

## The Colorless History of pseudo-Aristotle's *De coloribus*

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### Abstract

This article examines the medieval reception history of *De coloribus*. This pseudo-Aristotelian treatise on colors was translated from Greek into Latin in the thirteenth century, but the question of its success and use by contemporary scholars has not yet received any attention. After an examination of its medieval commentary tradition, the marginal glosses, and the first attestations, I conclude that *De coloribus* was scarcely used in the medieval Latin West, although the translation survived in a significant number of manuscripts. In the second part of the article, I look into some possible explanations for this limited reception history. One of the main factors is the availability of several alternative discussions on color in the Aristotelian corpus as well as in the non-Aristotelian scientific literature.

### Keywords

*De coloribus* – pseudo-Aristotle – reception history – *De anima* – *De sensu et sensato* – color – Middle Ages

### Introduction

Pseudo-Aristotle's treatise on colors *De coloribus* was widely available in the Middle Ages, yet, as the title of the article gives away, its history was rather colorless, as this treatise was

not widely read or used by medieval scholars. The paradox at the heart of this article concerns the question of how a text can survive in a significant number of copies and yet have almost no impact on the scholars whom one may assume must have read the text. To solve this puzzle, I will, in the first part of the article, discuss several elements that document the lack of popularity and use of *De coloribus*; in the second part, I will examine possible reasons for the lack of interest in this pseudo-Aristotelian treatise.

But before delving into its medieval history, let me first introduce this natural philosophical text. The *De coloribus* is a short Greek treatise on colors, whose authorship is unclear. During Antiquity and the Middle Ages, it was considered to be an authentic work by Aristotle. Modern scholars, however, agree that this is not a genuine Aristotelian treatise. It is not possible to attribute this text to a specific author: some scholars have opted for Strato of Lampsacus, others for Theophrastus, but all these options have been refuted. The only thing that can be said with any certainty of its provenance is that the text has a Peripatetic background.<sup>1</sup>

During the medieval translation movement which took place between the eleventh and thirteenth centuries, the *De coloribus* was translated twice from Greek into Latin: one translation is from the hand of William of Moerbeke, which has come down to us in only one partial manuscript; the other is by Bartholomew of Messina, which has been preserved in

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<sup>1</sup> For an edition, translation and discussion of the Greek treatise, see: Aristotle, *Περὶ χρωμάτων*, ed. Immanuel Bekker, in *Aristotelis Opera*, vol. 2 (Berlin, 1831), 791-799; Aristotle, *On Colours*, trans. Walter S. Hett (Cambridge, 1936), 3-47; Hans Benedikt Gottschalk, "The *De coloribus* and Its Author," *Hermes*, 92 (1964), 59-85; Aristotle, *De coloribus*, trans. and comm. by Georg Wöhrle, in *Aristoteles Werke in deutscher Übersetzung*, vol. 18 (Berlin, 1999); Maria Fernanda Ferrini, *Pseudo Aristotele. I Colori. Edizione critica, traduzione e commento* (Pisa, 1999).

eighty manuscripts.<sup>2</sup> Both translators were active around the 1260s. Besides a discussion on the identity of the translators, no study has yet been conducted on its medieval reception history.<sup>3</sup>

## 1 *De Coloribus'* Medieval Reception History

The number of eighty preserved manuscripts with Bartholomew of Messina's translation of *De coloribus* is considerable. The Aristotelian treatises tended to be copied together in one volume, and the so-called *Corpus recentius* – of which *De coloribus* was a part – presents a corpus of a rather fixed group of Aristotelian treatises which were transmitted together in one manuscript.<sup>4</sup> The inclusion with other important texts of the *Corpus recentius* and the

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<sup>2</sup> More information related to the medieval Latin translations of (pseudo-)Aristotelian treatises can be found in: Bernard G. Dod, "Aristoteles Latinus," in *The Cambridge History of Later Medieval Philosophy*, eds. Norman Kretzmann, Anthony Kenny, Jan Pinborg and Eleonore Stump (Cambridge, 1982), 45-79; Jozef Brams, *La riscoperta di Aristotele in Occidente* (Milan, 2003); and Robert Pasnau, "The Latin Aristotle," in *The Oxford Handbook of Aristotle*, ed. Christopher Shields (Oxford, 2012), 665-689.

<sup>3</sup> For secondary literature on the Latin translations of *De coloribus*, see Ezio Franceschini, "Sulle versioni latine medievali del περὶ χρωμάτων," *Autour d'Aristote. Recueil d'études de philosophie ancienne et médiévale offert à Monseigneur A. Mansion* (Leuven, 1955), 451-469; Ezio Franceschini, *Scritti di filologia latina medievale, II* (Padua, 1976), 654-673; Gudrun Vuillemin-Diem, "Revision der *Translatio Bartholomaei* oder Neuübersetzung? Zu dem Fragment von *De coloribus* des Wilhelm von Moerbeke," in *Translating at the Court: Bartholomew of Messina and Cultural Life at the Court of Manfred, King of Sicily*, ed. Pieter De Leemans (Leuven, 2014), 203-247, who discusses whether there is a link between the translation of William of Moerbeke and of Bartholomew of Messina. After a thorough analysis and comparison of the two translations, substantiated with many examples, she concludes that the two translations were made independently of one another; Pieter Beullens, "True Colours: the Medieval Latin Translation of *De Coloribus*," in De Leemans, *Translating at the Court*, 165-201, who discusses the authorship of the two Latin translations based on their translation method, and who offers a preliminary edition of the two Latin texts. A critical edition of the translations of both William of Moerbeke and Bartholomew of Messina, based on a reading of all extant manuscripts, is being prepared by Lisa Devriese and will appear in the *Aristoteles Latinus* series.

<sup>4</sup> The *Corpus recentius* comprises the Greek-Latin translations of Aristotelian works, that superseded the older *Corpus vetustius* in the second half of the thirteenth century. While the latter consisted both of Arabo-Latin and

fact that such a corpus was usually copied in its entirety, could in itself explain the high number of existing copies of *De coloribus*, particularly given that most of the extant copies of *De coloribus* are transmitted in such a volume, and not individually.<sup>5</sup> However, it remains to be investigated how much response the *De coloribus* evoked once it was available in Latin.<sup>6</sup> Many Aristotelian treatises profoundly influenced the course of medieval philosophy, but this is not necessarily the case for all the writings attributed at the time to the Philosopher. In what follows, I will examine the commentary tradition, the marginal notes, the first attestations, and the early dissemination; together, they give a detailed insight into the reception history of this color treatise.

### 1.1 *Commentary tradition*

The number of medieval commentaries on a given text is usually a reliable indication of the use and dissemination of that text by medieval scholars. Works from the *Corpus Aristotelicum* that were taught at the medieval university were widely commented upon in order to clarify and explain the often dense Aristotelian treatises, and at times influential commentaries were produced. Treatises that were not included in the official curriculum, on

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Greek-Latin translations, the *Corpus recentius* consists of only Greek-Latin translations; the translations from Arabic were replaced by more recent translations from a Greek model; see Nicolaus Damascenus, *De plantis: Five Translations*, ed. Hendrik J. Drossaart Lulofs and Evert L.J. Poortman (Amsterdam–New York, 1989), 483.

<sup>5</sup> The presumed authorship of Aristotle resulted in a wide dissemination of manuscripts containing the *De coloribus*, although it was never part of the official curriculum at the university of Paris. Most of the extant manuscripts are copied together with other treatises of the *Corpus Aristotelicum*. The *De coloribus* is usually preceded or followed by (in descending order): *De bona fortuna*, *De mundo*, *De Nilo*, *De proprietatibus rerum*, *De plantis*, *De lineis insecabilibus*, and *Physiognomonica*. Only fifteen of the eighty manuscripts are not transmitted in the typical *Corpus recentius* structure, but even then these are combined with some of the *Corpus recentius* translations, or with commentaries by Averroes and Albert the Great on Aristotelian texts.

<sup>6</sup> Since Moerbeke's translation is preserved in only one partial manuscript, this study necessarily focused on Bartholomew of Messina's translation of *De coloribus*.

the other hand, had a less straightforward future: these treatises could still circulate at the medieval university, and while some were occasionally read and commented upon, others seem to have generated hardly any medieval commentary.<sup>7</sup> The pseudo-Aristotelian *De coloribus* belongs to this second category. According to Charles H. Lohr, no medieval commentary on *De coloribus* has survived. A recent discovery by Pieter De Leemans in a manuscript of Saint-Omer now allows us to correct this judgement. Manuscript Saint-Omer, Bibliothèque municipale, 592 (fourteenth century) contains the *De coloribus* in the main text, while the margin contains a systematic commentary (fols. 111r-114r). According to his preliminary study, the commentary can be attributed to the theologian Berthaud of Saint-

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<sup>7</sup> The *Physiognomonica* is an example of a pseudo-Aristotelian text that was not included in the official curriculum, but circulated at the University of Paris and generated many commentaries; see Lisa Devriese, "An Inventory of Medieval Commentaries on pseudo-Aristotle's *Physiognomonica*," *Bulletin de Philosophie Médiévale*, 59 (2017), 215-246. Treatises with no medieval commentaries or hardly any (according to Charles H. Lohr, *Latin Aristotle Commentaries. I. Medieval Authors* [Florence, 2010-2013]) include: *De lineis insecabilibus*, *Magna moralia*, *De progressu animalium*, *De mundo* and *De inundatione Nili*. It is, however, possible that new commentaries will appear. For a commentary on *De lineis insecabilibus*, see that of Albert the Great inserted in his commentary on the *Physica*: Albertus Magnus, *Physica*, ed. Paul Hossfeld, in *Alberti Magni Opera Omnia*, vol. 4, t. 2 (Münster, 1993). Many thirteenth and fourteenth-century scholars seem to have used geometrical arguments of the Latin *De lineis insecabilibus* translated by Robert Grosseteste; a study on this will be carried out by Clelia Crialesi. On the *Magna moralia*, see Valérie Cordonier, "La version latine des *Magna Moralia* par Barthélemy de Messine et son modèle grec: le ms. Wien, ÖNB, phil. gr. 315 (V)," in De Leemans, *Translating at the Court*, 337-391. For a discussion of *De progressu animalium*'s reception, see Pieter De Leemans, "La réception de *De progressu animalium* d'Aristote au Moyen Âge," in *Textes et Cultures: réception, modèles, interférences. Réception de l'antiquité*, ed. Pierre Nobel (Besançon, 2004), 165-185. For a preliminary study on the commentary tradition of *De mundo*, see George Molland, "Addressing Ancient Authority: Thomas Bradwardine and Prisca Sapientia," *Annals of Science*, 53 (1996), 213-233, and Jill Kraye, "Disputes over the Authorship of *De mundo* between Humanism and Altertumswissenschaft," in *Cosmic Order and Divine Power: Pseudo-Aristotle, On the Cosmos*, ed. Johan C. Thom (Tübingen, 2014), 181-198 at 182. For a medieval commentary on *De inundatione Nili*, see Pavel Blažek, "Il commento di Bartolomeo di Bruges al *De inundatione Nili*. Edizione del testo," *Medioevo. Rivista di storia della filosofia medievale*, 33 (2008), 221-264.

Denis (d. 1307).<sup>8</sup> Additional research has allowed me to find one additional manuscript that contains the same commentary in the main text: manuscript Melk, Benediktinerstift, cod. 1858, fols. 147-161 (fourteenth century). I am preparing a detailed study on the content and the authorship, as well as an edition of this exceptional commentary on *De coloribus*.<sup>9</sup>

In addition, manuscript Cambridge, University Library, Mm. III. 11, fol. 64rv (fifteenth century) contains "*Quedam notabilia super libro Aristotelis De coloribus per Colynham*."<sup>10</sup> These *notabilia*, however, do not entirely fall into the category of the commentary, since they are extracts of the *De coloribus* in the translation of Bartholomew of Messina, with minimal additions. The scholar's own contribution is limited to, on several occasions, adding a clarification, such as "*id est*" and "*super*," followed by only one or two words.

## 1.2 *Marginal notes*

The annotations written in the margins of manuscripts by their medieval reader offer an invaluable source of information for the study of the reception history of a given text. In general, the marginalia vary greatly in length: some annotations contain merely a few words, offering a synonym or alternative reading, while other annotations comprise entire

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<sup>8</sup> Pieter De Leemans, "*Per episcopum Aurelianensem... A new attribution of the commentary on Aristotle's De progressu animalium in MS Bologna, Collegio di Spagna, 159*," in *Edizioni, traduzioni e tradizioni filosofiche (secoli XII-XVI). Studi per Pietro B. Rossi*, ed. Luca Bianchi, Onorato Grassi and Cecilia Panti (Rome, 2018), 273-284. Berthaud was considered by his contemporaries to be an important theologian, but was hitherto unknown as a commentator of texts related to the Arts faculty. In his article, De Leemans shows that not only can the commentary on *De coloribus* be attributed to him, but also that on *De progressu animalium*.

<sup>9</sup> In the light of the present article, it will be interesting to study why the *De coloribus* was commented on only by Berthaud of Saint-Denis and to search for reasons that could have motivated him to write a commentary.

<sup>10</sup> *Inc.*: "*Simplices colorum sunt quicumque...*" – *expl.*: "*plurima animalium debiliora fiunt alba nigris. Explicit.*" (798b1). The extracts of *De coloribus* are followed by "*notabilia extracta de libro qui intitulatur De mundo Aristotelis*" (fols. 64v-65r); see Henry R. Luard, *A Catalogue of the Manuscripts Preserved in the Library of the University of Cambridge*, vol. IV (Cambridge, 1861), 183.

paragraphs of additional information and commentary on the source text. Besides relevance regarding the content, the study of the marginal annotations gives an insight into the thoughts of the medieval reader. From the passages that are highly annotated or indicated, it is possible to deduce which passages were deemed interesting, and which sentences needed more explanation. From the sources that are mentioned, in turn, it is possible to deduce what other treatises could be connected to the text, or in which environment or for which purpose it was read. At the same time, the absence of marginalia can be telling: it could be an indication that the text was less read and studied.

Research on marginal glosses in treatises of the *Corpus Aristotelicum* is still in its infancy, but there are some points of comparison:

- In some 70 per cent of the manuscripts containing the *De longitudine et brevitare vite* in the translation of James of Venice, marginal annotations can be found.<sup>11</sup>
- The manuscripts with Michael Scot's translation of the *De animalibus* contain a considerable number of annotations.<sup>12</sup>
- More than half of the manuscripts containing the *Epistola ad Alexandrum* contain glosses, but in a limited way.<sup>13</sup>
- 35 per cent of the manuscripts with the pseudo-Aristotelian *Physiognomonica* have marginalia, with a great diversity in number and length.<sup>14</sup>

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<sup>11</sup> Research by Tilke Nelis (KU Leuven) is currently underway on the *De longitudine et brevitare vite* in the translation of James of Venice.

<sup>12</sup> Aafke van Oppenraay, "The Reception of Aristotle's 'History of Animals' in the Marginalia of Some Latin Manuscripts of Michael Scot's Arabic-Latin Translation," *Early Science and Medicine*, 8 (2003), 387-403, 387.

<sup>13</sup> Pieter De Leemans, "*Reductio ad Auctoritatem*: The Medieval Reception of Pseudo-Aristotle's *Epistola ad Alexandrum*," *Recherches de Théologie et Philosophie Médiévales*, 84 (2017), 263-270.

<sup>14</sup> Lisa Devriese, "Physiognomy in Context: Marginal Annotations in the Manuscripts of the *Physiognomonica*," *Recherches de Théologie et Philosophie Médiévales*, 84 (2017), 107-141.

- The manuscripts containing the *De progressu animalium* show hardly any traces of marginal annotations.<sup>15</sup>

One finds a clear link between the number of marginalia and the texts' respective commentary tradition: the *De longitudine et brevitae vite*, which contains many annotations, has a rich medieval commentary tradition, with commentaries by, among others, Peter of Spain, Albert the Great and Adam of Buckfield.<sup>16</sup> The number of university commentaries on the *De animalibus* is rather small compared to other parts of Aristotelian natural philosophy, but Aristotle's zoology entered the Latin Middle Ages in several forms of writing besides the literary form of the university commentaries, such as encyclopedia, florilegia, compendia, *auctoritates*, *conclusiones*, *tabulae* and independent treatises.<sup>17</sup> The *Physiognomonica* has a fairly large tradition of 25 medieval commentaries, but most of them are anonymous or by someone about whom we know very little.<sup>18</sup> Of the *De progressu animalium*, in contrast, which has hardly any marginal annotations, only one medieval commentary is known, and it is transmitted in only one manuscript: Bologna, Collegio di

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<sup>15</sup> De Leemans, "La réception," 165-185.

<sup>16</sup> For medieval commentaries on this treatise, see Michael Dunne, "Thirteenth and Fourteenth-Century Commentaries on the *De longitudine et brevitae vitae*," *Early Science and Medicine*, 8 (2003), 320-335; Tilke Nelis, "Adam of Buckfield's Commentary on Aristotle's *De longitudine et brevitae vitae*, *recensio* 1: a Critical Edition, with an Introduction and Analysis," *Recherches de Théologie et Philosophie Médiévales* (forthcoming).

<sup>17</sup> Baudouin Van den Abeele, "Le *De animalibus* d'Aristote dans le monde latin: modalités de sa réception médiévale," *Frühmittelalterliche Studien*, 33 (1999), 287-318; Stefano Perfetti, "La disseminazione del sapere sugli animali (dalla tarda antichità al XIII secolo) e l'iperaristotelismo di Alberto Magno," in *La zoologia di Aristotele e la sua ricezione dall'età ellenistica e romana alle culture medievali*, ed. Maria M. Sassi with Elisa Coda and Giuseppe Feola (Pisa, 2017), 269-297.

<sup>18</sup> Devriese, "An Inventory."



Spagna, 159, fols. 163r-171v.<sup>19</sup> A similar situation applies to *De coloribus*: it is a pseudo-Aristotelian treatise on the fringes of the *Corpus Aristotelicum*, having hardly any marginal annotations, and only one known medieval commentary, by Berthaud of Saint-Denis.<sup>20</sup>

Of the 81 manuscripts containing the *De coloribus*:

- One manuscript contains a complete commentary by Berthaud of Saint-Denis written in the margins (see 1.1 above).
- MS Venice, Bibl. Marciana, lat. VI, 49 (A.L. 1609)<sup>21</sup> at fols. 327r-329r, and MS Salamanca, Bibl. Univ., 2256 (AL 1211) at fol. 3r: contain very few annotations, and only at the beginning of the treatise.
- MS Paris, BnF, lat. 6552 (A.L. 589) contains only one note, at the end of the treatise (fol. 28r). It is not entirely legible, but seems to be an alchemical recipe, with reference to quicksilver (*mercurius*), arsenic (*arsenicum*), tin (*stagnum*), and powder (*pulvis*). Although no colors are mentioned in this recipe, the use of colors is widespread in alchemical treatises, as we see in the second part of this article.

This means that only four manuscripts out of 81, i.e. 4.9 per cent, contain (limited) marginal explanations, additions and annotations. The texts preceding or following the *De coloribus* usually contain marginalia. The fact that many of the manuscripts with the *De coloribus* in it

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<sup>19</sup> Pieter De Leemans, "Aristotle's *De progressu animalium* in the Middle Ages: Translation and Interpretation," in *Frontiers in the Middle Ages*, ed. Outi Merisalo (Louvain-la-Neuve, 2006), 525-541.

<sup>20</sup> Interestingly, the author of the commentary on *De progressu animalium* seems to be the same as the commentator on *De coloribus*. For a preliminary study on the similarities between the commentaries on *De progressu animalium* and *De coloribus*, see De Leemans, "Per episcopum Aurelianensem," 279-281. I will carry out a more detailed stylistic comparison between the two texts, which will appear in a future study.

<sup>21</sup> The A.L.-numbers in this article refer to the printed *Aristoteles Latinus* catalogues, available online at: <[www.hiw.kuleuven.be/dwmc/al/DALE](http://www.hiw.kuleuven.be/dwmc/al/DALE)>, last accessed 26 March 2021.

have annotations for other treatises is a clear sign that the medieval readers had only a limited interest in the *De coloribus*.

The content of the marginal annotations in the Venice and Salamanca manuscripts can be summarized very briefly, because they display hardly any originality or personal input: the notes are intended to make the text easier to follow and more accessible and searchable. Structural notes comprise all annotations that refer to the structure of the text, rather than adding new information. By adding such a note in the margin, one can immediately notice which color or topic is discussed in which paragraph, e.g.: “*primo de simplicibus coloribus,*” “*album,*” “*albi et nigri,*” “*cause quare non videntur colores sinceri.*”

The same tendency to clarity and orderliness is noticeable in the presence of diagrams in the margins of the Venice manuscript (fol. 327r; see Fig. 1). Due to the enumerations present in *De coloribus*, the text lends itself to the use of diagrams. When discussing the color black, pseudo-Aristotle writes:

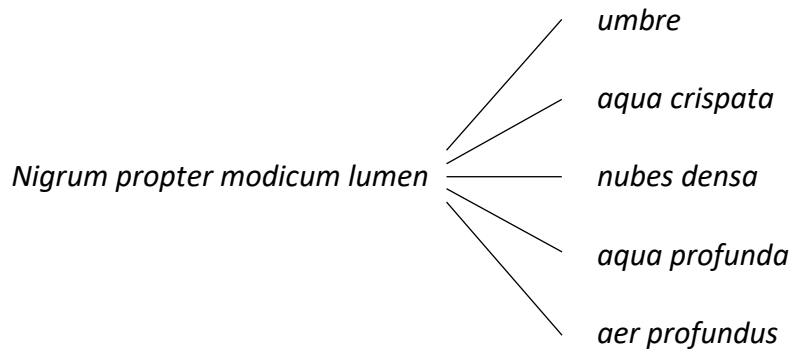
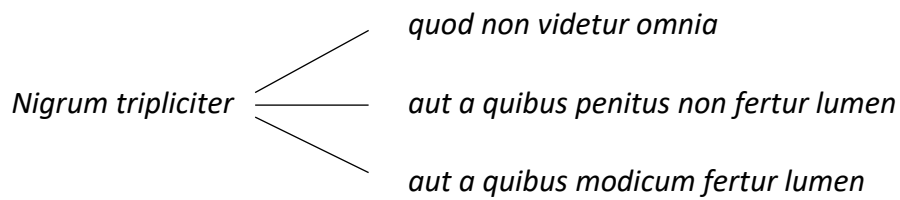
For we see black under three different conditions. Either the object of vision is naturally black (for black light is always reflected from black objects); or no light at all passes to the eyes from the object (for an invisible object surrounded by a visible patch looks black); and objects always appear black to us when the light reflected from them is rare and scanty. This last condition is the reason why shadows appear black. It also explains the blackness of ruffled water, e.g., of the sea when a ripple passes over it: owing to the roughness of the surface few rays of light fall on the water and the light is dissipated, and so the part which is in shadow appears black. The same principle applies to very dense cloud, and to masses of water and of air which light fails to penetrate; for water and air look

black when present in very deep masses, because of the extreme rarity of the rays reflected. (791a13-b1)<sup>22</sup>

Pseudo-Aristotle discusses the three conditions under which we see black: (1) the object of vision is black, (2) no light passes from the object to the eyes, or (3) the light reflected from the object is rare and moderate. This third condition is the reason why the following things appear black: (1) shadows, (2) ruffled water, (3) dense clouds, (4) masses of water, and (5) deep masses of air. Because of the rarity of the reflected rays, they look black. One reader of the Venice manuscript decided to represent this paragraph diagrammatically, in order to elucidate the three conditions and the five natural objects. Next to the Latin text, we find the following:

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<sup>22</sup> English translation taken from Aristotle, *On Colours*, trans. by Thomas Loveday and Edward S. Forster, ed. Jonathan Barnes, in *The Complete Works of Aristotle: the Revised Oxford Translation* (Princeton, NJ, 1991), 1219. The Latin medieval translation of Bartholomew of Messina runs as follows: "*Tripliciter enim nigrum nobis videtur; aut enim omnino quod non videtur est natura nigrum – omnibus namque huiusmodi repercutitur quoddam lumen – aut a quibus nullum penitus fertur lumen ad visus; quod enim non videtur quando locus continens videtur, fantasiam efficit nigri. Videntur autem et huiusmodi nobis omnia nigra a quibuscumque rarum et modicum vehementer repercutitur lumen, unde et umbre videntur nigre. Similiter autem et aqua quando exasperatur, sicut maris crispatio; propter asperitatem enim superficiei paucis splendoribus vel radiis incidentibus et divulsis luminis, umbrosum nigrum videtur. Et nubes quando erit densa fortiter propter hoc; et huiusmodi autem hiis et aqua et aer quando utique omnino distendunt lucem. Et enim hii esse videntur nigri profunditatem habentes quia omnino rari repercutiuntur radii.*" Taken from the critical edition of *De coloribus* which I am preparing on the basis of all extant manuscripts. This edition will appear in the *Aristoteles Latinus* series.



Besides the diagrams, one simplified drawing can be observed in the left margin of the same manuscript (fol. 327r; see Fig. 2). It depicts the side-view of a face and an object, with rays between the object and the eye (it is not clear whether the rays come from the object or from the eye). Not coincidentally, the corresponding main text contains hints of intromission theory: the author notes that, when one sees black, it means that no light passes from the object to the eyes, and that light is reflected from the objects.<sup>23</sup> Intromission is a theory of vision that claims that there are emissions from the object to the eyes, as opposed to extramission, where emissions are from the eyes to the object.<sup>24</sup> It is possible that these Latin sentences caused the medieval reader to sketch this theory.

<sup>23</sup> “*aut a quibus nullum penitus fertur lumen ad visus*” (791a16) and “*a quibuscumque rarum et modicum vehementer repercutitur lumen*” (791a19).

<sup>24</sup> See A. Mark Smith, *From Sight to Light: The Passage from Ancient to Modern Optics* (Chicago, IL–London, 2015), 29-32 for an account on the physical and psychological theories of vision. For a discussion of the extramissionist and intromissionist theories in the Middle Ages, see Lukáš Lička, “The Visual Process: Immediate or Successive? Approaches to the Extramission Postulate in 13th Century Theories of Vision,” in

Not all the marginal annotations are focused on making the content structurally clear; a few of them offer additional information on the origin and mixture of colors, or rephrase a particular sentence.<sup>25</sup>

The scant number of marginalia in the manuscripts containing *De coloribus*, as well as the lack of notes directly connected to the content, do not allow us to draw conclusions regarding the environment in which the text was copied and used, or for which purpose the text was studied. The almost complete absence of marginalia is therefore a strong indicator that the treatise received minimal scholarly attention, and was perhaps not deemed interesting or useful enough to study in combination with other natural philosophical treatises.

### 1.3 *First attestations*

The third aspect of the reception history to be examined concerns the first attestations and references to *De coloribus* after it was translated into Latin in the second half of the thirteenth century. References to *De coloribus* in contemporary sources can play a crucial role in determining whether this pseudo-Aristotelian treatise was widely available and read among medieval scholars. There are few references, however. Scholars active during the second half of the thirteenth century and at the beginning of the fourteenth century do not

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*Medieval Perceptual Puzzles. Theories of Sense Perception in the 13<sup>th</sup> and 14<sup>th</sup> Centuries*, ed. Elena Băltuță (Leiden–Boston, MA 2020), 73-110.

<sup>25</sup> Fol. 327v: “*puniceus et purpureus et viridis et alurgon fiunt secundum differentiam fortitudinis et debilitatis luminis radiantis super tenebrum vel umbrosum*”; fol. 327v: “*puniceum et purpureum et omnes similes colores differentie fiunt ex maiori vel minori mixtione luminis ad nigra, sive ex diversitate ortus lucis super nigrum. Unde quodammodo idem est in istis et aliis substantia et fantasia, et cause generationis sunt similiter cause phantasie.*”; fol. 327v: “*colores fiunt et per mixtionem et per magis et minus lucis; per mixtionem que ab alba et nigro; puniceus ex minus et magis de luce, et purpureus similiter, et viridis ex albo magis et minus lucido.*”

quote *De coloribus* as a source. I was not able to find many citations, although my list does not pretend to be exhaustive. The only scholar who makes ample references to *De coloribus* is Henry Bate (1246-1310) in his *Speculum divinorum et quorundam naturalium*.<sup>26</sup>

In his *In Aristotelis libros Topicorum*, Albert the Great makes a reference to Aristotle's *De coloribus*: "Consider what Aristotle actually says in the book *On colours*: that light is the foundation of colors, and that white comes from mingling bright fire with a white body."<sup>27</sup>

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<sup>26</sup> Pars 1, c. 4, 85-87: "Unde, in libro De coloribus, simplicibus corporibus, tam elementis quam caelestibus, simplices Philosophus attribuit colores; compositis vero commixtos. (...) Et hinc est quod dicit Philosophus, libro De coloribus, quod nullum colorem sincerum videmus secundum quod est, sed omnes commixtos in aliis; lucis enim splendoribus mixti diversis, et sic invicem delati, colorantur. Lumen enim quando incidens a quibusdam coloratur, et fit puniceum aut herbeum, et repercussum incidit ad alium colorem, et hanc commixtionem sustinens, continue quidem sed non sensibiliter, quandoque accedit ad visum ex multis quidem coloribus, uno autem maxime dominante, faciens sensum. Unde et [quae] in aqua in speciem aquae magis videtur, et quae in speculis similes habentia colores eis quae sunt in speculis. Quod etiam et in aere opinandum est accidere. Quare ex tribus esse colores omnes mixtos, inquit Philosophus, luce scilicet, et per quae videtur lux, et subiectis coloribus"; Pars 1, c. 6, 93: "Et haec commixtio declarata est a Philosopho in libro De coloribus, ut visum est supra"; Pars 1, c. 8, 102: "Quamquam igitur aer prope quidem visus nullum habere colorem videatur, ut dicit Philosophus, libro De coloribus, propter raritatem enim splendoribus vincitur, separatus tamen a densis visis per ipsum, et in profunditate visus longe extensa, proximo videtur colore kyanoides, hoc est quodam fusco colore et quasi nebuloso. Propter raritatem enim, inquit, illam, in quantum lux deficit, sicut tenebra involutus videtur kyanoides; densatus, sicut et aqua quae omnium albissima est"; Pars 1, c. 11, 121: "Et in libro De coloribus Philosophus simplices colores attribuit simplicibus elementis, igni scilicet, et aeri, et aquae"; Pars 2, c. 15: "Demum, in aere existens impressio densior quidem ipso aere, parte – inquam – eius existente in umbra terrae et parte extra umbram, a sole videlicet illuminata aut a luna, necessario distincta secundum hoc apparere deberet colorum diversitas partium illarum, quemadmodum et de aurora consimiliter demonstratum est libro De crepusculis, et in libro etiam De coloribus a Philosopho declarata est horum causa"; Pars 20, c. 9, 30-32: "Unde et libro De coloribus aquam et aerem albam fore, ignem vero rubeum esse dicit Philosophus"; Pars 20, c. 21, 137-138: "Spiritus autem, inquit, est calidus aer qui et natura albus est, ut ait in libro De coloribus." For an edition of book 1, see Henricus Bate de Mechlinia, *Speculum divinorum et quorundam naturalium*, ed. Edmond Van de Vyver, *Philosophes Médiévaux* 4 (Leuven–Paris, 1960). I thank Carlos Steel for bringing this to my attention, and for providing me with a preliminary edition of book 20.

<sup>27</sup> Albertus Magnus, *In libros Topicorum* lib. 6, tr. 6, c. 2, ed. Auguste Borgnet, in *Alberti Magni Opera omnia*, vol. 2 (Paris, 1890), 470: "Attende tamen quod revera dicit Aristoteles in libro De coloribus, quod lux est colorum hypostasis, et quod album est ex admixtione ignis clari cum corpore albo."

The fact that light is the underlying reality or foundation (*hypostasis*) of color is only implicitly stated in *De coloribus* 791b7-17, and it is a statement that is also repeated by Albert the Great in other commentaries, such as on the *Metaphysica*, though without reference to *De coloribus*.<sup>28</sup> The second part of the sentence, on the origin of the color white, is taken from *Topica* 149a rather than from *De coloribus*.<sup>29</sup> Such a vague and unspecific reference to *De coloribus* can also be found in Theodoric of Freiberg's *De iride et de radialibus impressionibus*, where he states: "*unde secundum Philosophum in libro De coloribus sol est albi coloris*" (II, 4). The editors of this work mention that this refers to a passage in the *Meteorologica* (I, 3, 341a35-36; III, 6, 377b22-23) rather than to *De coloribus*.<sup>30</sup> The use of the name '*De coloribus*' by Albert the Great and Theodoric of Freiberg shows that Aristotle's treatise on colors was known by name and by general content, but not used for specific references.

In the preface of his *Questiones in octo libros Aristotelis de physico auditu*, John of Jandun categorizes the natural philosophical works, and mentions the connections between several works. Of the *De coloribus*, he mentions: "*Libellus De coloribus annexus est libro De*

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<sup>28</sup> Albertus Magnus, *Metaphysica*, lib. 1, tr. 5, c. 15, ed. Bernhard Geyer, in *Alberti Magni Opera omnia*, vol. 16/1 (Münster, 1960), 89, r. 22-23: "*sicut lux corporalis est hypostasis colorum.*" It also occurs in Thomas Aquinas' *In Sententiarum* (I, 17, 1, 1; III, 23, 2, 1).

<sup>29</sup> Aristotle, *Topica, translatio Boethii*, ed. Lorenzo Minio-Paluello, adiuv. Bernard G. Dod, in *Aristoteles Latinus*, V 1-3 (Brussels-Paris, 1969), 139, r. 10-14 (149a38-149b3): "*Rursum si cuius quidem rationem assignavit eorum quae sunt est, quod autem sub ratione non eorum quae sunt, ut si album diffinivit colorem igni permixtum; impossibile enim incorporeum corpori permisceri, quare non erit color igni permixtus; album vero est.*"

<sup>30</sup> Theodoric of Freiberg composed this work between 1304 and 1311. Maria Rita Pagnoni-Sturlese and Loris Sturlese, "Theodoricus. *Tractatus de iride et de radialibus impressionibus*," in *Dietrich von Freiberg. Opera omnia, tom. IV: Schriften zur Naturwissenschaft, Briefe*, ed. Maria Rita Pagnoni-Sturlese, Rudolf Rehn, Loris Sturlese and William A. Wallace (Hamburg, 1985), 94-268; see 152 for the reference.

sensu et sensato *in quo agitur de generationibus sensibilium.*"<sup>31</sup> The *De coloribus* is linked to the *De sensu et sensato*, since they treat the generation of sensible objects.<sup>32</sup>

What is even more revealing, is the lack of references to *De coloribus* in works where we might – content-wise – expect it. Theodoric of Freiberg, for example, is also the author of a treatise called *De coloribus* (dated after 1304), but while references to Aristotle's *De anima*, *De sensu et sensato*, *Physica*, *Metaphysica*, and to other authors such as Avicenna, Alhazen's *Perspectiva*, Averroes, and Alfred of Sareshel are frequent, there is no reference to Aristotle's *De coloribus*.<sup>33</sup> The same applies for almost all other medieval treatises where colors are mentioned: color is used in various treatises on plants, on minerals and stones, on vision, etc., but references to *De coloribus* are non-existent. For example, a reference to *De coloribus* could have occurred in the treatises of Albert the Great and Roger Bacon. Both scholars are known for their interest in Aristotelian natural philosophy and wrote many commentaries on these topics. In Albert the Great's commentary on *De vegetabilibus*, many capitula are devoted to the color of plants, flowers and fruit (lib. II, tr. 1, c. 6; tr. 2, c. 6-7; lib. III, tr. 1, c. 5; lib. IV, tr. III, c. 4; tr. IV, c. 1-2), a topic closely related to the content of *De*

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<sup>31</sup> Iohannes de Ianduno, *Questiones in octo libros Aristotelis de physico auditu* (Venice, 1544), prologus, secunda pars, III.

<sup>32</sup> In his *Quaestiones super librum De sensu et sensato*, John of Jandun mentions the *De coloribus* once: "Et in libro De coloribus est propria consideratio" (Venice, 1570), 22, 19. Another reference to the *De coloribus* can be found in John Duns Scotus' commentary on *De anima* (II, 9, 3). Johannes Duns Scotus, *Questiones super libros Aristotelis De anima*, in *Opera Omnia*, vol. 2 (Hildesheim, 1968), 618: "Hinc Aristoteles Liber de coloribus ait colores sequi haec elementa, plusquam illa; nam in quibus aer dominatur, et aqua, sunt magis candida, quia ista elementa sunt diaphana; in quibus ignis, flava; in quibus terra, nigra." This is a reference to *De coloribus*, 791a1-4. Also, the *Quaestiones De sensu* attributed to Nicole Oresme makes a reference to *De coloribus* (*Le 'Quaestiones De sensu' attribuite a Oresme e Alberto di Sassonia*, ed. Jole Agrimi (Florence, 1983), 150).

<sup>33</sup> Rudolf Rehn, "Theodoricus. Tractatus de coloribus," in Pagnoni-Sturlese et al., *Dietrich von Freiberg. Opera omnia, tom. IV*, 269-288; Fiorella Retucci, "Un nuovo testimone manoscritto del *De luce* e del *De coloribus* di Teodorico di Freiberg," *Archives d'histoire doctrinale et littéraire du Moyen Âge*, 77 (2010), 193-219.



*coloribus* – but no link to Aristotle’s *De coloribus* is to be found.<sup>34</sup> The same applies for his *De mineralibus*, with many chapters on the colors of stones and minerals (lib. 1, tr. II, c. 2-3; lib. 3, tr. II, c. 3), but only the *De sensu et sensato* is mentioned. Roger Bacon, who was also well versed in Aristotelian literature, refers in his commentary on *De sensu et sensato*<sup>35</sup> to every possible work of Aristotle where color is mentioned (*De anima, Physica, De vegetabilibus, Meteorologica, Metaphysica*, etc.), as well as many related treatises (such as Avicenna, *Perspectiva*, etc.), but makes no mention of *De coloribus*.<sup>36</sup> In the second part of the article, I will discuss in greater detail the lack of references in medieval writings on color.

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<sup>34</sup> Albertus Magnus, *De vegetabilibus*, ed. Auguste Borgnet, in *Alberti Magni Opera omnia*, vol. 10 (Paris, 1891), lib. 4, tr. 4, c. 1, 130: “*Et haec est scientia Aristotelis de coloribus lignorum, quae propter malitiam translationis vix est intelligibilis. Sed sciendum est, Aristotelem velle dicere, quod ligna sunt quaedam nigra et quaedam alba; et haec habent extremos colores; quaedam autem sunt mediorum colorum inter haec. (...) Medii autem colores fiunt ex ligno vaporoso, quod ventosum vocat Aristoteles.*” Here, Albert the Great does not refer to *De coloribus*, but to the Arabic-Latin translation of Nicolaus Damascenus’ *De plantis* (II, 9, 233); see Damascenus, *De plantis*, 208.

<sup>35</sup> Roger Bacon, *Liber de sensu et sensato, Summa de sophismatibus et distinctionibus*, ed. Robert Steele, in *Opera hactenus inedita Rogeri Baconi*, Fasc. XIV (Oxford, 1937), qu. 8-17.

<sup>36</sup> Other works (with a special focus on commentaries on *De anima* and *De sensu*) where color is mentioned, but without reference to the pseudo-Aristotelian *De coloribus* are (for the sake of brevity, I do not refer to modern editions): Albert the Great’s commentaries on *De anima* (II, 3, c. 7 and 14), *Meteorologica* (I, 4, 10; III, 4, 10-21), *De sensu et sensato* (II, 1-5); pseudo-Albert’s *Liber de passionibus aeris*; Bartholomew the Englishman’s *De proprietatibus rerum* (lib. 19: *de accidentibus*); Roger Bacon’s *Opus maius* (V et VI), *Perspectiva* (I, 6, 3; II, 3, 1; III, 1, 5), *Quaestiones supra libros Metaphysica (supra quinto libro)*, *Tractatus de multiplicatione specierum* (I, 1-3), *In De sensu et sensato* (8-17); Thomas Aquinas’ commentary on *De sensu* (c. 5-7); Peter of Auvergne’s *Quaestiones super Parva naturalia* (15-26, 42-44); *Ignoti auctoris quaestiones in Aristotelis De anima* (II, 25-30, ed. Maurice Giele, Fernard Van Steenberghen and Bernardo Bazán); John of Jandun’s *Quaestiones super tres libros Aristotelis De anima* (II, 19-21); William of Ockham’s *Expositio in libros Physicorum (passim)*, *Scriptum in librum sententiarum (passim)*; John Buridan’s *In Aristotelis Metaphysicam* (7-8), *Expositio* and *Quaestiones de anima* (II, 11, 17, 20), *In De sensu* (II, 14-15); Nicole Oresme’s *Expositio* and *Quaestiones in Aristotelis De anima* (II, 16-18); Peter de Rivo’s *Lectura super librum De sensu et sensato* (II, 1). For some references to published editions, see Sander W. de Boer, *The Science of the Soul: The Commentary Tradition on Aristotle’s De anima, c. 1260-1360* (Leuven, 2013); Pieter De Leemans, “*Parva Naturalia*, Commentaries on Aristotle’s,” in *Encyclopedia of Medieval Philosophy*, ed. Henrik Lagerlund (Dordrecht, 2020), 1385-1397.

#### 1.4 *Transmission and dissemination*

Bartholomew of Messina's translation of *De coloribus* was probably made in the second half of the thirteenth century. The only date we have for Bartholomew's translation activities is his stay at the court of King Manfred of Sicily, who reigned between 1258 and 1266, but he may have made the translation of *De coloribus* prior to or after the reign of this king.<sup>37</sup> How quickly the text became known and disseminated after the translation was finished will undoubtedly have played a role in its popularity. With the help of colophons or notes of owners in the manuscripts, it is possible to determine a *terminus ante quem* for the composition of the manuscript, which could give us an indication as to when *De coloribus* was in circulation.<sup>38</sup> Seven manuscripts reveal an early dissemination and availability of this treatise: *De coloribus* was certainly known in the 1270s and 1280s:

- Paris, BnF, lat. 16633, fol. 110r: "*Iste liber est pauperum magistrorum de Sorbona studentium in theologica facultate, ex legato magistri Geraldii de Abbatisvilla.*" Gerard of Abbeville (d. 1272), secular master of theology and contemporary of Thomas Aquinas and Bonaventure, donated his impressive personal book collection to Robert of Sorbonne, founder of the Sorbonne, which included mainly theological treatises, but also canon law and Latin Aristotelian treatises.<sup>39</sup>

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<sup>37</sup> Beullens, "True Colours," 168.

<sup>38</sup> The information on the colophons of these manuscripts are taken from the *Aristoteles Latinus Codices*.

<sup>39</sup> Stephen M. Metzger, *Gerard of Abbeville, Secular Master, on Knowledge, Wisdom and Contemplation*, vol. 1 (Leiden–Boston, MA, 2017), 4-7, 35.

- Paris, Bibl. Mazar., 1186, fol. 442: “*Liber Lamberti de Leodio, dictus de Exst. castrum.*” Lambert de Liège, OP, was active around 1272/73.<sup>40</sup>
- Cambridge, Fitzwilliam Museum, McClean 154, fol. 198v (after *De anima*): “*Scriptus per me Johannem Gallensem.*” John of Wales, a Franciscan theologian, came to the University of Paris in 1270 and stayed there until his death circa 1285.<sup>41</sup>
- Vatican City, BAV, Vat. lat. 2083: “*Anno Domini M°CC°LXXXmo quarto, die Veneris ante Nativitatem Domini, fuerunt complecte iste Naturae, de manu Ivonis Baudoyns clerici Britonis de Sagitta Episcopi.*” The manuscript was completed in 1284.
- Vatican City, BAV, Barb. lat. 165B, fol. 402v: “*Anno Domini 1288 factus fuit; anno 1000 et 200 et 88fuit completus iste liber.*” The manuscript was completed in 1288.
- Vatican City, BAV, Borgh. 127: “*Scripti fuerunt anno Domini MCC nonagesimo sexto, mense maii.*” The manuscript was completed in 1296.
- Paris, BnF, lat. 16088, fol. 190v: “*Iste liber est pauperum magistrorum domus de Sorbona studentium in theologia ex legato magistri Nichosii de Planca flamingi, precio X librarum. Cathenabitur.*” Nychosius de Plank died around 1300.<sup>42</sup>

## 2 Reasons for the Limited Use

It is common knowledge that most of the Latin medieval translations of Aristotelian treatises had a profound influence on Western thought: the translations were a means to transfer literature, science, religion and philosophy to an ever-wider audience. However, it seems

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<sup>40</sup> Claudia Fabian, *Personennamen des Mittelalters: PMA: Namensformen für 13.000 Personen gemäß den Regeln für die alphabetische Katalogisierung (RAK)* (Munich, 2000), 432.

<sup>41</sup> Jenny Swanson, *John of Wales: A Study of the Works and Ideas of a Thirteenth-Century Friar* (Cambridge, 1989).

<sup>42</sup> George Lacombe et al., *Aristoteles Latinus. Codices. Pars prior* (Rome, 1939), 557.

that we have arrived at the opposite situation when studying the case of pseudo-Aristotle's *De coloribus*. Although Bartholomew's translation is present in many copies, the present state of knowledge suggests that the *De coloribus* found a very limited readership in the Middle Ages and that its content was widely ignored by the scholastics. The study of the commentaries, glosses, and citations shows that the *De coloribus* was scarcely used and did not make a profound impression on contemporary scholars, not even on those who wrote treatises on the same or similar topics. I have no definitive explanation for this paradox, but in this second part, I will make some observations and propose possible reasons. The limited reception history will not be due to one specific reason, but most probably a concurrence of circumstances.<sup>43</sup>

## 2.1 *Knowledge about color and color perception*

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<sup>43</sup> Although the focus of the present article is on the Latin translation and its reception in the Latin West, it is noteworthy that the pseudo-Aristotelian treatise had more success in the Byzantine East. On the reception history of the Greek text, we can mention Michael of Ephesus, the twelfth-century scholar who wrote several important commentaries on Aristotle's treatises, including on the *De coloribus* (see Vasiliki Papari, *Der Kommentar des Michael von Ephesos zur ps.-aristotelischen Schrift De coloribus/Περὶ χρωμάτων*. *Editio princeps* (unpublished dissertation, University of Hamburg, 2013) and Wöhrle, *De coloribus*, 103-129); a paraphrase of the *De coloribus* in Georgios Pachymeres' *Philosophia* (thirteenth century), which is a synopsis of Aristotelian philosophy (see Ferrini, *Pseudo-Aristotele*, 14 and Papari, *Der Kommentar*, 140-141); and a paraphrase of the *De coloribus* in Sophonias' commentary on Aristotle's *De anima* (thirteenth-fourteenth century) (see Ferrini, *Pseudo-Aristotele*, 14; Papari, *Der Kommentar*, 152 and the edition Sophonias, *In libros Aristotelis De anima paraphrasis*, ed. Michael Hayduck, in *Commentaria in Aristotelem Graeca*, vol. 23 (Berlin, 1883), 79.36-82.35). It might be interesting to note that the history of the *De coloribus* seems to become more colorful in the Renaissance and beyond. Many printed editions of the treatise, both Greek and Latin, appeared, of which the first one dates from 1497. Simone Porta has written a rich commentary on the treatise in 1548, and later, in the eighteenth century, Johann Wolfgang von Goethe translated and incorporated the *De coloribus* in his *Farbenlehre* (see Ferrini, *Pseudo-Aristotele*, 13-15, and 54-55 for the list of printed editions).

Knowledge about colors and color perception had been available through Aristotelian works such as the *De anima* and *De sensu et sensato* (2.1.1) as well as non-Aristotelian works (2.1.2) before the *De coloribus* started circulating.

### 2.1.1 Aristotelian works

As mentioned before, the *De coloribus* is not the only treatise attributed to Aristotle that deals with color: in several authentic treatises, we find traces of his teachings on color. The *De sensu et sensato*, *De anima* and *Meteorologica* are the works where Aristotle's color theory receives the most ample treatment.

The main difference between these works and the *De coloribus* – and the disadvantage of the latter in terms of the reception history – is the rather late availability of the *De coloribus*. The first Latin translation of the *De sensu et sensato* dates from the second half of the twelfth century (*translatio vetus*); afterwards it was translated a second time by William of Moerbeke in the second half of the thirteenth century.<sup>44</sup> The same situation applies for the *De anima*: after it was translated by James of Venice in the first half of the twelfth century, it was translated by William of Moerbeke.<sup>45</sup> The *Meteorologica*, finally, was first partially translated by Henricus Aristippus (d. 1162). Only in the second half of the thirteenth century did William of Moerbeke translate the entire text in several redactions.<sup>46</sup>

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<sup>44</sup> David Bloch, "Nicholaus Graecus and the *Translatio Vetus* of Aristotle's *De Sensu*," *Bulletin de Philosophie Médiévale*, 50 (2008), 83-104; Griet Galle, "The Anonymous Translator of the *Translatio Vetus* of *De Sensu*," *Bulletin de Philosophie Médiévale*, 50 (2008), 105-150; Thomas de Aquino, *Sentencia libri De sensu et sensato cuius secundus tractatus est De memoria et reminiscencia*, ed. René-Antoine Gauthier, in *Sancti Thomae de Aquino Opera omnia*, XLV.2 (Rome–Paris, 1985), 88-94.

<sup>45</sup> Jozef Brams, "Le premier commentaire médiéval sur le 'Traité de l'âme' d'Aristote?," *Recherches de Théologie et Philosophie Médiévales*, 68 (2001), 213-227; Brams, *La riscoperta*, 51, 110.

<sup>46</sup> Lorenzo Minio-Paluello, "Henri Aristippe, Guillaume de Moerbeke et les traductions latines médiévales des 'Météorologiques' et du 'De generatione et corruptione' d'Aristote," *Revue Philosophique de Louvain*, 45

The *De coloribus*, on the other hand, was translated for the first time in the second half of the thirteenth century by William of Moerbeke (partially) and Bartholomew of Messina (completely).

When the dates of translation are compared, it is immediately clear that *De coloribus* does not have a *translatio vetus*, which implies that Aristotle's authentic works on color theory were in circulation already a century before *De coloribus* saw the light of day. The relatively late date of the *De coloribus* certainly did not have a positive impact in terms of its reception history.

### 2.1.2 Non-Aristotelian works

Knowledge on color was also available through non-Aristotelian works. In this section, I will demonstrate that many other treatises on color circulated in the Middle Ages, outside the Aristotelian context, and I will canvass these types of color-specific research in medieval thought.

In my search for manuscripts that contain the Latin medieval translation of the pseudo-Aristotelian *De coloribus* or commentaries on it, I encountered many manuscripts with “*color*” in their title. Upon examination, it turned out that these treatises have no connection with the pseudo-Aristotelian text. Ex negativo, these color treatises are useful sources in the investigation of the reception history of *De coloribus*, as they demonstrate that color was widely discussed in a variety of treatises and manuscripts. The list of the manuscripts I encountered is therefore given in the Appendix, below. It in no way pretends

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(1947), 206-236 [reprinted in idem, *Opuscula. The Latin Aristotle* (Amsterdam, 1972), 57-87]; Aristotle, *Meteorologica. Translatio Guillelmi de Morbeka*, ed. Gudrun Vuillemin-Diem, in *Aristoteles Latinus*, X 2 (Turnhout, 2008); Aristotle, *Meteorologica, liber quartus. Translatio Henrici Aristippi*, ed. Elisa Rubino, in *Aristoteles Latinus*, X 1 (Turnhout, 2010).

to be an exhaustive list of medieval color treatises. I have divided them into categories, to show how the treatment of color links up with diverse disciplines such as optics, alchemy, lapidaria, uroscopy, etc.

When I checked the manuscripts to which I had access in order to examine their use of sources, it turned out that they had no place for the pseudo-Aristotelian *De coloribus*: none of them referred to it. As a matter of fact, of the different disciplines in which the examination of color took place, each had their own philosophical or scientific tradition and their own authoritative sources with a specialized content – so much so that the *De coloribus* could not compete with them.

In what follows, I will give short summaries of the different sciences based on the secondary literature mentioned in the footnotes. I will discuss (1) the content of the disciplines, (2) their use of color, and (3) the availability of source material during the Middle Ages. The discussion will show that we are dealing with flourishing sciences and disciplines which possessed many authoritative and pioneering treatises that had been available decades or even centuries before *De coloribus* was translated into Latin.

a) *Perspectiva*

The discipline of *Perspectiva* deals with perspectival knowledge, which includes a variety of topics: the discipline treats the physics and mathematics of vision, light, and color; it studies the anatomy and physiology of the eye and the optic nerves; it discusses the cognitive processes of vision and the internal senses, which are the cognitive faculties between the external sense perception and the intellectual soul; as well as the function of light in astrology and metaphysics. *Perspectiva* has a long tradition, which starts in Antiquity with treatises by Aristotle, Euclid, Ptolemy, and Galen, and continues throughout the golden age

of Islam, with contributions by Al-Kindi, Alhazen, Avicenna, and Averroes. These optical sources arrived in the Latin West between the late eleventh and early thirteenth century thanks to the translations of Greek and Arabic scientific literature, which profoundly influenced Robert Grosseteste's oeuvre, and afterwards Roger Bacon's perspectival treatises, which contributed greatly to the development of this science in the West.<sup>47</sup>

As for Aristotle's treatises, we notice that his *De anima* and *De sensu et sensato* mainly cover the topics of vision and light and the internal senses, while his *Meteorologica* was the starting point for discussions on rainbows, reflection and refraction, and the nature and number of colors. Given the long and rich tradition of the *Perspectiva*, both in the ancient and the golden age of Islam, as well as in the medieval West, many authoritative texts appeared with specialized physical, mathematical, anatomical, and metaphysical knowledge, which rather crowded out *De coloribus* from a role in this discipline.<sup>48</sup>

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<sup>47</sup> David C. Lindberg, "Optics," in *A Source Book in Medieval Science*, ed. Edward Grant (Cambridge, 1974), 376-441; idem, *Roger Bacon and the Origins of Perspectiva in the Middle Ages: a Critical Edition and English Translation of Bacon's Perspectiva with Introduction and Notes* (Oxford, 1996); idem, "Optics and Catoptrics," in *Medieval Science, Technology and Medicine: an Encyclopedia*, ed. Thomas F. Glick, Steven John Livesey and Faith Wallis (New York, 2005), 373-376; David C. Lindberg and Katherine H. Tachau, "The Science of Light and Color, Seeing and Knowing," in *The Cambridge History of Science, vol. 2: Medieval Science*, ed. David C. Lindberg and Michael H. Shank (Cambridge, 2013), 485-511; Smith, *From Sight to Light*. For a recent volume on Arabic and Latin perspectival theories, see the contributions in Cecilia Panti, Agostino Paravicini Bagliani and Nicholas Temple, *Arabic and Latin Theory of Perspective* (Florence, 2021).

<sup>48</sup> The following treatises on the discipline of *Perspectiva* have been searched in order to find references to pseudo-Aristotle's *De coloribus*, but none were found: Roger Bacon's *De multiplicatione specierum*, *De speculis comburentibus*, *Perspectiva*, *Communia Mathematica* and *Opus Maius*; John Pecham's *Perspectiva communis*; Robert Grosseteste's *De iride*, *De colore*, and *De Lineis, Angulis et Figuris, seu Fractionibus et Reflexionibus Radiorum*; Bartholomew the Englishman's *De proprietatibus rerum*; Bartholomew of Bologna's *De luce*; see, among others, David C. Lindberg, *John Pecham and the Science of Optics. Perspectiva communis* (Madison, WI, 1970); Lindberg, "Optics," 376-441; Greti Dinkova-Bruun, *The Dimensions of Colour: Robert Grosseteste's De Colore. Edition, Translation and Interdisciplinary Analysis* (Toronto, 2013); and Francesca Galli, *Il De luce di Bartolomeo da Bologna. Studio e edizione*, Micrologus Library 104 (Florence, 2021).



## b) Uroscopy

Many treatises listed in the Appendix deal with urine, whose color plays a crucial role in the science of uroscopy, which explains the wealth of treatises with the title "*tractatus de coloribus urinarum*." One of the methods by which a physician could diagnose an illness was by examining urine. This science entered the Latin West in the eleventh century after the translation of the Περὶ Οὔρων of the Byzantine author Theophilus Protospatharios (seventh century), and the *Liber urinarum* by the Arabic physician Isaac Israeli (ninth-tenth century), which resulted in the adoption of the science of urine in the West. Gilles of Corbeil (fl. 1200) wrote the medical poem *Versus de urinis*, which would later become basic reading in the faculties of medicine. Moreover, Maurus of Salerno (twelfth century) and Johannes Zacharius Actuarius (fl. 1300) contributed to uroscopy with their sophisticated diagnostic and prognostic treatises.<sup>49</sup>

## c) Alchemy and color recipes

Color also played an important role in medieval alchemical literature and color recipes. Even though alchemy in its strict sense examines how base metals can be transmuted into gold, in its broad sense it examines all kinds of chemical processes and their philosophical,

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<sup>49</sup> Luciana R. Angeletti and Valentina Gazzaniga, "Theophilus' Auctoritas: The Role of *De urinis* in the Medical Curriculum of the 12th-13th Centuries," *American Journal of Nephrology*, 19 (1999), 165-171; Michael Stolberg, "The Decline of Uroscopy in Early Modern Learned Medicine (1500-1650)," *Early Science and Medicine*, 12 (2007), 313-336; Laurence Moulinier-Brogi, *L'uroscopie au Moyen Âge: "Lire dans un verre la nature de l'homme"* (Paris, 2012); eadem, "L'examen des urines dans la médecine médiévale en terre d'Islam et en Occident. Un aperçu," *Médiévales*, 70 (2016), 25-41; Nicoletta Palmieri, "Lectures croisées de Théophile et d'Isaac Israeli: à l'origine des débats médiévaux autour de la formation de l'urine," *Archives d'histoire doctrinale et littéraire du Moyen Âge*, 85 (2018), 49-71.

theological, and mystical meaning. In this latter sense, color is used to describe and discern changes in the materials. Related to these alchemical treatises, a variety of recipes in circulation in the Middle Ages discuss (among other things) the preparation and imitation of natural substances, the production of dyes and pigments, the manufacturing process of colors, the practical skills for making paint or ink, the refining of chemicals, etc.

While the Greek alchemical corpus was almost unknown to the Latin West, the art of alchemy was introduced in the Latin West via the Arabic world: Latin scholars' first encounter with alchemy was the *Morienus*, translated from Arabic into Latin by Robert of Chester (twelfth century). Before the twelfth century and the influx of Arabic sources, Latin scholars had access to older Latin treatises with alchemical characteristics, such as the *Mappae clavicula* (ninth-tenth century), Theophilus Presbyter's *Schedula diversarum artium* (eleventh century), and Heraclius' *De coloribus et artibus Romanorum* (eleventh century).<sup>50</sup>

The alchemical treatises and color recipes in the Appendix do not make use of Aristotle's *De coloribus*, but rather refer to and reuse these older and more practical treatises on the art of making colors.

#### d) Color of stones and minerals

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<sup>50</sup> Theophilus Presbyter, *The Various Arts, De diversis artibus*, ed. and trans. by Charles R. Dodwell (Oxford, 1986); Mark Clarke, *The Art of All Colours: Medieval Recipe Books for Painters and Illuminators* (London, 2001); Tod Brabner, "Alchemy," in Glick et al., *Medieval Science*, 19-22; Bernard D. Haage, "Alchemy II: Antiquity-12th Century," in *Dictionary of Gnosis and Western Esotericism*, ed. Wouter J. Hanegraaff (Leiden, 2006), 16-34; William R. Newman, "Medieval Alchemy," in Lindberg and Shank, *Cambridge History of Science*, vol. 2, 385-403; Athanasios Rinotas, "The Interplay among Alchemy, Theology and Philosophy in the Late Middle Ages: The Cases of Roger Bacon and John of Rupescissa," *Vegueta: Anuario de la Facultad de Geografía e Historia*, 17 (2017), 161-173; Ferdinando Abbri, "Gold and Silver: Perfection of Metals in Medieval and Early Modern Alchemy," *Substantia*, 3 (2019), 39-44.

Let us now turn to medieval lapidaries and encyclopedias that provide information on stones, metals, and minerals, both precious and semi-precious. The description of these stones contains an examination of their origin, color, and their medicinal, magical, moral and protective properties. The origin of these medieval lapidaries can be traced back to classical and Arabic writings and treatises by Church fathers: the treatises that have influenced the Latin West the most are Pliny the Elder's *Naturalis historia* (d. 79), Solinus' *Collectanea rerum memorabilium* (third century), and Isidore of Seville's *Ethymologiae* (d. 636). The first and most popular late-medieval lapidary, *De lapidibus*, was written in verse by Marbode, bishop of Rennes (d. 1123). This text exerted a predominant influence on all later lapidaries and encyclopedias, such as the *De finibus rerum* by Arnold of Saxony, *De proprietatibus rerum* by Bartholomew the Englishman, *De natura rerum* by Thomas of Cantimpré, *Speculum maius* by Vincent de Beauvais, and *De mineralibus* by Albert the Great.<sup>51</sup> The treatises in the manuscript list in the Appendix are mostly fragments of these lapidaries.

e) Varia: General color treatises, astrology, colors of rhetoric, writing and painting

The Appendix contains some treatises under the denominator "general color treatises," which are anonymous treatises that seem to treat color in a more general way or that do not fit the above-mentioned categories. These include, for instance, a discussion of color and its relation to the senses and light, which turns out to be a combination of Aristotle's *De anima*

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<sup>51</sup> Marbode of Rennes, *De lapidibus*, ed. John M. Riddle (Wiesbaden, 1977); Steven A. Walton, "Theophrastus on *Lyngurium*: Medieval and Early Modern Lore from the Classical Lapidary Tradition," *Annals of Science*, 58 (2001), 357-379; Isabelle Draelants, "Introduction à l'étude d'Arnoldus Saxo et aux sources du *De floribus rerum naturalium*," in *Die Enzyklopädie im Wandel vom Hochmittelalter zur frühen Neuzeit. Akten des Kolloquiums des Projekts D im SFB 231 (29.11.-01.12.1996)*, ed. Christel Meier (Münster, 2002), 85-121; George Keiser, "Lapidaries," in Glick et al., *Medieval Science*, 306-307; Marbodo de Rennes, *Lapidario. Liber lapidum*, ed. María Esthera Herrera (Paris, 2005).

and *De sensu*; and a treatise which is an adaptation of Robert Grosseteste's treatise on colors. Moreover, some treatises are mentioned that treat the color of planets, comets and eclipses in astrological works, some of which include tables with different hues of color; and the production of ink, dyes and paint for writing and painting. None of these refer to Aristotle's *De coloribus*.

In addition, some treatises on "colors of rhetoric" are mentioned in the Appendix: in Antiquity and the Middle Ages, this expression referred to the fact that rhetoric was an adornment of otherwise colorless language. These works, however, have nothing to do with color per se, and are part of the literature on rhetoric.<sup>52</sup>

## **2.2 Content of *De coloribus***

As we have seen, the late translation and reception might be a factor to explain the very limited impact of the *De coloribus* in the Middle Ages. From the discussion of color in Aristotelian and non-Aristotelian treatises, it seems that knowledge about color perception and about colors in general was already much established when the *De coloribus* started circulating. It might have been too late for this pseudo-Aristotelian text to find a place within, in addition to, and in contrast to, that established knowledge.

However, a later date of translation does not necessarily imply that a text could not play a part within natural philosophy. The use of a text also depends on its content and nature. Here perhaps the content of the *De coloribus* was not so groundbreaking as to be given much weight in subsequent reflections on colors, once the treatise started to circulate.

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<sup>52</sup> Ernest Gallo, *The Poetria nova and Its Sources in Early Rhetorical Doctrine* (The Hague, 1971); Andrew Cowell, "The Dye of Desire: The Colors of Rhetoric in the Middle Ages," *Exemplaria*, 11 (1999), 115-139; see Cowell's bibliography for references to further literature.

In his *De sensu et sensato* and *De anima*, which contain the most comprehensive and continuous reports on colors in the Aristotelian corpus, Aristotle discusses sense perception (i.e., how we perceive colors in the case of sight) and the nature and ontological status of colors, as well as transparency and the medium of vision; the light that brings the object's potential color into actuality; the role of the four elements that influence the degree of transparency of a body, which in its turn is responsible for the different colors; color perception and how the sense organ of sight is set in motion.<sup>53</sup>

The *De coloribus*, by contrast, hardly discusses any of these topics. The author investigates the true nature of colors, and wants to draw a clear conclusion on the origins of different colors. All colors arise from the blending by mixture of the colors white and black, and by the presence in varying strengths of light and shade. The bulk of the text, however, focuses on the several factors and processes that lead to the infinite variety of colors (such as combustion, melting, maturation), on the technical aspects of making colors, on the changes of colors in plants because of maturation, and on a discussion of the changes of color in hair, feathers and animal skins.

Compared to the *De anima* and *De sensu et sensato*, the *De coloribus* is a very empirical text with a plethora of observations: the author explains his way of working and

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<sup>53</sup> Note that there are still several different interpretations among modern scholars on the topic of Aristotle's color theory. See, for example, the bibliography in Wöhrle, *De coloribus*, 56-59; Allan Silverman, "Color and color perception in Aristotle's *De anima*," *Ancient Philosophy*, 9 (1989), 271-292; Stephen Everson, *Aristotle on Perception* (Oxford, 1997); Joseph M. Magee, "Sense Organs and the Activity of Sensation in Aristotle," *Phronesis*, 45 (2000), 306-330; Richard Sorabji, "Aristotle on Colour, Light and Imperceptibles," *Bulletin of the Institute of Classical Studies*, 47 (2004), 129-140; Michael J. Huxtable, "Colour, Seeing, and Seeing Colour in Medieval Literature" (PhD thesis, Durham University, 2008), available at <[http://etheses.dur.ac.uk/2175/1/2175\\_183.pdf](http://etheses.dur.ac.uk/2175/1/2175_183.pdf)>, last accessed on 26 March 2021; Anna Marmodoro, *Aristotle on Perceiving Objects* (Oxford, 2014); Katerina Ierodiakonou, "Aristotle and Alexander of Aphrodisias on Colour," in *The Parva naturalia in Greek, Arabic and Latin Aristotelianism*, ed. Börje Bydén and Filip Radovic (Cham, 2018), 77-90, and her bibliography for further literature on this topic.

will first exactly observe nature before offering an explanation. He mentions facts of colors, enumerates situations in which these can be seen, and pays attention to variables in the transformation process, but does not give any explanations for these facts. The underlying principles are taken for granted, and discussions on the nature of color, the process of sense and color perception, or mathematical laws of reflection are absent. The author is certainly more interested in empirical research and describing phenomena, than in offering theoretical speculation.<sup>54</sup>

Where an overlap between the different treatises occur, such as in the discussion on the definition of light and darkness, the genesis of secondary colors by mixture, and the biological statements in the later chapters, we notice that the accounts in the *De anima* and *De sensu et sensato* are more scientific, comprehensive and argumentative.<sup>55</sup> The limited reception of the *De coloribus*, as far as concerns the knowledge developed within the European universities, might be explained particularly by the fact that the *De coloribus* was hardly at all a theoretical treatise, but was mostly focused on practical aspects of the genesis of colors.<sup>56</sup>

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<sup>54</sup> Gottschalk, "De coloribus," 59-85; Wöhrle, *De coloribus*, 31-37; Ferrini, *Pseudo-Aristotele*, 34-35.

<sup>55</sup> There are, according to Gottschalk, differences to be found between the *De coloribus* and Aristotle's genuine treatises, such as the connection between the colors and the four elements, and the treatment of light – as a material substance, or as an actualized state of transparent bodies. These differences are quite important, which makes it surprising that no Latin scholar noticed or examined them. However, according to Gottschalk, most of these differences can be explained by the distinctive attitudes and goals of the two authors: Aristotle wants to construct an entire system and classification of natural philosophy and to explain the phenomena, while the author of *De coloribus* does not discuss underlying laws and principles, but is interested in the practice. Moreover, the divergent statements in *De coloribus* also have precedents in the Aristotelian treatises; see Gottschalk, "De coloribus," 76-80; Ferrini, *Pseudo-Aristotele*, 11-12.

<sup>56</sup> Practical and technical treatises were in general absent in scholastic science. Even though there is a certain overlapping between theory and praxis in the Middle Ages (e.g., discussions on technical questions, or disciplines that fall between both categories, such as medicine and astronomy), the medieval commentaries –

Taking into consideration all the factors discussed in this article, we can conclude that, in opposition to its subject matter, *De coloribus* had a rather colorless medieval reception history.

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### **Appendix**

During my search for manuscripts containing the Latin pseudo-Aristotelian *De coloribus*, I browsed through manuscript catalogues of different libraries and checked all manuscripts that had index entries referring to as “color”.<sup>57</sup> As explained above, these manuscripts have no connection with the pseudo-Aristotelian *De coloribus*.

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the product of the university education – hardly engage in the discussion of practical topics and applications. For a detailed discussion on the relationship between theory and praxis, see Joël Chandelier, Catherine Verna and Nicolas Weill-Parot, eds., *Science et technique au Moyen Âge (XII<sup>e</sup>-XV<sup>e</sup> siècle)* (Vincennes, 2017), 15-18. The *De coloribus* cannot be put in the same category as practical treatises (such as on magnets or astrolabes), but it is less theoretical than the other Aristotelian treatises that discuss color.

<sup>57</sup> The following sources were extremely useful in my search for medieval color treatises: Daniel V. Thompson Jr., “*Liber de Coloribus Illuminatorum Sive Pictorum* from Sloane Ms. No. 1754,” *Speculum*, 1 (1926), 280-307; idem, “*Liber de Coloribus: Addenda and Corrigenda*,” *Speculum*, 1 (1926), 448-450; idem, “Medieval Color-Making: *Tractatus Qualiter Quilibet Artificialis Color Fieri Possit* from Paris, B.N., Ms. Latin 6749b,” *Isis*, 22 (1935), 456-468; idem, “More Medieval Color-Making: *Tractatus de Coloribus* from Munich, Staatsbibliothek, MS. Latin 444,” *Isis*, 24 (1936), 382-396; Lynn Thorndike, “Some Medieval Texts on Colours,” *Ambix*, 7 (1959), 1-24; idem, “Other Texts on Colours,” *Ambix*, 8 (1960), 53-70; Mills F. Edgerton Jr., “A Mediaeval ‘*Tractatus de coloribus*’ Together with a Contribution to the Study of the Color-vocabulary of Latin,” *Mediaeval Studies*, 25 (1963), 173-208; Salvador Muñoz Viñas, “Original Written Sources for the History of Medieval Painting Techniques and Materials: a List of Published Texts,” *Studies in Conservation*, 43 (1998), 114-124; Clarke, *Art of*

What you find below is not an exhaustive list of medieval color treatises starting from the middle of the thirteenth century – far from it – but it is a useful sample survey with which to contrast the history of the reception of *De coloribus*. As mentioned before, I have not checked all manuscripts individually for their content, and several manuscripts may in fact contain the same treatise. Where possible, I have grouped manuscripts that contain the same text. The manuscripts that are available online (\*) or in modern editions were consulted for their possible use of, or references to, the pseudo-Aristotelian text. However, none of the texts consulted contained such references.

#### I Uroscopy

- Bergamo, Biblioteca civica Angelo Mai, Manoscritti, MA 300, fols. 25r-29r, s. XV: *De coloribus urinarum*.
- \* Dresden, Sächsische Landesbibl., Staats- und Universitätsbibl., Mscr. Dresd. P. 33, fols. 263v-264r, s. XV: *Versus de coloribus urinae* (inc.: *Cruda manent albus lacteus glaucus caroposque...*).<sup>58</sup>
- Erfurt, Universitäts- und Forschungsbibl. Erfurt/Gotha, UB Erfurt, Dep. Erf. CA 4°, 204, fol. 5r, s. XII<sup>ex</sup>-XIII<sup>in</sup>: *De coloribus urinarum* (inc.: *Albus, lacteus, glaucus, karopos significant indigestionem...*).

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*All Colours*; Anne-Françoise Cannella, *Gemmes, verre coloré, fausses pierres précieuses au Moyen Âge* (Geneva, 2006), 71-99; Giulia Brun, “*De coloribus*: New Perspectives on a Series of Recipes for Making Pigments within the *Compositiones lucenses* Tradition,” *Cultura e Scienza del Colore – Color Culture and Science*, 3 (2015), 51-55; the Artechne database for medieval recipes at <artechne.hum.uu.nl/corpus/recipes>, last accessed 26 March 2021; and the extensive collection of manuscript catalogues of the Tabularium, KU Leuven.

<sup>58</sup> Edited by Salvatore De Renzi, *Collectio Salernitana*, vol. 5 (Naples, 1859), 68, v. 2394: “*urinarum colores in digestionem ac indigestione.*”



- Erfurt, Universitäts- und Forschungsbibl. Erfurt/Gotha, UB Erfurt, Dep. Erf. CA 8°, 62, fol. 173r, s. XIII: *Versus de coloribus urinarum* (inc.: *Puri fontis aquae se comparat alba...*).<sup>59</sup>
- Erlangen, Universitätsbibl. Erlangen-Nürnberg, MS 674, fols. 32-36, s. XIV-XV: *Regule de coloribus et contentis urinarum extracte ex commentis versuum Egidij per Gysbertum commentisata*; fol. 131: *De coloribus urinarum* (inc.: *Lividus atque niger glauc [sic] caropos lacteus albus...*).
- Freiburg im Breisgau, Universitätsbibl., Hs. 28, fols. 23r-28v, s. XV: *De coloribus urinarum* [Urso von Salerno] (inc.: *Niger color in urina quique potest significare...*).
- Hildesheim, Dombibliothek, 749, fols. 101r-102r, s. XIII: *De coloribus urinarum* (inc.: *Colores urinarum sunt isti: albus, lacteus, glaucus... – expl.: ...modo mediocris*).
- Kraków, Biblioteka Jagiellonska, 774, fols. 20v-36r, s. XV: *Versus de coloribus urinarum* (inc.: *Mortificationem nigra sicut incaustum sine splendore...*); *De coloribus urinarum* (inc.: *Omnis homo ex quattuor elementis componitur, ideo in eo calor percipitur...*).
- Kraków, Biblioteka Jagiellonska, 785, fols. 347v-349v, s. XIV-XV: *De coloribus urinarum* (inc.: *Color subrufus ut aurum remissum. Rufus ut aurum non remissum...*).
- Kraków, Biblioteka Jagiellonska, 786, fol. 148v, ca. 1460: *De coloribus urinarum* (inc.: *Color subrufus ut aurum remissum. Rufus ut aurum non remissum...*).
- Kraków, Biblioteka Jagiellonska, 817, fol. 144r-v: *Schemata et notae de urinarum coloribus*.
- Kraków, Biblioteka Jagiellonska, 839, fol. 19r: *Carmen de coloribus urinarum* (inc.: *Albus ut aqua, lacteus ut serum, glaucus ut corpora lucernae...*).

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<sup>59</sup> Ibid., 398.

- London, British Library, Harley 3383, fol. 44v, s. XV: *De coloribus urinae* (inc.: *Albus ut aqua purissima / latteus ut serum / glaucum ut corum lucidum...*).
- \* Paris, Bibliothèque nationale de France, lat. 6868, fol. 184v, s. XIII: *De coloribus urinae* (inc.: *Hec duo mortificant...* – expl.: *...niger ut carbo cum luciditate*).
- \* Paris, Bibliothèque nationale de France, lat. 8160, fol. 44r-v, s. XIV: *De coloribus urinarum* (inc.: *Sciendum est quod XIX colores in urinis...*).
- Trento, Archivio diocesano Tridentino, Biblioteca capitolare, 41, fols. 189v-200v, s. XV: *De coloribus urinae* (inc.: *Colores urine sunt 19: albus...*).
- Wien, Österreichische Nationalbibl., cod. 3276, fols. 207v-210v, s. XIV-XVI: *De urina eiusque coloribus* (inc.: *Urina est colamentum sanguinis...* – expl.: *...ex nimia caliditate*).
- Wien, Österreichische Nationalbibl., cod. 5300, fol. 103r-v, s. XV: *Notabile de urinarum coloribus*.
- Wien, Österreichische Nationalbibl., cod. 5313, fol. 142r-v, s. XV: *Carmen hexametrium de urinae coloribus eorumque significatione* (inc.: *Albus aque similis est lacteus utpote serum...* – expl.: *...mortis precones tamen sunt lividusque fuscus*).
- Wien, Österreichische Nationalbibl., cod. 5317\*, fol. 252r, s. XV: *Notabile de coloribus urinae secundum Isaac*.
- Wien, Schottenstift (Benediktiner) Bibliothek, cod. 160 (Hübl 257), fols. 83r-96r, s. XV: *De corpore humano, de coloribus urinae* (inc.: *Corporis humani passibilitas et corruptibilitas...* – expl.: *...quod nullo*).

## II Alchemy

- Basel, Universitätsbibl., D.III.23, fols. 70r-79v, s. XV: *Experimenta naturalia*.<sup>60</sup>
- Berlin, Staatsbibl. zu Berlin, Preussischer Kulturbesitz, MS Theol. lat. Qu. 252, fols. 4v-15v, a. 1510: Paulus Sachsell, *Tractatus pro coloribus faciendis* (inc.: *Venerabili in Christo patri ac domino [...] Primo ergo ponamus fundamentum pro auro polito... – expl.: ...sed beatus cui donatum est cum Maria sedere ad pedes optimi magistri Jhesu, quod tibi mihi que et omnibus desiderantibus. Amen*).
- Bern, Burgerbibl., A.91.17, fols. 1v-5v, s. XI: Anonymous Bernensis (ca. 1090), *Tractatus de arte pingendi, de clarea* (inc.: *Sciendum est igitur, duo esse genera clarearum... – expl.: ... superius umbrata colore pictura sit variata, cum nimis*).<sup>61</sup>
- Erfurt, Universitäts- und Forschungsbibl. Erfurt/Gotha, UB Erfurt, Dep. Erf. CA. 2° 189, fols. 67r-68r, s. XIV: *Notae de coloribus* (inc.: *De coloribus et primo de lazurio. Lazurium fit multis modis...*).<sup>62</sup>
- Graz, Universitätsbibl., 1609, fol. 172r, s. XV: *Magisteria ad faciendum diversos colores* (inc.: *Sequuntur magisteria ad faciendum diversos colores et ad tingendum pannos...*).<sup>63</sup>
- Jena, Thüringer Univ.- und Landesbibl., MS El. Q. 21, fols. 252r-255r, s. XV: *Formatio de coloribus* (inc.: *Hec erit formacio de coloribus et primo de azurio tamquam de nobiliori... – expl.: ...et sic fiunt corpora spiritualia et spiritus corporalia que intendit ars predicta*).

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<sup>60</sup> Thorndike, "Other Texts on Colours," 56-57.

<sup>61</sup> Daniel V. Thompson Jr., "The *De clarea*, of the So-called *anonymus bernensis*," *Technical Studies in the Field of Fine Arts*, 1 (1932), 69-87; Thorndike, "Other Texts on Colours," 54; Clarke, *Art of All Colours*, 15.

<sup>62</sup> Daniel V. Thompson Jr., "*De coloribus, naturalia, exscripta et collecta*, from Erfurt Stadtbücherei, Ms. Amplonius Quarto 189 (XIII-XIV century)," *Technical Studies in the Field of Fine Arts*, 3 (1935), 133-145; Viñas, "Original Written Sources," 114-124.

<sup>63</sup> Thorndike, "Other Texts on Colours," 54.

- Kassel, Bibliothek der Stadt Kassel und Landesbibl., Oct. MS Med. 11, fol. 170, s. XIV<sup>ex</sup>: *De coloribus accipe*.
- Kobenhavn Gl.Kgl.S.1656, fols. 170r-171r, s. XIV-XV: John of Bologna, *Colores et temperature* (inc.: *Incipiunt colores et temperature magistri Iohannis Bononiensis. Colorem viridem sic prepara. Recipe favum mellis distemperatum...*).<sup>64</sup>
- Kraków, Biblioteka Jagiellonska, 778, fols. 174r-177r, a. 1425: *Ars de omnibus coloribus* (inc.: *Nota de coloribus et temperaturis fere omnium colorum, quomodo debent temperari...*).<sup>65</sup>
- \* London, British Library, Cotton Titus D XXIV, fols. 127r-132v, s. XII: *De distemperandis coloribus ad scribendum vel illuminandum* (inc.: *De azorio quomodo molatur ac distemperetur. Azorium color est optimus, pulcherrimus aeris speciem imitatur...*).<sup>66</sup>
- \* London, British Library, Harley MS 3915, s. XII: recipes for making colors (inc.: *Ad conficiendum cinobrium, item ad conficiendum lazurium...*) and excerpts from Heraclius' *Liber de coloribus* and *Mappae Clavicula* (inc.: *In vermiculo quarta pars minii addenda est...*).
- Melk, Benediktinerstift, Cod. 958 (6, A7), fols. 376r-380v: *Arcana chimica et de faciendis coloribus*.

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<sup>64</sup> Edited in Thorndike, "Some Medieval Texts on Colours," 17-21.

<sup>65</sup> Maria Kowalczyk, "Ars de omnibus coloribus," *Studia Mediewistyczne*, 18 (1977), 165-174.

<sup>66</sup> Andreas Petzold, "De coloribus et mixtionibus: the Earliest Manuscripts of a Romanesque Illuminator's Handbook," in *Making the Medieval Book: Techniques of Production. Proceedings of the Fourth Conference of The Seminar in the History of the Book to 1500, Oxford, July 1992*, ed. Linda L. Brownrigg (Los Altos Hills, CA, 1995), 59-65; Tony Hunt, "Early Anglo-Norman Receipt for Colours," *Journal of the Warburg and Courtauld Institutes*, 58 (1995), 203-209; Cannella, *Gemmes*, 76.

- \* München, Bayerische Staatsbibl., Clm. 405, s. XIV-XV: *Libelli et fragmenta librorum varia lat. et germ. de arte alchimiae (de coloribus, de artificiis)*.
- München, Bayerische Staatsbibl., Clm. 20174, fol. 168, a. 1473: *Praecepta de cera et plurima de coloribus faciendis et de codicibus scribendis*.
- München, Bayerische Staatsbibl., Clm. 27063, fols. 37-38, s. XV: *De coloribus faciendis et remedia*.
- Oxford, Bodleian Library, Digby 11, fols. 124v-128r, s. XIII-XIV: *Recepta varia pro coloribus faciendis*.
- Oxford, Bodleian Library, Digby 119, fols. 106v-110v, s. XIV: *Tractatus brevis de coloribus multiplicibus inter operationes alchemicas generatis (inc.: Si quis huic operi alkymico insistere voluit...)*.
- Oxford, Bodleian Library, Digby 162, fols. 5v-6, 11v-21v, s. XIII: *Tractatus chemicus de coloribus quibusdam componendis (inc.: Proloquta inter me et Asende eo quod ipse scire verba...)*.
- \* Paris, Bibliothèque nationale de France, lat. 6741, a. 1431: *Experimenta 118 de coloribus*; Petrus de Sancto Audomaro, *Liber de coloribus faciendis*; Johannes Alcherius (second half of fourteenth century – first part of the fifteenth century), *Libellus de compositione colorum*; *De coloribus* (collected by Jean le Begue, clerk of the Monnoye of Paris).<sup>67</sup>

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<sup>67</sup> Mary P. Merrifield, *Medieval and Renaissance Treatises on the Arts of Painting* (New York, 1999); Viñas, "Original Written Sources," 114-124; Clarke, *Art of All Colours*, 22.

- \* Paris, Bibliothèque nationale de France, lat. 7105, fols. 138r-155r: *Tractatus alius de coloribus* (inc.: *Tractatus alius de coloribus de pinctentibus et de pinguentibus, et primo de vermilionem vel sulphuris...*).<sup>68</sup>
- Trier, Stadtbibliothek, 1024/1936, fol. 163r-v, s. XV: *De coloribus et mixtionibus*.
- \* Wien, Österreichische Nationalbibl., cod. 5489, fols. 95r-96r, s. XV: *Modi pro coloribus praeparandis germanice perscripti* (inc.: *In principium erat verbum... – expl.: do givz ime essig in dy nasyn*).
- \* Wien, Österreichische Nationalbibl., cod. 5512, fols. 175r-176v, a. 1436: *De coloribus faciendis* (inc.: *Minium sic fit. Recipe pley weyst et pone super ignem et move donec album fiat, et tunc pone ab igne...*).<sup>69</sup>
- Wolfenbüttel, Herzog-August Bibliothek, Cod. Guelf. 627 Helmst., fols. 37-60, ca. 1444: *Liber de coloribus* (inc.: *Incipit affinatio azurii secundum magistrum Florentium, qui nobis tractavit de coloribus in 4° libro alkymie...*).
- Petrus de Sancto Audomaro, *Liber de coloribus faciendis*<sup>70</sup>
  - Inc.: *Deo opitulante, cuius sunt omnia que bona sunt, tibi, sicut novisti, cuius rogatu hoc opus sum aggressus, de coloribus pictorum et illuminatorum librorum faciendis...*
  - Manuscripts:
    - \* Paris, Bibliothèque nationale de France, lat. 6741, a. 1431

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<sup>68</sup> Thorndike, "Other Texts on Colours," 54-56.

<sup>69</sup> Edited in *ibid.*, 66-70.

<sup>70</sup> Transcription in Merrifield, *Medieval and Renaissance Treatises*, 112-165; Viñas, "Original Written Sources," 114-124; Clarke, *Art of All Colours*, 18; Cannella, *Gemmes*, 79.

- Wolfenbüttel, Herzog-August Bibliothek, Cod. Guelf. 1127 Helmst., fol. 109r, a. 1475 (fragment, cap. VIII)
  - Notes: a treatise from the thirteenth-fourteenth century which compiles recipes for colors, ink, gilding, pigments.
- Anonymus, *Liber de coloribus illuminatorum sive pictorum*<sup>71</sup>
  - Inc.: *Incipit liber de coloribus illuminatorum sive pictorum. Viride terrestre molendum est cum aqua sicut ceteri colores qui molendi sunt...*
  - Manuscripts:
    - London, British Library, Harley 273, fols. 209-212v, s. XIV
    - London, British Library, Sloane 1754, fols. 142b-149, s. XIII (scientific, medical and alchemical miscellany)
    - Oxford, Bodleian Library, Merton 324, fols. 230v-232r
    - Oxford, Corpus Christi College, MS 125, fols. 34r-39r, s. XIV
  - Notes: Written in Northern-Europe, and probably France, during the last part of the fourteenth century. The treatise, which describes the making of pigments and their use in painting, uses older source material, such as Heraclius' *De coloribus et artibus Romanorum*, *Mappae Clavicula*, Theophilus, and Pierre of Saint-Omer.
- Anonymus, *Modus agendi colores*<sup>72</sup>

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<sup>71</sup> Edited in Thompson, "*Liber de Coloribus Illuminatorum Sive Pictorum*," 282-307; Thorndike, "Some Medieval Texts on Colours," 5; Rozelle P. Johnson, "The Manuscripts of the *Schedula* of Theophilus Presbyter," *Speculum*, 13 (1938), 86-103; eadem, "Notes on Some Manuscripts of the *Mappae Clavicula*," *Speculum*, 10 (1935), 72-81; Merrifield, *Medieval and Renaissance Treatises*; Clarke, *Art of All Colours*, 18.

- Inc.: *Modus agendi colores et distemperandi. De synopide. Item alius et melius. Modus alius faciendi sinopidem...*
- Manuscripts:
  - London, British Library, MS Add. 41486, fols. 44r-47r
  - \* Paris, Bibliothèque nationale de France, lat. 7400A, fols. 27r-30r, and 40v-46r, s. XIII
- Anonymus, *De colorum diversitate tractatus*<sup>73</sup>
  - Inc.: *De colorum diversitate tractatus incipit. Qualiter quilibet color artificialiter fieri possit atque duplarii debeat || Tractatus qualiter quilibet artificialis color fieri possit atque duplari...*
  - Manuscripts:
    - Città del Vaticano, BAV, Pal. lat. 1339, fols. 141r-143v
    - München, Staatsbibl., cod. lat. 444, fols. 214v-217v
    - \* Paris, Bibliothèque nationale de France, lat. 6749B, fols. 61r-62v
- Anonymus, *De colorum diversitate*<sup>74</sup>

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<sup>72</sup> Thorndike, "Some Medieval Texts on Colours," 2-6; Cannella, *Gemmes*, 83; partly edited in Geoffroy Grassin, "Le travail des gemmes au XIIIe siècle dans la *Doctrina poliendi pretiosos lapides*," *Cahiers de civilisation médiévale*, 42 (1999), 111-137; Artechne online database.

<sup>73</sup> Partly edited in Thorndike, "Some Medieval Texts on Colours," 22-24; edited in Thompson, "Medieval Color-Making," 459-468.

<sup>74</sup> Edited in Thorndike, "Other Texts on Colours," 57-66; Mark Clarke, "Writing Recipes for Non-specialists c. 1300: the Anglo-Latin *Secretum philosophorum*, Glasgow MS Hunterian 110," in *Sources and Serendipity: Testimonies of Artists' Practice*, ed. Erma Hermens and Joyce H. Townsend (London, 2009), 50-64.



- Inc.: *De colorum diversitate tractaturi annuente divine bonitatis favore quomodo quilibet color fieri debet primo videamus... – expl.: ...et ipsam in vase bullias donec fumus niger mutetur in album et album in rubeum. Et hoc est quod dicitur.*
- Manuscripts:
  - Firenze, bibl. Laurent., Plut. 30, cod. 29, fols. 71r-73r
  - Glasgow, Univ., Hunterian 110, fols. 39r-41v, s. XIV
  - \* Jena, Thüringen Univ.- und Landesbibl., MS El. Q. 18, fols. 65r-76v
  - \* Jena, Thüringen Univ.- und Landesbibl., MS El. Q. 21, fol. 73v
- Anonymus, *De naturis colorum iuxta Aristotilem septuaginta preceptorum*<sup>75</sup>
  - Inc.: *Notato quoniam ignis solus aurum conculcat et quasi interimit. Acetum quoque es ipsum interimit et in eodem et optimum reducit colorem... – expl.: ...nam et sapientes pulverem combustionem in eisdem consistere affirmant, qui ex eodem fomento quodam sepius experti sunt.*
  - Manuscripts:
    - Bologna, Biblioteca universitaria, MS 474 (830), fols. 61v-64r/62v, s. XV
    - Cambridge, Trinity College 0.825, fols. 32-33, s. XV
    - Cambridge, University Library, ii.III.17, fols. 144-145, s. XV
    - Firenze, Biblioteca nazionale centrale, Palat. 981, fols. 125v-135v, s. XV
    - \* Jena, Thüringen Univ.- und Landesbibl., MS El. Q. 18, fol. 30r-v

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<sup>75</sup> Charles B. Schmitt and Dilwyn Knox, *Pseudo-Aristoteles Latinus: a Guide to Latin Works Falsely Attributed to Aristotle before 1500* (London, 1985), 24, nr. 21 for further literature.

- Jena, Thüringen Univ.- und Landesbibl., MS El. Q. 19, fols. 17v-18v, s.

XV

- London, British Library, Add. MS 41486, fols. 61-62v, s. XIII
- London, British Library, Arundel MS 164, fols. 185v-186, s. XV

### III Lapidaries

- Erfurt, Universitäts- und Forschungsbibl. Erfurt/Gotha, UB Erfurt, Dep. Erf. CA 4° 295, fols. 37r-41v, s. XIV: Marbodus Redonensis (?), *Liber de duodecim lapidibus* (inc.: *Qui lapidum vires et nomina scire requiris, ex lege me lecto rem cognosces ordine recto...* – expl.: *...cum sanctitate custodiri non potest. Explicit liber secretus de coloribus et virtutibus preciosorum lapidum*).
- Heidelberg, Universitätsbibl., cod. Pal. germ. 263, fols. 171r-172r, s. XVI: Arnoldus Saxo, *Liber de coloribus gemmarum* (inc.: *Postquam librum de virtutibus complevi nunc ipsarum gemmarum et lapidum colores distinguo...*).
- Koblenz, Landeshauptarchiv, Best. 701 Nr. 128, fols. 33v-34r, s. XIII<sup>ex</sup>-XIV<sup>in</sup>: *De duodecim lapidum coloribus* (inc.: *laspis primus est. Viva viriditate rutilat. Saphirus similis est celo sereno in purpura, respargit quasi pulvere auri...* – expl.: *...perornat flammulis*).
- Milano, Biblioteca Ambrosiana, C 243 inf., fols. 614-615: *De coloribus et significatione lapidum* (inc.: *Chrysolitus lapis quasi aurum fulgens...*).

### IV General

- \* Città del Vaticano, BAV, Vat. lat. 4425, fols. 258v-260r, s. XIV: *Dicitur autem sensibile* (inc.: *Dicitur autem sensibile tripliciter quorum duo quidem per se dicimus*

*sentire... – expl.: ...quid autem sit color et qua de causa multe colores sunt dictum est*).<sup>76</sup>

- Erfurt, Universitäts- und Forschungsbibl. Erfurt/Gotha, UB Erfurt, Dep. Erf. CA. 2° 346, fols. 16r-17r, s. XIV: *De coloribus diversarum specierum* (Inc.: *Colorum alii extremi, alii medii...*).
- Erfurt, Universitäts- und Forschungsbibl. Erfurt/Gotha, UB Erfurt, Dep. Erf. CA. 4° 349, fol. 55v, s. XIV: *Johannis de Wasia, Tractatus de coloribus* (inc.: *Colorem lux incorporata perspicuo...*).<sup>77</sup>
- Graz, University library, MS 482, c. 1300, fols. 180v, 188v: *De coloribus* (inc.: *Cum omnia elementa sunt diaphana/dyafama... – expl.: ...omnium colorum in loco non suo*).<sup>78</sup>
- Milano, Bibl. Ambrosiana, D. 290 inf., fols. 1r-100v, s. XVI: *Tractatus de coloribus* (inc.: *Candidus color est candissimus...*).<sup>79</sup>
- \* Paris, Bibliothèque nationale de France, lat. 6749B, a. 1481, fols. 62v-63r: *Lumen luminum de coloribus* (Inc.: *Quattuor sunt colores principales, scilicet niger, albus, citrinus et rubeus...*).
- Stuttgart, Württembergische Landesbibl., HB I 80, fols. 190r-257v: *Tractatus de septem coloribus* (Inc.: *Respicite et levate capita vestra et in presentis dominice ewangelio isto sacro tempore exerceamus nos in caritate non ficta...*).

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<sup>76</sup> Thorndike, "Other Texts on Colours," 53-54: the text is a combination of passages from Aristotle's *De anima* and *De sensu*.

<sup>77</sup> A treatise based on Robert Grosseteste's *De coloribus*.

<sup>78</sup> Thorndike, "Other Texts on Colours," 54.

<sup>79</sup> This work is a compilation of everything that could be found in Pliny and other classical authors regarding colors, see Thorndike, "Some Medieval Texts on Colours," 24.

- Anonymus, *De tribus coloribus*
  - Inc.: *Notandum quod triplices colores communiter ponuntur, scilicet sententiarum verborum transsumptionum, et ergo modi 8 prolongandi et 8 abbreviandi... – expl.: ...necessaria verba vel principalia huius totalis sensus submittenti exprimuntur. Et sic finiuntur colores sententiarum || orditur narrat partitur et inde refutat, confirmat, claudit habet has orationes partes.* Inc.: *Notandum quod triplices colores communiter ponuntur, scilicet sententiarum verborum transsumptionum, et ergo modi 8 prolongandi et 8 abbreviandi... – expl.: ...necessaria verba vel principalia huius totalis sensus submittenti exprimuntur. Et sic finiuntur colores sententiarum || orditur narrat partitur et inde refutat, confirmat, claudit habet has orationes partes.*
  - Manuscripts:
    - Mainz, Wissenschaftliche Stadtbibl., Hs I 188, fols. 216r-218v, s. XIV<sup>ex.</sup>-XV<sup>in.</sup>
    - Melk, Benediktinerstift, Cod. 929, fols. 264r-267r, s. XV
    - Tübingen, Universitätsbibl., Mc 144, fols. 125r-126v, s. XIV<sup>ex.</sup>

V Varia: astronomy, writing, colors of rhetoric<sup>80</sup>

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<sup>80</sup> The treatises on the colors of rhetoric are not of a natural philosophical nature, but are rhetorical in nature: they refer to treatises or authors such as Quintilian, *Rhetorica ad Herennium*, Marbodus' (1096-1124?) *Liber de ornamentis verborum: Tractatus brevis de coloribus rethorice cum exemplis eorumdem versificatus notabilis*, Geoffrey de Vinsauf's (d. ca. 1220) *Summa de coloribus rhetoricis*, and Boncompagnus' *Rhetorica novissima*.

- \* Città del Vaticano, BAV, Vat. lat. 46, fol. 3r, s. XIV-XV: *De rhetoricae partibus eiusque coloribus* (inc.: *Incipiunt colores rethorici et primo... – expl.: ...colores omnes autem alii que inveniuntur reducuntur ad istos*).
- Klosterneuburg, Augustiner-Chorherrenstift, Cod. 1238, fols. 149v-150r, s. XV: *Tractatus de coloribus eclipsium* (inc.: *Colores eclipsium, antequam eveniant cognoscere...*).
- Kraków, Biblioteka Jagiellonska, 709, fol. 117v: *Nota de coloribus planetarum* (inc.: *Saturnus significat colorem nigrum et terreum...*).
- \* London, British Library, Harley MS 941, fols. 80r-90r, s. XV: David Pencaer, *Tractatus de coloribus rhetoricae* (inc.: *Quo nunc oratoris officia si casus exigat autem dilatandi...*)
- Melk, Benediktinerstift, Cod. 664, fols. 36r-83v, s. XIV-XV: *Tractatus de coloribus rhetoricis*.
- München, Bayerische Staatsbibl., Clm. 18662, fol. 244, a. 1442: *De coloribus vestium*.
- München, Bayerische Staatsbibl., Clm. 19632, fols. 178-179, s. XIV-XV: *De atramento et coloribus ad scribendum*.
- München, Bayerische Staatsbibl., Clm. 19902, fols. 96-107, s. XV: *De coloribus, de ponderibus, de medica arte*.
- München, Bayerische Staatsbibl., Clm. 26875, fol. 139, s. XV: *De coloribus*.
- \* Paris, Bibliothèque nationale de France, lat. 8174, fols. 38v-40r, s. XV: *De coloribus verborum et sententiarum* (inc.: *Repetitio est cum primo... – expl.: ...rerum consequentie et rerum circumstantie*).

- Salzburg, Stiftsbibl. St. Peter, Cod. A XI 4, fol. 241r, s. XII: *Tractatulus de coloribus ad picturas adhibendis* (inc.: *Hi sunt omnes colores, quibus utimur in picturis librorum atque murorum...* – expl.: *...in laquearibus et in muris non valet, quia humidae naturae est*).
- Wien, Österreichische Nationalbibl., cod. 246, fols. 65r-68v, s. XIII: Emeritus Vindocinensis, *Summula de schematibus et coloribus sermonum*.
- Wien, Österreichische Nationalbibl., cod. 4953, fols. 198r-200v, s. XV: *Tractatus de coloribus videlicet figuris artis rhetoricae* (inc.: *Ad infima habet depressum...* – expl.: *...et isti colores habentur per has sillabas*).
- Wien, Österreichische Nationalbibl., cod. 5371\*, fol. 13r, s. XV: *Canones cum capitulo de coloribus lunae in eclipsibus* (inc.: *Cum in quolibet mense anni...* – expl.: *...si deus voluerit*).
- Iohannes Bondi de Aquilegia (?), *De coloribus rhetoricis*
  - Inc.: *Quare exornationes colores rhetorici nominantur. Ea quae serenant et clarificant dictamina adornationes...* – expl.: *...quidquid est in oratione ista transumitur. Expliciunt colores verborum sententiarum et transsumptionum. Deo gracias.*
  - Manuscripts:
    - Augsburg, Staats- und Stadtbibl., 2° Cod. 215, s. XV, fols. 61r-64r (inc.: *Est ergo color rethoricus convenienter verborum aut sententiarum venustas...*)
    - Innsbruck, Universitäts- und Landesbibl. Tirol (ULBT), Cod. 655, fols. 138v-139r, s. XIII-XIV

- Mainz, Wissenschaftliche Stadtbibl. Mainz, Hs I 180, fol. 299r, s. XV
- Melk, Benediktinerstift, Cod. 690, fols. 55v-58v, s. XV
- Melk, Benediktinerstift, Cod. 821/2, fols. 108r-110r, s. XIV<sup>ex</sup>.
- Melk, Benediktinerstift, Cod. 872, fols. 24r-27v, s. XIV
- \* Melk, Benediktinerstift, Cod. 1075, fols. 252-262, a. 1494-1499
- München, Bayerische Staatsbibliothek, Clm. 3561: *Versus et tractatus de coloribus rhetoricis*
- München, Bayerische Staatsbibliothek, Clm. 3941, fols. 154v-156v
- \* Philadelphia, PA, Univ. of Pennsylvania, Rare book & Manuscript Library, codex 20, fols. 310-318 (*olim* Melk, Benediktinerstift, cod. S.n. 8), s. XIV