

# Le Moyen Âge et les sciences edited by Danielle Jacquart and Agostino Paravicini Bagliani

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Volume 3, Number 1, 2022

URI: <https://id.erudit.org/iderudit/1107157ar>

DOI: <https://doi.org/10.33137/aestimatio.v3i1.41821>

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Publisher(s)

Institute for Research in Classical Philosophy and Science

ISSN

1549-4470 (print)

1549-4497 (digital)

[Explore this journal](#)

Cite this review

Nothaft, C. (2022). Review of [Le Moyen Âge et les sciences edited by Danielle Jacquart and Agostino Paravicini Bagliani]. *Aestimatio*, 3(1), 144–152.  
<https://doi.org/10.33137/aestimatio.v3i1.41821>

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*Le Moyen Âge et les sciences* edited by Danielle Jacquart and Agostino Paravicini Bagliani

Micrologus Library 100. Florence: SISMEL – Edizioni del Galluzzo, 2021. Pp. xvi + 692. ISBN 978–88–9290–129–2. Paper €95.00

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Since the appearance of its first volume in 1993, *Micrologus*, a periodical published by the Società Internazionale per lo Studio del Medioevo Latino (SISMEL) under the editorial aegis of Agostino Paravicini Bagliani, has developed into a significant forum for historical scholarship on medieval ideas about/approaches bearing on the natural world and their social settings—as indicated in the subtitle *Nature, Sciences and Medieval Societies*. Known for its annual volumes on themes such as “the Human Skin” and “Silence”, *Micrologus* has maintained a consistent approach of publishing the proceedings of highly focused academic colloquia rather than going down the conventional route of a submission-based journal. A broadly similar thematic outlook combined with a greater diversity of formats has come to characterize Micrologus Library, a companion book series launched in 1998 and now exceeding 110 volumes. Its entries have included proceedings volumes, single-author essay collections, textual editions, and a few monographs.

The collected volume under review, succinctly titled *Le Moyen Âge et les sciences*, was conceived from the outset as an “anniversary publication” to celebrate in an appropriate way the milestone of 100 entries in Micrologus Library as well as the 30th issue of *Micrologus* (2022). It does so by having 27 different authors offer reflections and new insights into the natural sciences (very broadly conceived) as they were practiced or theorized upon during the late medieval “university age” that spanned the 13th to 15th centuries. Their combined list reads very much like a who’s who of contemporary scholarship on medieval science(s) and knowledge cultures, especially in France and Italy. It speaks to the impact of *Micrologus* on these areas of

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research that virtually all of the 27 authors have been frequent contributors to past issues/volumes of the journal and its book series.

More so than some other series in the field, *Micrologus Library* has been notable for its international outlook, as both volumes and contributions within a single volume are routinely published in a variety of languages. This is also true of *Le Moyen Âge et les sciences*, which contains 16 chapters in French (not counting the introduction), 8 in English, and 3 in Italian. While this multilingual policy is beneficial in some ways, in the case of the present volume (as well as other entries in the same series), it may have contributed to some very noticeable deficits on the formal level, which seem to be indicative of a near-total absence of editorial supervision and careful copyediting. Such deficits include an abundance of typographical errors, untidy footnotes, lack of consistency in citation practices across chapters, English-language abstracts that give the appearance of having been generated by Google Translate, and the occasional chapter whose written style is so unidiomatic or grammatically defective that it can be a struggle just to follow the argument.

From a thematic perspective, it is possible to discern a slight degree of unevenness in that a relatively large number of chapters could be categorized as dealing with the “life sciences”—should such an anachronism be acceptable. Discussions of medieval medicine, anatomy, surgery, pharmacology, physiology, zoology, and adjacent questions such as animal breeding and the process of generation account for over a third of all chapters (i.e., the 11 chapters by Chiara Crisciani, Laurence Moulinier-Brogi, Oleg Voskoboynikov, Baudouin Van den Abeele, Francesco Santi, Maaïke van der Lugt, Joseph Ziegler, Joël Chandelier, Michael McVaugh, Marilyn Nicoud, and Iolanda Ventura).

Very limited room is, by contrast, given to the exact sciences, however vaguely these may be defined. Pure mathematics is absent, while applied or practical mathematics features only very occasionally—in chapters regarding the mathematical astronomy of the Alfonsine Tables (by Matthieu Husson) and the reception of the not-quite-so-mathematical astronomy of Martianus Capella (by Irène Caiazzo). Optics and physics are represented by one chapter each (by Cecilia Panti and Nicolas Weill-Parot), with no attention given to mechanics or the science of weights. Magical texts are the subject of two different contributions (by Charles Burnett and Julien Véronèse), while among the remaining chapters one finds topics such as astrology (David Juste), alchemy (Michela Pereira), cosmology (Barbara Obrist), geography (Patrick Gautier Dalché), the history of art (Jean Wirth),

color (Michel Pastoreau), patronage (Agostino Paravicini Bagliani), food (Bruno Larioux), and censorship (Jean-Patrice Boudet).

Beyond the thematic dimension, the individual contributions to this voluminous collection can be sorted—in a rough and roundabout way—according to three basic types:

- (1) research reports or metadisciplinary reviews of the current state of play and future prospects of a particular field or subfield, often with close attention to methodological issues;
- (2) historiographical accounts of a particular scientific discipline or area of knowledge, which can serve as first points of entry into the subject at hand; and
- (3) more focused studies that seek to advance our knowledge in a specific area of research.

In what follows, I shall move through the 27 chapters according to these three categories, attempting to characterize each of them at least briefly.

One of the standout chapters from category 1 is Maaïke van der Lugt's "Generation in the Middle Ages: Past, Present, Future" [365–387], which gives an informative overview of modern research on medieval understandings of, and attitudes toward, biological reproduction (here conceived broadly as also including issues relating to sexuality, childbirth, and marriage) from the 1970s to today. Besides offering a thorough review of the literature and sketching avenues for further work in this field, she discusses some key Latin terms that are used in medieval sources and addresses the conceptual pitfalls that can arise if scholars simply substitute for them modern technical terms.

Methodological concerns are also at the heart of Michel Pastoreau's insightful contribution titled "À La Recherche de la couleur" [55–80], which highlights the difficulties involved in studying the medieval perception and use of color, and offers explanations of why modern scholars have tended to neglect this potentially promising field. A comparatively more developed area of research is the history of physiognomy, which has grown rapidly since the 1990s. Joseph Ziegler takes stock of the progress made thus far in an illuminating and engagingly written chapter, "The Study of Medieval Physiognomy: Present and Future" [389–411], in which he signals the need to connect physiognomic knowledge more fully with other disciplines, such as medicine and astrology, as well as with depictions of physical features in art and literature. By referring to Hebrew and other non-Latin sources, he is also able to highlight the potential utility of studying the field from a

comparative perspective that confronts physiognomic traditions in different parts of the world.

The field under review in Patrick Gautier Dalché's chapter, "Les Représentations de l'espace géographique" [21–40], encompasses geography and cartography but places these within a much wider framework of medieval ideas about and engagements with space. Gautier Dalché gives an informative and occasionally polemical account of the relevant literature going back to the 1970s. The chapter is an excellent read and would have looked even better had all the in-text citations ("Terkla, Millea, 2019" [26] and "Gadrat-Ouerfelli, 2015" [27]) received their due entry in the attached list of references.

Laurence Moulinier-Brogi ("La Fleur de l'âge de l'histoire du corps" [109–132]) provides us with a bird's-eye view of existing research on the history of the body in the Middle Ages, most of which dates from the past 30 years. Her richly footnoted survey gives us much to ponder, not least when it comes to the extent to which this trendy and expanding field may (or may not) already claim independence from the subdisciplines that have spawned it, from (social) history of medicine to gender history. The human body also plays a central role in the chapter by Chiara Crisciani, "Vecchiaia, morte e lunga vita" [97–108], which charts an area of historical research that has seen a rapid expansion over the last two decades: medieval ideas on longevity and how to achieve it. Reflections on medieval medicine more globally are on offer from Marilyn Nicoud ("Pour une histoire globale de la médecine médiévale" [451–466]), who charts the field in its present state, advocates research agendas that pay close attention to the medical discipline's sociocultural ramifications, and highlights the medical book (understood as a material object) as a promising topic of future research.

A metadisciplinary angle once again dominates in Bruno Laurioux's chapter, "Food in the Medieval Sciences" [467–485]. It begins by tracing the antecedents of food history, now an established field, back to the early modern period and culminates with a discussion of the 12th century as the presumptive turning point in the medieval attitude toward cookery and gastronomy. The question of how all of this relates to science is not as clearly answered as one might have hoped, although the brief section on dietetic literature [476–478] does signal that a connection can be made. It should be noted that this chapter is so poorly written as to be barely intelligible at times, making for a particularly frustrating example of the abovementioned lack of formal quality control that pervades much of this volume. EUR 95 is a steep price for any paperback book, but especially for one containing

nonsense sentences such as the following [474]: “Apicius’ cookbook was considered as useful to learn about food, and not only of Latin.”

Among the chapters that fit neatly into category 2 is Jean Wirth’s “Les Artistes médiévaux face à la culture scientifique” [41–54], an examination of the historical interplay between science and the visual arts, which includes the possible influence of the 13th-century rise of optics as a discipline on the discovery of linear perspective. Michela Pereira (“*Ars, scientia, donum Dei: complessità dell’alchimia*” [81–95]) brings us up-to-date with what scholars such as her have come to learn about the central features of alchemy and its main lines of development between the 12th and 15th centuries. In doing so, she highlights the protean character of this art or science, which allowed it to interact with a range of other fields, from pharmacology to spirituality. Baudoin Van den Abeele gives us an informative overview of the various medieval textual genres relating to the animal world, from hunting manuals to bestiaries, not without also outlining various desiderata and perspectives for future research. His chapter, titled “Entre ‘savoir de bois et de riviere’ et *libraria*: pratiques et lectures du monde animal (XIe–XVIe siècle)” [309–342], is supplemented by Francesco Santi’s discussion of medieval perspectives on crossbreeding (“*Sperimentazioni sugli animali: il caso della pratica degli incroci*” [343–364]). On the human side of things, Joël Chandelier’s chapter “*L’Anatomie à la fin du Moyen Âge*” [413–430] charts the state and status of anatomy as a branch of medical knowledge at the end of the Middle Ages, while Michael McVaugh’s “Medieval Paths to Surgical Practice: The Example of Montpellier” [431–450] outlines how late medieval Montpellier played a key role in turning surgery from a mere craft practiced by barbers into something resembling an academic discipline. The growth of pharmacological knowledge in the 13th century is the subject of Iolanda Ventura’s impressively detailed contribution, “*Pharmacopée et ‘pharmacologie’ entre textes et pratiques: nouvelles perspectives*” [487–517], which focuses on the questions raised by several overlooked and unpublished source texts.

In his chapter on medieval physics, “*La Physique médiévale: les voies d’un renouveau*” [281–308], Nicolas Weill-Parot manages to combine elements from categories 1 and 3 mentioned above. He begins with an account of the insights gained by recent scholarship on the concept of *impetus*, which is no longer treated, teleologically, as a precursor to early modern physical theories. From there, he moves on to present two case studies. One concerns the treatment of the *horror vacui* in the *Quaestiones* or *Exercitium librorum Physicorum* composed in 1395 by a little-known master at the University of Vienna, Rogerus Dole de Roermundia. The other uses a *Quaestio* by

Johannes Scharpe of Queen's College, Oxford—the abstract [308] instead situates him at Merton College—to show the extent to which an academic logician was able to deploy actual physical arguments in the late 14th century. In the annexes to his chapter, Weill-Parot provides editions of key passages in these unpublished texts.

The chapter at the head of this volume, Barbara Obrist's "La Périphérie de l'univers dans la cosmologie du XIIe au début du XIIIe siècle" [3–20], offers an up-to-date account of a key episode in medieval cosmology: the slow emergence during the 12th and early 13th centuries of the stereotypical "medieval cosmos", which surrounds an Aristotelian ethereal heaven consisting of nine spheres with additional entities drawn from Scripture and theology, such as the crystalline and empyrean heavens. An aspect of this development is the acceptance of a ninth sphere as *primum mobile*, which found its astronomical justification in the phenomenon of precession. Since anachronism (or the avoidance thereof) is one of the more prominent themes of this volume [see pp. 649–653 in Danielle Jacquart's concluding chapter], it may not be too pedantic to note that the modern expression "precession of the equinoxes" does not accurately reflect the prevalent medieval interpretation of this phenomenon, which saw it as a motion performed by the sphere of fixed stars. Some readers may accordingly quibble with the statement that the introduction of the ninth sphere served "à dissocier le mouvement de la précession des équinoxes de celui de l'orbe des étoiles fixes" [12].

If Obrist's valuable chapter on the medieval heavens can be sorted into category 3, the same is true of Oleg Voskoboynikov's "L'Éloquence du corps" [133–158]. It charts the metaphorical and rhetorical uses of the human body and its parts in Latin literature of the 12th and 13th centuries, which leads him to comment upon texts such as the *Opusculum de officiis membrorum humani corporis moraliter textum* by Nicolaus de Santis (d. before 1277), archdeacon of Capua and chaplain to Pope Clement IV. The fact that this work came with a dedicatory prologue addressed to the pope in question ensures its prominent reappearance in Agostino Paravicini Bagliani's chapter "Les Dédicaces scientifiques à la cour pontificale: premières recherches (XIIIe siècle)" [159–200], which surveys and reproduces the dedications of 29 scientific texts or translations. What these dedications have in common is that their recipients can all be situated at the 13th-century papal court, be they cardinals, prelates, or the popes themselves.

The 13th century continues to loom large in the contribution of Irène Ciazzo ("L'Astronomie de Martianus Capella à la Faculté des arts" [201–222]),

which demonstrates *inter alia* that Martianus Capella's fifth-century *De nuptiis Philologiae et Mercurii* [specifically book 8, 814–887] was utilized as an astronomy textbook at the University of Paris at an early point in its history. She pays particular attention to a hitherto unpublished commentary on the relevant portion of Capella's work (MS London, British Library, Cotton Vespasian A.II, ff. 75r–122v), for which she suggests a Parisian setting and a composition in the first one or two decades of the 13th century.

Astronomy of a more technical nature is the target of Matthieu Husson's chapter "Physical Signs and Minutes of Days: Mean Motion Computations in the *Parisian Alfonsine Tables*" [223–250]. It revolves around a characteristic feature of the Alfonsine Tables in their familiar Latin version, namely, the presentation of planetary mean motions in "sexagesimalized" tables that do not rely on any particular calendar and divide the zodiac into six so-called physical signs of 60° each. Husson's discussion of this feature goes to confirm what appears to be a new consensus on these Latin (or "Parisian") Alfonsine Tables, which is that they, just like their lost Castilian counterpart, truly originated at the court of Alfonso X ("the Wise", 1252–1284) in Toledo. The chapter can, therefore, be regarded as another nail in the coffin of an influential thesis advanced by Emmanuel Poulle (1928–2011), who argued that the famous tables were a product of early 14th-century Parisian astronomy that was only tenuously related to the work originally commissioned by King Alfonso. As Husson shows, the Latin astronomers who worked on the basis of the Alfonsine Tables in Paris and elsewhere tended to revert to zodiacal signs of 30° and more traditional tabular formats when making their own contributions to the discipline.

For all its evident merits, this contribution also offers more opportunity to marvel at the laissez-faire attitude with which this volume was curated. Even aside from Husson's English prose, which should have been revised by a native-level speaker, the chapter can be frustrating to use on account of its citation practices. At one point, a mention of "canon sets to the Alfonsine tables by Heinrich Selder" [245] is accompanied by a reference to an article by "P. E. Notafth" [*sic* in n50], which deals with these canons only in passing. The following four footnotes [nn51–54] all concern certain page ranges in "ibid.," but this cannot possibly be intended to refer back to my article. The preceding footnote [n49] mentions "Jacobson, *forthcoming*," which is a reference provided numerous times in this chapter [nn21–22, 55, 57], but without ever revealing what the title of this important work may be or when, where, and in what sort of format it will eventually appear.



The editorial neglect that pervades much of this volume is again evident in the title of Cecilia Panti's chapter, which on page 251 is disfigured by a typo ("The Oxford-Paris Connection of Optics and the of [sic] Rainbow: Grosseteste's *De iride*, pseudo-Oresme's *Inter omnes impressiones* and Bacon's *Perspectiva* in Paris, BnF, lat. 7434" [251–280]). Her valuable discussion of certain lines of development in 13th-century optics centers on a string of texts in MS Paris, Bibliothèque nationale de France, lat. 7434, ff. 13r–51va, once owned by Peter of Limoges, where the famous *Perspectiva* of Roger Bacon is followed by a glossed copy of Robert Grosseteste's treatise on the rainbow (*De iride*) and the anonymous *Inter omnes impressiones*..., later used by Nicole Oresme. Panti demonstrates the intellectual dependence of the last work on Grosseteste and argues, plausibly, that it "was written by a scholar belonging to Grosseteste's circle, perhaps his pupil Adam of Exeter" [254]. Jean-Patrice Boudet's chapter, "Censures et condamnations (XIIIe–XVe siècles)" [519–547], probes the historical significance of university censorship and other ecclesiastically mandated limitations on philosophy and science. A large part of his discussion is devoted to the famous Parisian condemnations of 219 philosophical propositions issued by Bishop Étienne Tempier in 1277. Boudet offers a nuanced perspective on these much-debated condemnations, arguing that they generated their most profound consequences in the context of future controversies over magic and astrology, as manifested by further censures issued in Paris in the years 1398 (for magic) and 1494 (for astrology).

New insights into the actual practice of astrology in the later Middle Ages are provided by David Juste in a chapter of remarkable thoroughness and great utility ("Reading Birth Horoscopes in the Middle Ages: Latin Judgements on Nativities 1100–1450" [549–593]). It surveys all written judgments on nativity horoscopes that are known to have survived in Latin for people born between 1100 and 1450. Specifically, Juste provides all the pertinent information on 34 individual documents, ranging from Abraham Ibn Ezra's judgment concerning an unknown boy born on 23 August 1135 to Marcus Schinnagel's two judgments on the birth horoscope of Duke Albrecht IV of Bavaria.

Charles Burnett's "*Alia littera*: Editorial Strategies in Copies of a Medieval Latin Text *On Talismans* by Thābit ibn Qurra" [595–616] invites us to reflect on some of the difficulties that can arise in editing medieval Latin translations of scientific texts in Arabic or Greek. Approaches based rigidly on Lachmann's method may not be ideally suited to deal with translations that underwent successive stages of revision, as is true of a significant number

of 12th- and 13th-century translations. Manuscript witnesses that would ordinarily be thought of as “contaminated” may here be the result of conscious efforts to “edit” a text from more than one version. Burnett’s specific example is the transmission in over 60 manuscripts of John of Seville’s Arabic to Latin translation of a work on talismanic magic by Thābit ibn Qurra (recently edited by Burnett and Gideon Bohak in vol. 106 of *Micrologus Library*). He shows that later scribes sometimes took the trouble of collating two different recensions of this translation and then adding the variants they found to the margins or even the main text of their new “special edition”. The result is an important contribution to the history of critical textual scholarship *avant la lettre*.

A practice even riskier than the use of magically powered talismans was the invocation of demons. Julien Véronèse (“La Magie Rituelle à la fin du Moyen Âge: le cas de la *Clavicula Salomonis*” [617–637]) shares new insights concerning a key text in this field, the *Clavicula Salomonis*, which he qualifies as one of the “traités de magie rituelle démoniaque les mieux organisés et les plus subversifs de la fin du Moyen Âge” [619–620]. His analysis of this infamous work centers on its transmission, which he traces from the late 13th to the early 16th century.

In the concluding chapter to this volume, “Conclusion: les sciences médiévales dans leur environnement” [639–661], Danielle Jacquart takes on the unenviable task of weaving together the thematic threads that could connect such a large and disparate gathering of contributions. She accomplishes it beautifully, by drawing attention to the ways in which the various authors shed light on problems such as the influence of medieval science on theology (rather than *vice versa*), the complex relationships that existed in medieval learning between theory and practice, or the role of anachronism in our attempts to study past science.

It seems clear that *Le Moyen Âge et les sciences* will be a worthwhile acquisition for most historical research libraries and an essential one for those with a focus on collecting in medieval history, cultural history, and the history of science and/or medicine. Historians who take a broad interest in the sciences of the Latin Middle Ages are likewise encouraged to consider a purchase.