilver (the basic ingredient of metals) and prime matter, following in his attempt to include the discipline within the realm of natural philosophy. Pereira discusses other implicit or explicit connections between alchemy and the philosophical *episteme of matter*: Albert the Great and, especially, Avicenna's *De congelatione et conglutinatione lapidum*. Pereira recalls the relevance of a short textual insertion in Avicenna's refutation of the feasibility of alchemical practices. The Latin version of Avicenna's refutation was indeed complemented by the short passage «nisi forte in primam reducantur materiam»,

connecting alchemical practices to the theory of prime matter. Pereira examines thoroughly how the interest in this meaningful connection gradually faded away. On the one hand, Roger Bacon's distinction between prime and natural matter implied the latter and not the former to be the substrate of alchemical transmutations. On the other hand, many influential alchemical works tend not to identify alchemical matter with prime matter. The *Summa perfectionis magisterii* displays no specific interest in the notion of prime substrate. In turn, pseudo-Llull's *Testamentum* distinguishes among different types of matter and, while maintaining that there is a common substrate to the universe (prime matter), it identifies alchemical matter with the *quinta essentia*. Pereira points out how the final decades of the Middle Ages are characterised by a plurality of interpretations and taxonomies about alchemical matter.

This short discussion has hopefully made clear that *Materia: Nouvelles perspectives de recherche dans la pensée et la culture médiévales (XIIIe-XVIe siècles)* is an impressive piece of scholarship. As a whole, the volume is a remarkably enjoyable, compelling, and far-reaching contribution that traces the philosophical and scientific history of matter from the 12<sup>th</sup> to the 16<sup>th</sup> century. It does so by engaging with the manifold problems of matter from different points of view and following the disciplinary fragmentation into a richness of epistemes. In their historical, disciplinary, and theoretical characterisations, these epistemes correspond to the enveloping plurality of functions that matter was required to carry out as explanatory device.