

Danielle Jacquart and Agostino Paravicini Bagliani eds., *Le Moyen Âge et les sciences* (Micrologus Library, 100). Firenze: SISMEL Edizioni del Galluzzo, 2021. xxiv, 691 pp.: illustrations. ISBN: 9788892901292.

Danielle Jacquart and Agostino Paravicini Bagliani celebrate the hundredth volume of the Micrologus Library series, published by SISMEL Edizioni del Galluzzo, with a collection of essays entitled *Le Moyen Âge et les sciences*.

Le Moyen Âge et les sciences is a generous work, comprised of twenty-six scholarly contributions. In addition, the volume includes Agostino Paravicini Bagliani's introduction ("Micrologus' et les sciences au Moyen Âge," pp. vii–xxiv) and Danielle Jacquart's final essay ("Conclusion: les sciences médiévales dans leur environnement," pp. 639–661), which is intended as the volume's conclusion, as well as two indexes (one of names and places, pp. 665–688, and one of manuscripts, pp. 689–691). Paravicini Bagliani's introduction and Jacquart's conclusion balance each other well and effectively frame the volume's editorial and conceptual context. The introduction outlines the history of the *Micrologus* conferences, showing the continuity of this volume of the "Micrologus Library" with topics and approaches of both the journal and the series. The aim of *Micrologus*, according to Paravicini Bagliani, has always been to explore the relationship between medieval conceptions of nature and science with an eye to the society in which they were embedded (see pp. vii–viii). Throughout the years, this relationship has been studied from multiple perspectives in relation to different medieval disciplines and traditions (theology, natural philosophy, medicine, art, literature, etc.). *Le Moyen Âge et les sciences* takes up the medieval sciences (and, relatedly, medieval conceptions of nature) by embracing this multifocal approach and including disciplines, traditions, and topics of varying types: natural philosophy, medicine, anatomy, surgery, pharmacology, cosmology, astronomy, astrology, alchemy, optics, zoology, physiognomy, art, geographic conceptualization of space, theories of colour, theories of the body, theories of generation, food history, and ritual magic. In line with the editorial interests of *Micrologus*, throughout the essays the volume attends to the societal and cultural contexts in which medieval sciences developed and addresses these themes directly in two of the contributions (Agostino Paravicini Bagliani, "Les dédicaces scientifiques à la cour pontificale. Premières recherches (xiii^e siècle)," pp. 159–200, and Jean-Patrice Boudet, "Censures et condamnations (xiii^e–xv^e siècle)," pp. 519–548). While reflections on previous centuries are offered throughout the volume (see my report of the contributions below for examples), its explicit chronological focus is the period between the thirteenth and fifteenth centu-

ries.¹ The editors intend this chronological window to narrow the volume's scope and provide "a certain homogeneity in the general framework of investigation" (p. 640, my translation) that is historically justified by the fact that the most structured framework for the development of science in the Middle Ages was, undeniably, the university. As the disciplines, traditions, and topics listed above suggest, however, science produced at the university is far from the only focus of this collective work, as the editors themselves note on several occasions (see, for example, p. xxiv and pp. 640–641). From chronology to geographical and cultural boundaries, the volume explicitly centers upon Western Christian Europe (as explained by Jacquart on p. 641), though references to Jewish and Arabic philosophy and science are also made throughout the chapters (see my report of the contributions below for examples).

The editors' choice to restrict the volume's focus historically, geographically, and culturally does indeed provide a certain internal coherence. However, I would argue that this consistency is furthered by another important editorial choice: a selection of essays that directly explore the most recent advancements in scholarly research on the medieval scientific disciplines (as Paravicini Bagliani explains on p. xxii). The contributing authors seem much inspired by this editorial direction, which renders the volume an overview of the state of the art of research topics related to medieval science that offers additional original insights and establishes possible lines of future research. For instance, in "La périphérie de l'univers dans la cosmologie du XII^e au début du XIII^e siècle" (pp. 3–20), Barbara Obrist analyses medieval cosmology by retracing the history of models of the universe and its outer limit from the seventh century through the beginning of the thirteenth, identifying a paradigm shift between a Platonic and Stoic model of the universe to an Aristotelian one between the twelfth and thirteenth centuries. In "Les représentations de l'espace géographique" (pp. 21–40), Patrick Gautier Dalché offers a review of the literature on medieval representations of space, showing the deep historiographical changes that have taken place in scholarship dedicated to this topic in the last fifty years and calling for a more interdisciplinary approach to medieval theories of space.² "Les artistes médiévaux face à la culture scien-

1 It is worth noting that Paravicini Bagliani actually identifies the twelfth century as the *terminus a quo* of the volume's chronological focus (p. xxii), while Jacquart mentions the thirteenth century (p. 640).

2 This is the only paper besides Baudouin Van den Abeele's (for further reference, see *infra*, p. 727) that presents a bibliography. In all other papers, complete references are provided only in footnotes. This seems a curious editorial choice to me, which somewhat detracts from the editorial coherence of the volume.

tifique” (pp. 41–54) by Jean Wirth is instead a study of the relationship between art and scientific culture throughout the Middle Ages that traces this topic through several examples of artists and artworks, in a period spanning from the monastic culture of the High Middle Ages to the theorization of perspective at the end of the Middle Ages. Medieval notions of “colour” are the object of Michel Pastoureau’s “À la recherche de la couleur” (pp. 55–80), which highlights the documentary, methodological, and epistemological difficulties faced by historians approaching the history of the conceptualization of colour. Pastoureau takes this framework as his point of departure for analysing definitions of colour in the Middle Ages, granting special consideration to the debate over whether colour is related to matter or to light.³

Michela Pereira’s “*Ars, scientia, donum Dei. Complessità dell’alchimia*” (pp. 81–96) is instead devoted to the history of alchemy, a discipline exercised at the margins of university culture whose composite nature operated at the crossroads of theory and practice, philosophy and religion, natural philosophy and medicine. Theories of old age, the prolongation of life, and natural death in late medieval natural philosophy and medicine are studied by Chiara Crisciani in “*Vecchiaia, morte e lunga vita*” (pp. 97–108), which reconstructs recent research on these topics. The two subsequent papers are devoted to medieval conceptions of the human body: Laurence Moulinier-Brogi’s “*La fleur de l’âge de l’histoire du corps*” (pp. 109–132) and Oleg Voskoboynikov’s “*L’Éloquence du corps*” (pp. 133–158). In the former, Moulinier-Brogi presents a detailed overview of research in the history of the body by specifically analysing the growing research on the history of the female body together with a case study on the position of the body in Christianity and a focus on the relevance of new research on the male body. Voskoboynikov instead presents some case studies on the history of the body, taking up the example of the poem *De ventre*, among others, as exemplary of reflections on the human body in the twelfth and thirteenth centuries. The above-mentioned essay “*Les dédicaces scientifiques à la cour pontificale. Premières recherches (XIII^e siècle)*” by Paravicini Bagliani is devoted to the papal court and its role in catalysing late medieval science. The essay presents twenty-eight dedications of scientific works to popes, cardinals, and prelates between c. 1198 and 1304.

3 Readers interested in this topic are encouraged to have a look at a recent publication by Lisa Devriese not mentioned in Pastoureau’s article—probably because it was published in the same year (2021)—which significantly expands current scholarship on medieval colour theories: “The Colorless History of Pseudo-Aristotle’s *De coloribus*,” *Early Science and Medicine* 26, no. 3 (2021): 254–288

Astronomy is the focus of Irene Caiazzo's "L'astronomie de Martianus Capella à la Faculté des arts" (pp. 201–222), which explores the medieval reception of Martianus Capella's *De nuptiis Philologiae et Mercurii* in the Parisian Faculty of Arts by analyzing the role of the eighth book of this work as a university astronomy textbook. Matthieu Husson's "Physical Signs and Minutes of Days: Mean Motion Computations in the Parisian Alfonsine Tables" (pp. 223–250)⁴ reconstructs a topic at the crossroads of medieval astronomy and mathematics by surveying current research on the Alfonsine table set produced in the Parisian milieu. The essay examines the topic of Alfonsine tables, physical signs and minutes of days by making reference to the most reliable contemporary hypothesis regarding the origin of mean motion computation in the Parisian tables: the Castilian court. Cecilia Panti instead explores optics in "The Oxford-Paris Connection of Optics and the Rainbow: Grosseteste's *De iride*, pseudo-Oresme's *Inter omnes impressiones* and Bacon's *Perspectiva* in Paris, BnF, lat. 7434" (pp. 251–280)⁵. This essay examines the study of *perspectiva* and its relation to rainbow theory at Oxford, which is discussed in some treatises contained in ms. Paris, BnF, lat. 7434. The manuscript particularly sheds light on the diffusion of Robert Grosseteste's geometrical optics and its influence on Roger Bacon. The influence of Grosseteste is also considered with respect to the pseudo-Oresmian treatise *Inter omnes impressiones*, allowing Panti to contribute further material to contemporary research on the influence of Oxonian optics on the thirteenth and fourteenth century Parisian milieu. "La physique médiévale: les voies d'un renouveau" (pp. 281–308) by Nicolas Weill-Parot reconstructs some recent research on late medieval commentaries on Aristotle's *Physica* by taking up three case studies: the renowned *impetus* theory, the work on vacuum by Roger Dole de Roermundia (which illustrates the important role of minor authors in shaping and innovating late medieval debates about physics), and the question of magnetic attraction in Johannes Sharpe (which exemplifies the relationship between logic and physics).

The two subsequent essays in the volume are devoted to knowledge about animals in the Middle Ages. Baudouin Van den Abeele, an authority in the field, offers a paper entitled "Entre 'savoir de bois et de riviere' et *libraria*: pratiques et lectures du monde animal (XI^e–XVI^e siècles)" (pp. 309–342), which analyses three textual genres and traditions shaping zoological knowledge in the Middle

4 Just a small editorial slip here: the first letter of each word in the English title is not capitalized in the summary at the beginning of the book (see p. v), while these words are capitalized when the title is repeated at the end of the paper, above the abstract (see p. 250).

5 Another editorial slip here: the title of Panti's paper at p. 251 has a "of" that is out of place ("The Oxford-Paris Connection of Optics and the of Rainbow").

Ages: hunting treatises, bestiaries, and encyclopedias. Animal testing is instead the focus of Francesco Santi's "Sperimentazioni sugli animali. Il caso della pratica degli incroci" (pp. 343–364).⁶ This essay reconstructs sensibilities toward, approaches to, and expertise on the practice of animal crossing from the first centuries of the Middle Ages through the sixteenth century.⁷ In a voluminous book such as *Le Moyen Âge et les sciences*, after two papers devoted to animals, I would have expected at least one paper on the medieval science of plants, currently a flourishing scholarly field.⁸ Yet the volume instead switches at this point to the topic of generation in medieval science and culture, with a paper entitled "Generation in the Middle Ages. Past, Present, Future" (pp. 365–388) authored by Maaïke van der Lugt. This essay constitutes an exhaustive reconstruction of scholarly achievements in the field and offers some suggestions on new directions research on generation might take (e.g., widening the study of the High Middle Ages, avoiding sharp periodisations, promoting comparative studies, and being more careful about anachronism in terminology related to generation history). A similar, broad perspective is taken by Joseph Ziegler in "The Study of Medieval Physiognomy: Present and Future" (pp. 389–412), a study of scholarly findings and desiderata in the history of medieval physiognomy. Ziegler too promotes a comparative look at non-Latin medieval physiognomic theories, as well as a study of the role of physiognomic theories in the development of race-thinking and more precise attempts to consider medieval physiognomy and art as intertwined phenomena.

A volume on medieval sciences could not have overlooked medicine and the branches of medical knowledge. Joël Chandelier therefore contributes a paper

6 Readers may note that the English title of the paper on p. 363 contains a typo: "Cossing" instead of "Crossing."

7 Readers may want to be aware that some information in the paper's section on the late medieval Aristotelian tradition ("Il problema scientifico della natura animale, nella tradizione aristotelica," pp. 349–355) is not complete. Contrary to what Santi states on p. 351, late medieval commentaries on the *De animalibus* are not limited to those by Peter of Spain and Albert the Great (on this, see, among several others, Stefano Perfetti, *Animali pensati nella filosofia tra Medioevo e prima età moderna* [Pisa: ETS, 2012], pp. 50–51). It is also strange to read on p. 351, footnote 23, that Hermann Stadler's edition of Albert the Great's *De animalibus* only includes books XIII–XXVI, since the edition (1916–1920) also contains books I–XII (see the edition by Stadler, Albertus Magnus, *De animalibus libri XXVI*, ed. Hermann Stadler [BGPhM 15–16] [Münster: Aschendorff, 1916–1920], which, anyway, is also mentioned by Santi on p. 343).

8 Several publications on the topic could be listed here. Some examples are contained in Fabrizio Baldassarri and Andreas Blank (eds.), *Vegetative Powers: The Roots of Life in Ancient, Medieval and Early Modern Natural Philosophy* (Cham: Springer, 2021). See also the following footnote, on nutritive power.

on anatomy, “L’anatomie à la fin du Moyen Âge” (pp. 413–430), which aims to study medieval anatomy on its own terms: not as mere preparation for the developments of the discipline that would take place in the Renaissance but as a phenomenon in dialogue with medieval scholastic medicine and medieval society as a whole. The result is a very informative paper that should be taken into account by any future study of the topic. Michael McVaugh discusses “Medieval Paths to Surgical Practice: The Example of Montpellier” (pp. 431–450), which explores academic and non-academic developments in surgery in the Montpellier milieu. Marilyn Nicoud authors “Pour une histoire globale de la médecine médiévale” (pp. 451–466), a more general historiographical consideration of the history of medieval medicine based on a reconstruction of scholarship in the field. This is followed by Bruno Laurioux’s “Food in the Medieval Sciences” (pp. 467–486). This contribution offers an overview of the development of food history, commenting on food history as an object of study in medieval scholarship and addressing the topics of medieval cookbooks, dietetic studies, and the concept of “gastronomy.”⁹ Iolanda Ventura’s “Pharmacopée et ‘pharmacologie’ entre textes et pratiques: nouvelles perspectives” (pp. 487–518) is instead a study of late medieval pharmacology and pharmacotherapy. Ventura employs an impressive number of understudied sources to show the development of pharmacopeia by the lenses of the texts in which it was transmitted.

After this long section devoted to medical topics broadly construed, the book shifts focus to the topic of scientific disciplines and censorship. Jean-Patrice Boudet’s “Censures et condamnations (XIII^e–XV^e siècle)” mentioned above is located here, offering a dialogue with past and recent scholarship that addresses the long history of censures in the Latin West by evaluating their influence on the development of medieval science. Towards the end of the volume we find a paper on astrology: David Juste’s “Reading Birth Horoscopes in the Middle Ages: Latin Judgements on Nativities 1100–1450” (pp. 549–594). Juste takes up understudied medieval practical texts in astrology, i.e., those containing interpretations of horoscopes—especially birth horoscopes. In “*Alia littera*: Editorial Strategies in Copies of a Medieval Latin Text *On Talismans* by Thābit ibn Qurra” (pp. 595–616), Charles Burnett takes up Thābit ibn Qurra’s treatise on talismans (*Maqāla fī-l-ṭilasmāt*), a work on practical astronomy,

9 Laurioux’s essay, which is well written and very informative, may prompt readers to wonder if, in addition to food history, the volume perhaps also should have included another viewpoint on medieval scientific knowledge on food, particularly medieval scientific theories on digestion and nutrition. This is a growing subject in the history of pre-modern philosophy, as testified by the recent volume by Giouli Korobili and Roberto Lo Presti (eds.), *Nutrition and Nutritive Soul in Aristotle and Aristotelianism* (Berlin: De Gruyter, 2021).

to question traditional editorial strategies. Burnett argues that copies of texts traditionally considered “contaminated” in the light of Lachmann method are instead to be looked as sites of originality resulting from the conscious corrections and enhancements made by copyist(s). The volume closes with a paper on late medieval ritual magic, which the editors also chose to include in the wide spectrum of medieval scientific disciplines: Julien Véronèse discusses “La magie rituelle à la fin du Moyen Âge. Le cas de la *Clavicula Salomonis*” (pp. 617–638), by presenting the latest research on this necromantic text.

By way of conclusion, I would like to remark on two features of the volume which call for further reflection. The first pertains to the languages adopted. As can be deduced from the titles of the contributions, the volume is written in three different languages: French (17 essays), English (8 essays), and Italian (3 essays). Issues of *Micrologus* are often multilingual, which makes this volume no exception. It is up to the reader to determine whether this produces a certain heterogeneity (also because there is an evident imbalance in the occurrences of the three languages) or whether it usefully reflects the volume’s multifocal historiographical approach. My second remark pertains to the authors contributing to the volume: fifteen texts out of twenty-eight, more than a half of the book, are written by scholars belonging to the advisory board of the “Micrologus Library,” which also entails that almost the entire “Micrologus Library”’s scientific board contributed to the volume (fifteen out of nineteen scholars). On the one hand, this may make the volume seem rather self-referential; on the other, it can be read as an explicit celebration of the hundredth issue of the “Micrologus Library” through a choral enterprise that includes the scholars most directly involved in its achievements in recent decades.¹⁰

Overall, *Le Moyen Âge et les sciences* is a fitting tribute to the activities of *Micrologus*. Specialized scholars will take it as an opportunity to remain up to date on recent research in the history of medieval sciences. A broader readership may find it a useful introduction to how a (pluralistic) concept of “science” can be understood in medieval thought and culture.

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10 In his introduction, Paravicini Bagliani writes that for the making of this collective volume the editors involved “... the researchers that accompanied us throughout several years during our conferences” (see p. VII, my translation). I do not doubt that the scholars involved in the board of “Micrologus Library” are also many of the ones participating in the *Micrologus* conferences, but indeed the two sets do not overlap completely.