

PROGNOSTICATION AND MEDICAL ASTROLOGY IN 14TH-CENTURY ITALY: THREE CASE STUDIES

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Abstract: This article examines the late-medieval plague tractate by Augustine of Trento, an Augustinian friar who addressed the matter of plague before the Black Death of 1347/1348. I will investigate Augustine's astrological approach to the prognostication, prevention, and cure of the plague epidemic. Further, I will compare his work to the *Compendium medicinalis astrologiae*, composed by the Dominican Niccolò de Paganica in 1330, and to the *consilia* produced by the master of medicine Gentile da Foligno in 1348. This double comparison will help to better understand the shared intellectual milieu and the different approaches of these three authors.

Keywords: astrology; medicine; plague; Augustine of Trento; Niccolò de Paganica; Gentile da Foligno.

1. Introduction

Late-medieval plague epidemics can surely be counted amongst the most frightening, impactful, and widely researched catastrophic global events. Of the many waves of plague that afflicted 14th- and 15th-century Europe, the most shocking and challenging was the Black Death, which lasted from 1347/1348 to 1352 and altered the social fabric and economy of Europe¹ so deeply that, after it, "the world could never have been quite the same again."² Not only was this widespread mortality terrifying, but it also posed a challenge to physicians and to academic medicine. This unprecedented situation,

1 For an overview and discussion of the socio-economic consequences of the Black Death, see SLACK 2012.

2 HORROX 1994, 247.

“inaudita nec visa in libris,”³ invites historians to investigate the reactions of medical practitioners and masters of medicine.⁴ Further, it is important to determine whether the astrological explanations of plague’s etiology (as well as the success of magical remedies) marked a lack of faith in medical rationality and a fall into the irrational.⁵

As Nicolas Weill-Parot⁶ has pointed out, before the arrival of the plague and the challenges it posed to traditional medical paradigms, physicians did not abandon their rational schemes of interpretations. To explain such a great loss of life, a huge and supreme cause was brought into play. Nevertheless, the stars represented a remote cause, which did not destroy medical rational etiology and put a stop to practical efforts and therapies. The astrological explanation of the great mortality remained strictly naturalistic, with the great conjunction occurring in 1345 being deemed the cause of the putrefaction of the air responsible for the Black Death in 1348.⁷

3 This is how Gentile da Foligno defined the plague in his *consilium* to the city of Genoa. See GENTILIS DE FULGINEO 1496(1), *Consilium ad pestilentiam que accidit Ianue*, f. 76ra. See CHANDELIER 2017(2), esp. 505–518 and JACQUART 2021.

4 On the topic, see, for example, ARRIZABALAGA 1994; JACQUART 2006; CHANDELIER 2017(1).

5 WEILL-PAROT 2004, 75. Historians of science such as Jon Arrizabalaga and Joël Chandelier point out the role of Avicenna’s *Canon* in university medicine and its response to the Black Death. See ARRIZABALAGA 1994; CHANDELIER 2017(2). Similarly, Danielle Jacquart recognizes the role of astrology in academic medicine but minimizes its impact. See, for example, JACQUART 1990, 1992, 1997 and 1998, esp. 448–465.

6 WEILL-PAROT 2004, 80–81.

7 See, for example, the well-known *Compendium de epidimia per collegium facultatis medicorum parisius ordinatum*, in RÉBOUIS 1888, 70–145 (for the conjunction Jupiter, Saturn, and Mars in 1345 see 76–78) and JACME D’AGRAMONT 1949, *Regiment de preservació de pestilencia*, 57–89. In the *Compendium*, where the authority of Albert the Great is explicitly quoted, the remote cause of the plague is deemed to be Jupiter, a hot and humid planet, which raised water and noxious vapors from the earth. These were then set on fire by Mars, a hot and arid planet. Moreover, between 6 October 1347 and the end of the year 1348 Mars and the Head of the Dragon met in the sign of Leo; these attracted vapors in large numbers and caused a hot winter. Furthermore, Mars, being retrograde, attracted many vapors from earth and water and caused a corruption of the air. On the presence of Albert’s views in the 14th-treatises on plague, see PALAZZO 2024, esp. 72–91.

A remarkably strong advocate for the celestial origin of plague epidemics was Augustine of Trento,⁸ a member of the Order of the Hermits of Saint Augustine, who addressed the matter of plague long before Jacme of Agramont.⁹ Augustine's tract has been handed down in two redactions, of which the first one was produced at the Augustinian *studium* of Perugia and dates to 1340, while the other version contains a dedication to Nicolò of Brno (the bishop of Trento from 1338 to 1347).¹⁰ As has already been pointed out by Thorndike,¹¹ the originality of Augustine's text lies in it being written before the plague of 1347/48 broke out and the so-called *Pestschriften* were produced. It will not be discussed here whether the disease, which affected central Italy in 1340 and which is described by Augustine, was indeed a wave of bubonic plague, and thus a forerunner of the Black Death, or some other kind of disease.¹² For the sake of simplicity, I will refer to this epidemic as plague, as Augustine describes it using the words *pestilentia* and *pestis*.

According to Augustine, astrology provides a complete explanation of several problems, which medical practitioners and the entire population have to face. At the core of Augustine's *opusculum* lies the notion of the house system. In fact, the author adopts this prognostication system and focuses especially on the sixth astrological house, which is commonly referred to as the "house of health."¹³ In the first redaction of his work, written in 1340 in Peru-

8 On Augustine of Trento see THORNDIKE 1923–1958, vol. III, 224–232; SARTON 1927–1948, vol. III/1, 648; GHISALBERTI 1960, vol. I, 488–489; ARRIZABALAGA 1994, 252; MATERN 2002; QUARANTA 2019, 330–331 and BONINI 2020.

9 ARRIZABALAGA 1994, 252.

10 See COSTA 1977, 101–105; THORNDIKE 1930, 346 (repr. with additions in THORNDIKE 1923–1958, vol. III, 224).

11 THORNDIKE 1930 (repr. with additions in THORNDIKE 1923–1958, vol. III, 224–233).

12 On the debate whether or not every ancient and medieval disease labelled as 'plague' was actually caused by the bacillus *Yersinia pestis*, see SLACK 2012, 54–69. See also: ACHTMAN, MORELLI, ZHU, WIRTH, DIEHL 2004; GAGE, KOSOY 2005 (the last two references are also discussed in CARMICHAEL 2008).

13 Edited in BONINI 2021, 419–472: *Tractatus de astrologia et medicina*, 432,50–51: "In revolu-

gia, Augustine describes himself as a *lector* (probably in natural philosophy).¹⁴ Furthermore, Augustine's expertise in astrology and medicine cannot be explained solely by his study and teaching activity in the *studia particularia* of the Order, but he probably came into contact with the *lectores* and masters of Bologna and Perugia during his stay in these cities as a student and *lector*.¹⁵

The aim of this article is to analyze Augustine's astrological explanation of plague epidemics¹⁶ by comparing his treatise with other texts that address both astrology and plague, which were produced by two of his contemporaries from Central Italy. In the following sections, I will investigate Augustine's approach to astrology by comparing his text to the *Compendium medicinalis astrologiae*, composed by the Dominican author Niccolò (or Nicolaus) de Paganica in 1330, and to the plague works produced by the master of medicine Gentile da Foligno in 1348.¹⁷ On the one hand, this comparison with a similar astrological work produced by a mendicant author will help to explain why these two friars – Augustine and Niccolò – developed an interest in medical astrology and how they perceived the relationship between medicine and as-

tionem anni sexta domus est infirmitatum” and 449,22–24: “Ad presens autem in genere intendo aliqua discutere circa sextam domum [...] domus sexta dicitur infirmitatum secundum astrologos.”

14 BONINI 2021, *Tractatus de astrologia et medicina*, 419,5–7: “ego frater Augustinus de Tridento lector Perusii ordinis fratrum minorum sancti Augustini infrascripta composui”; 449,5–7: “suo domino Nicolao, episcopo Tridentino, frater Augustinus de Tridento, lector Perusii vester Capellanus et filius in Christo Ordinis fratrum Heremitarum Sancti Augustini”; 449,29: “Determinavi infrascripta in universitate studii Perusii.”

15 The document is partially edited in PIANA 1977, 87–88. See also HACKETT 1992, 122.

16 Unlike the Black Death of 1347/1348–1352, to which the pandemic model can be applied, the disease of 1340 can be considered an epidemic, because it was limited in time and space, but it still affected more than a single site. For this reason, the term ‘epidemic(s)’ will be used to describe the appearance of the disease described by Augustine. For a discussion of the pandemic and epidemic models, which are used to explain the late-medieval spread of the plague, see SLACK 2012, 91–141.

17 For an overview of the writings on plague transmitted under the name of Gentile see THORNDIKE 1959; RECIO MUÑOZ 2012; and Di Segni's article in this volume. On Gentile da Foligno, see THORNDIKE 1923–1958, vol. III, 233–252; CRISCIANI 2012; ROBERT 2020; FRENCH 2001, and the bibliography quoted therein.

trology. On the other hand, the evaluation of differences between Augustine's work and the texts produced by such a master of medicine as Gentile will reveal more clearly the intellectual gap between these two authors, one of whom had a non-professional interest in astrology and medicine and the other of whom came from a university milieu.

2. Niccolò de Paganica and Augustine of Trento: two mendicants combining medicine and astrology

In this section, after a short introduction to Niccolò de Paganica (2.1.), I will compare his work with Augustine's by taking into consideration (2.2.) their aim, (2.3.) their structure and sources, (2.4.) the astrological doctrines they are based on, and (2.5.) how these mendicant friars deal with astral determinism.

2.1. Niccolò (or Nicolaus) de Paganica was the author of a *compendium* on medical astrology.¹⁸ This work can be dated to 1330,¹⁹ that is to say ten years before Augustine started to compose his treatise dealing with the same topic. So far, no evidence has been found that would suggest an explicit usage of Niccolò's text in Augustine's work. Nevertheless, the two texts have various features in common and were produced within the same general intellectual milieu.

In three of the four manuscripts which preserve it, the *Compendium medicinalis astrologiae* is attributed to the Dominican friar Niccolò de Paganica, while a fourth witness records the author's name as Nicolaus de Aquila.²⁰

18 For the edition of the text see NICOLAUS DE PAGANICA 1990, *Compendium medicinalis astrologiae*.

19 Two of the four witnesses mention the year 1330 as the composition date, while the other two are silent on the matter. See NICOLAUS DE PAGANICA 1990, *Compendium medicinalis astrologiae*, 7 and 19.

20 For the manuscript tradition see NICOLAUS DE PAGANICA 1990, *Compendium medicinalis astrologiae*, 5. Dell'Anna added a fourth manuscript to the three already identified by

Moreover, as in the text of Augustine, the manuscript tradition hands down what seem to be two different redactions of the same work. Both Lynn Thorndike and Giuseppe Dell'Anna have judged Niccolò de Paganica to be the real author, while the attribution to Nicolaus de Aquila in the later version does not seem to be supported by other historical data²¹ and is not confirmed by Quetif and Echard.²²

As Thorndike and Dell'Anna have already noticed, the two stages of the text do not differ in terms of content but in terms of the dedication. In fact, the earlier version of the treatise contains the date 1330 and is addressed to three Italian masters and doctors of medicine (Roger of Manfredonia, Nuccio de Ascoli,²³ and Raynaldus de Adria), while the later text, which is attributed to Nicolaus de Aquila, contains a dedication to John de Olegio *de vice-*

Thorndike. See THORNDIKE 1923–1958, vol. III, 213–214.

21 Fifty years separate the authors, who share only the same birthplace. In fact, Paganica was a suburb of the bigger town L'Aquila before the earthquake of 1703. See NICOLAUS DE PAGANICA 1990, *Compendium medicinalis astrologiae*, 7.

22 QUETIF, ECHARD 1719–1721, vol. I, 570b: “Nicolaus de Paganico, quem Italum facile conjicio a nostris hactenus omissus, recensetur in bibliothecis Venetis Tomasini, ceu cuius etiamnum [*sic*] servatur inter codd. ms Petrarchae *Compendium astrologiae e F. Nicolao de Paganico ordinis Predicatorum* compilatum anno MCCCXXX fol. membr.” (Italic in the text). It is worth noting that the two scholars mention the fact that one manuscript (namely Venezia, Biblioteca Nazionale Marciana, fondo antico, ms. 538) was included by Tomasini in the library of Petrarch. See TOMASINI 1635, 85–86 and VALENTINELLI 1868–1873, vol. I, 6. For a discussion of the matter see THORNDIKE 1923–1958, vol. III, 217 and NICOLAUS DE PAGANICA 1990, *Compendium medicinalis astrologiae*, 13. On Petrarch and the sciences see, e.g., FELCI 1975 and MAZZACURATI 1983. Unfortunately, Simon de Phares, who mentions Nicolaus in his *Recueil*, does not offer any help in solving the authorship problem. In fact, he describes Nicolaus de Paginea (*sic*) as active in France between 1369 and 1372 and as a specialist in the fields of astrological medicine, nativity calculation, and star calculation. See: SIMON DE PHARES 1997, vol. I, 507–508: “En ce temps vint en fleur frere Nicolas de Paganica, Italien, grant astrologien et medicin. Cestui fut compaignon de Jehan Laurens, qui aussi ayma moult la science de astrologie. Cestui predist sur la nativité du duc de Bourgoigne [...] Cestui de Paginea [*sic*] estoit a merveilles expert. Es jugemens particuliers [...] callulla de nouvel les estoille fixex, ou il print moult grant labour.”

23 For this author as the Dominican Nicolaus de Asculo mentioned by Quetif and Echard as active around 1330, see NICOLAUS DE PAGANICA 1990, *Compendium medicinalis astrologiae*, 9 and QUETIF, ECHARD 1719–1721, vol. I, 566.

comitis de Mediolano (†1366). According to Thorndike, the later redaction represents an altered version of the first one, where the plurals have been modified into singulars and the original text is dedicated to the marquis from the Visconti family.

Neither Niccolò nor Augustine are professional physicians, but they both consider medical practitioners to be the primary audience of their texts.²⁴ It is worth noting that all three masters mentioned in the first redaction of 1330 and the author himself are from Central and Southern Italy. Dell’Anna suggests that, at that time, an interest in astrology flourished in these areas, which were not impacted by the condemnation of Cecco d’Ascoli three years earlier.²⁵ This being said, Niccolò does not feel the need to justify his interest in some fields of judicial astrology, as Augustine of Trento will do ten years later.

2.2. With *Compendium* being the title of the work,²⁶ Niccolò understands it principally to be a didactical tool; similarly, Augustine’s treatise, at least as far as the redaction produced in Perugia is concerned, is produced for his contemporaries to profit from his knowledge as a *lector* in natural philosophy and theology. Further, Niccolò himself declares in the prologue that the *compendium* has been requested by three practitioners and professors as a helpful tool in their medical activity:

24 Augustine of Trento does not address his text to any medical practitioner as Nicolaus does. Nevertheless, in the second redaction of his opusculum he mentions several times the *reverendi medici et magistri Odoricus et Iordanus*, who were likely to be two physicians acquainted with the Bishop of Trento. See BONINI 2021, *Tractatus de astrologia et medicina*, 455,91–92, 458,74–75, 465,88–89, and 470,9–10.

25 NICOLAUS DE PAGANICA 1990, *Compendium medicinalis astrologiae*, 9.

26 Notably in the latter redaction attributed to Nicolaus de Aquila, the re-worked text is defined as *tractatus*. NICOLAUS DE PAGANICA 1990, *Compendium medicinalis astrologiae*, 19: “tractatus in astronomiam qui medicinalis scientiae compendium nuncupatur.”

[...] facile ac breve compendium de situ orbis atque figura, natura ac proprietate et motu nec non et causalitate et influenza caelestium corporum, quod a me dudum instantissime postulastis et precipue prout expedit ad practicam medicine, ecce vobis ut brevius et facilius potui fideliter compilavi, quindecim tantum capitulis ipsum ordinans quod et intitulari non incongrue volui astrologie medicinalis compendium.²⁷

We do not know, whether we can trust Niccolò and whether the text has really been requested by the three doctors or whether this declaration is merely a literary *topos*. Nevertheless, already in the prologue the author is firmly convinced of the importance of combining astrology and medicine and the utility of his text. A similar statement can be found at the end of the work:

Explicit tractatus medicinalis astrologie per fratrem Nicolaum de Paganica predicatorum ordinis compilatus ad laudem et gloriam summe et ineffabilis trinitatis, ac utilitatem et [*sic*] profectum medicorum et sanitatem infirmantium.²⁸

Here Niccolò is firmly convinced of both the utility of astrology for medical practice and the conformity of his approach with Christian teachings. Similarly, Augustine highlights the useful nature and universal validity of both redactions of his text.²⁹ While Niccolò states that his work has been written to meet the requests of his readers, Augustine declares that he has composed the text for a similar practical purpose, namely to face the illness that was rapidly spreading across Central Italy in 1340.

27 NICOLAUS DE PAGANICA 1990, *Compendium medicinalis astrologiae*, 19 (punctuation and capitalization as in the edition).

28 NICOLAUS DE PAGANICA 1990, *Compendium medicinalis astrologiae*, 149. As can be noted from the edition, the attribution to Nicolaus de Paganica in the passage at the end of the work is present only in one manuscript, namely Venezia, Biblioteca Nazionale Marciana, fondo antico, ms. 538, ff. 12rb-15ra, which represents the basis for Dell'Anna's edition.

29 BONINI 2021, *Tractatus de astrologia et medicina*, 419,8-9; 449,25-28.

2.3. As stated in the dedication, Niccolò's *compendium* is structured in fifteen chapters dealing with a general overview of the universe's structure, the zodiac signs, planets, movement of the celestial bodies, properties of the celestial bodies, influence of the superior celestial bodies and spheres upon the terrestrial reality, the influence of the planets upon the human body, the twelve houses and their meaning for human life, planetary conjunctions, aspects of the planets, the doctrine of the *dies cretici*, and judicial astrology.³⁰ Four astrological tables accompany the text.³¹

As far as Augustine's work is concerned, it is divided into six main parts.³² It begins with a section discussing the dependence of the inferior bod-

30 The chapters' titles offer an insight into the content of each section: see NICOLAUS DE PAGANICA 1990, *Compendium medicinalis astrologiae*, 23: "Capitulum primum de forma et dispositione totius orbis et de figura machine mundialis"; 43: "Capitulum secundum de proprietatibus naturalibus signorum et planetarum"; 63: "Capitulum tertium de potestate seu dominio planetarum in signis"; 77: "Capitulum quartum de influentia universali celestium corporum in inferiora"; 87: "De particulari influentia celi in corpus humanum capitulum quintum"; 93: "De influentia planetarum in corpus humanum et de infirmitatibus eisdem planetis apparatis capitulum sextum"; 97: "De duodecim domorum significatione et ipsarum dominio supra corpus capitulum septimum"; 105: "De coniunctionibus et aspectibus planetarum adinvicem octavum capitulum"; 111: "De planetis et domorum fortitudine cognoscenda et de significatione qui [sic] dicitur almuten capitulum nonum"; 113: "De formatione domorum et planetarum locis et de instrumentis huic scientie necessariis capitulum decimum"; 121: "De modo formandi questionem et de forma et regula iudicandi capitulum undecimum"; 131: "De causis crisiarum et terminis creticorum dierum ac pronosticationibus eorundem capitulum duodecimum"; 139: "De electionibus horarum laudabilium in universali capitulum tertium decimum"; 145: "De electionibus horarum in particulari capitulum decimum quartum"; 149: "De hora electionis ad flebotomiam et farmatiam capitulum quintum decimum".

31 The tables can be found only in the manuscript Venezia, Biblioteca Nazionale Marciana, fondo antico, ms. 538, where they have been inserted by a second hand. They have been reproduced in Dell'Anna's edition. See NICOLAUS DE PAGANICA 1990, *Compendium medicinalis astrologiae*, 25,26, 65, 122.

32 In the first redaction composed in Perugia, the author initially describes the structure of his treatise as follows: See BONINI 2021, *Tractatus de astrologia et medicina*, 419,9-19: "Contine[n]tur autem in generali 6 per ordinem in hoc tractatu. Primo qualiter omnia dependent a Deo et quod anima intellectiva est forma hominis, et continet conclusiones duas. Secundo qualiter corpora celestia dependent a Deo et inferiora a corporibus celestibus, et continet conclusiones novem. Tertio qualiter persone sane se habent custodire, et continet conclusiones 12. Quarto quibus cibariis est utendum, continet conclusiones seu capitula 6. Quinto qualiter medici habent providere sanis et infirmis,

ies on the celestial ones and the celestial bodies on God. This first part, which addresses both theological and astrological issues, is followed by three parts examining medical themes. The first enumerates twelve health risks, the second is devoted to correct nutrition, and the third describes medical remedies. As noted above, Augustine produced two different redactions of his work. The later version contains a dedication to the bishop of Trento, a closing astrological section on the planet Saturn (which cannot be found in the other redaction), and two astrological figures or *figurae celi*.³³ Each of the six main sections is further divided into *capitula* or *conclusiones* and the order of both the main parts and the subchapters differs slightly in the two redactions.

The structure of the *compendium* by Niccolò bears some similarities to the six parts making up the work of Augustine. Firstly, it is worth noticing that both texts start with a description of the physical and metaphysical structure of the universe.³⁴ Nevertheless, both authors do not assign the same role to the divine within this picture. In the first chapter of the *Compendium*, which is devoted to a description of the *figura machine mundialis*, Niccolò makes no reference to God as the first cause or the first mover of the inferior spheres and beings. Augustine, by contrast, explicitly mentions the divine presence at the top of the metaphysical hierarchy of being.

continens conclusiones decem. Sexto qualiter disponuntur domini istius anni, continens duas figuras geometricales."

33 The *figurae celi* are handed down only in the manuscript München, Bayerische Staatsbibliothek, Clm. 647.

34 In the redaction composed in Perugia, Augustine states that the first parts or chapters aim at investigating the dependence of every created being on God; see BONINI 2021, *Tractatus de astrologia et medicina*, 419,10–13: "Primo qualiter omnia dependent a Deo et quod anima intellectiva est forma hominis [...] Secundo qualiter corpora celestia dependent a Deo et inferiora a corporibus celestibus [...]." A similar statement can be found in the other redaction as well; see BONINI 2021, *Tractatus de astrologia et medicina*, 449,13–15: "elicitur statim, quod omnia dependent a Deo non tantum in genere cause finalis sed efficientis et creantis, ut theologi et fideles astruunt. Ptolomeus vero et astrologi dicunt omnia transmutabilia dependere a circulo zodiaco [...] principaliter tamen a Deo."

As far as the sources of the two works are concerned, the Dominican from Paganica explicitly quotes four authorities on which his text draws: Ptolemy (3 times; both his *Centiloquium* and his *Quadripartite* are mentioned); Thomas Aquinas (once; his *Summa Contra Gentiles* is explicitly quoted) Albumasar (once, with implicit reference to the *Introductorius maius*), and Haly (i.e., Hali Embrany, with the *De electionibus horarum* being implicitly referred to).³⁵ Ten years later Augustine of Trento also draws on all these texts except Aquinas, who is replaced by Giles of Rome's Commentaries (to the *Sentences*, to the *De anima*, and to the *Primum Posteriorum*). In addition, Augustine makes use of a wider range of astrological sources (including Albumasar's *De magnis coniunctionibus* and *Flores astrologiae*, Alcabitius' *Introductorius*, Guido Bonatti's *De revolutionibus annorum mundi* and Messahallah), medical texts and authorities (such as Avicenna's *Canon*, Galen, the *De diebus creticis*, Joannitus' *Isagoge ad Tegni Galeni*, Giles of Corbeil, the pseudo-Hippocratic *Astrologia medicorum*), the Aristotelian corpus, and pseudo-Aristotelian works (*Secretum secretorum* and *De pomo*).

2.4. As noted above, Niccolò's text draws on Albumasar and Haly Embrany and the compendium revolves around the doctrines of the *electiones* and the *interrogationes*. In addition, both texts address the influence of each zodiac sign on specific body parts, and Niccolò devotes the sixth chapter to the *melothesia* ("De influentia planetarum in corpus humanum et de infirmitatibus eisdem planetis apparatis"). Further, the theory of the astrological houses plays an important role in Niccolò's text as well. Indeed, the topic of astrological domification is explicitly mentioned in chapters nine ("De planetis et domorum fortitudine cognoscenda et de significatore qui dicitur

³⁵ For the mentions of these authors see NICOLAUS DE PAGANICA 1990, *Compendium medicinalis astrologiae*, 26, 77, 78, 93, 132, 140. Dell'Anna highlights the influence of Alkindi's *De radiis* and the *Compotus maior* by Campanus of Novara as well. See e.g., NICOLAUS DE PAGANICA 1990, *Compendium medicinalis astrologiae*, 20, 71.

almuten”) and ten (“De formatione domorum et planetarum locis et de instrumentis huic scientiae necessariis”). Especially noteworthy is the description of the astrologer’s equipment in the latter section. Here, the Dominican states that he will not worry about calculating the house divisions but briefly, choosing instead to focus his attention on the astrolabe. He acknowledges the adversities in acquiring such an instrument and declares himself to be the author of a new quadrant:

Nec vero minus sufficienter de domibus et planetis videamur tractasse, predictis adiciendum extimamus quod planetarum loca domorumque formatio non sunt presentis operis sed ad operationem pertinent tabularum et practicam astrolabii que utique tanquam necessaria et propria instrumenta astrologie praxi sunt penitus oportuna et quia astrolobium non de facili invenitur estque eorum pretio operatione difficile et rarissime verax, loco ipsius sufficit habere nostrum quadrantem novum quod ego frater Nicolaus actor dudum composui, conceptum quidem pretio sed opere preciosum, visu pulcherrimum, operatione facillimum, curiositate mirabile et utilitate multiplici gratiosum.³⁶

As the editor points out, Niccolò here refers not to a text on the quadrant but to a proper astrolabe which he has constructed himself.³⁷ Augustine of Trento briefly mentions the importance of the astrolabe for the astrological practice of both nativities and interrogations too.³⁸ Nevertheless, Augustine does not seem to be so competent on the matter as the author of the *Compendium*.

The eleventh chapter of Niccolò’s handbook also has a special didactical purpose, as the author approaches a particular study-case and calculates the horoscope of a specific person. Such attention on an individual subject cannot be found in Augustine, who gives only general advice to face the particular critical situation represented by the plague.

36 NICOLAUS DE PAGANICA 1990, *Compendium medicinalis astrologiae*, 113.

37 NICOLAUS DE PAGANICA 1990, *Compendium medicinalis astrologiae*, 115; for influence of *Liber in scientia astrolabi* by Maslama al Mayriti on the eleventh chapter see 117.

38 BONINI 2021, *Tractatus de astrologia et medicina*, 422,95–96; 429,78–82; 456,12–13.

Furthermore, the doctrine of the elections plays a pivotal role in chapters thirteen (“De electionibus horarum laudabilium in universali”), fourteen (“De electionibus horarum in particulari”), and fifteen (“De hora electionis ad flebotomiam et farmatiam”) of the *Compendium*. Interestingly, the last two chapters discuss the correct time to prepare and administer pharmaceutical remedies and to make a surgical intervention. Augustine discusses the doctrine of Haly Embrany in the three astrological chapters of his treatise, but does not address the correct time for specific remedies such as pharmacy and surgery. As far as pharmacy is concerned, both mendicant authors do not discuss the preparation of pharmaceutical remedies with regard to ingredients and doses, as Gentile da Foligno and other professional physicians do, but limit their interest to the appropriate time for these activities.

Finally, both Niccolò and Augustine combine the above-mentioned astrological theories with the doctrine of the critical days.³⁹ Augustine devotes an entire chapter (chapter 12: “De causis crisiū et terminis criticorum dierum ac pronosticationibus eorundem”) to the matter, while Augustine mentions the *dies critici* in three separate passages.⁴⁰ Interestingly, both mendicant friars knew Albumasar, but they did not discuss the theory of the great conjunctions in their texts.

2.5. Both authors unsurprisingly emphasize the connection between medical astrology and religion. As noted above, Niccolò writes his text to help physicians and to praise and glorify the supreme and ineffable Trinity.⁴¹ In doing so, he presents his compendium as standing in line with Christian doctrine. In the fourth chapter, which deals with the influence of the celestial

39 See for example PENNUTO 2008.

40 BONINI 2021, *Tractatus de astrologia et medicina*, 427, 428, 454, where Augustine makes explicit reference to the authority of Galen.

41 NICOLAUS DE PAGANICA 1990, *Compendium medicinalis astrologiae*, 149.

bodies on inferior beings, the Dominican from Paganica specifies that, according to the authority of Aquinas, the stars affect only human bodies, while human intellects are influenced by angels, and humans' will can be ruled by God alone:

Constat secundum omnes philosophos ac etiam doctores catholicos celum et caelestia corpora causalitatem habere supra inferiora corpora et per consequens etiam supra corpus humanum, unde et doctor verabilis sanctus Thomas de Aquino tercio libro contra gentiles dicit expresse quod homo secundum corpus ordinatur et subicitur sub corporibus celestibus, secundum intellectum vero sub angelis, secundum voluntatem autem sub deo.⁴²

Moreover, in the eleventh chapter of the work, which is devoted to the correct way to form astrological questions and judge singular cases, the author shows his reverence to divine providence:

Quamquam autem non sit nostrum scire tempora vel monumenta que pater posuit in sua potestate, sicut veritatis ore didicimus, de eis tamen effectibus quos conditor almus siderum posuit in potestate causarum, nequaquam prohibetur astrologo, saltem universaliter iudicare prime tamen cause providencie semper reverencia riservata. Attendat igitur prudens astrologus in iudiciis omnibus, in hiis maxime que per viam interrogationis precedent [...].⁴³

Noteworthy in the passage above is the care required by the astrologer in dealing with judicial astrology in general and with interrogations in particular. Through this attention, the two passages mentioned above briefly approach the problem of the role of God and human free will. Nevertheless, Niccolò avoids engaging more deeply in the question of astrological determinism. Differently, Augustine openly addresses this issue and pronounces

42 NICOLAUS DE PAGANICA 1990, *Compendium medicinalis astrologiae*, 77. For the reference to Aquinas, see, for example, chapters 42 and 84 of the third book of his *Summa contra gentiles*.

43 NICOLAUS DE PAGANICA 1990, *Compendium medicinalis astrologiae*, 121.

that a close relationship between astrology and medicine is beneficial for medical practice.⁴⁴ But he is also aware of the incompatibility between some fields of astrology and Christian religion. For this reason, he divides his audience into specialists in medicine, who should be acquainted with judicial astrology and the doctrine of the nativities, and Christian believers, whose belief in divine providence and divine justice should not be undermined by these theories.⁴⁵ Furthermore, he explicitly states that his work does not aim to deny either free will or free choice, and the reader should not misinterpret him on this point.⁴⁶

3. Advising medical doctors on the plague: a comparison with Gentile da Foligno and his *consilia*

Gentile da Foligno is not only a prominent figure in the Italian medical tradition but also a contemporary of Augustine of Trento; both of them were active in the city of Perugia⁴⁷ and maintained a long-standing connection to the city. Gentile was also the author of several medical *consilia* and contributed to formalizing the structure of this literary genre.⁴⁸ His works were composed for practical purposes and addressed to professional physicians, but were also related to the academic environment and teaching activity.⁴⁹ As is well known, in addition to numerous *consilia* that deal with particular clinical cases and which are aimed at individual personalities, Gentile was also the

44 See BONINI 2020, 230–233.

45 BONINI 2021, *Tractatus de astrologia et medicina*, 442,31–33; 464,38–42.

46 BONINI 2021, *Tractatus de astrologia et medicina*, 472,36–37: “Ex istis omnibus prelibatis a principio usque ad finem, nullus sane mentis concludat, quod liberum arbitrium sortiantur constellationibus.”

47 From 1325/1326 Gentile was in Perugia and lived near the church of S. Agostino, even if his activity was centered also in Padua where he was a doctor of Ubertino da Carrara, who ruled the city from 1338 until his death in 1345.

48 See CRISCIANI 2004.

49 For the literature on medical *consilia*, see AGRIMI, CRISCIANI 1994.

author of some *consilia* against the plague, a disease that involves more than one individual, affecting entire cities and regions. In particular, he composed a *consilium* for the city of Genoa and two for the city of Perugia, one considerably longer than the other. Despite the fact that the working context profoundly changed with the advent of the Black Death, the texts are comparable insofar as they are addressed to the authorities of specific cities (Trento, Perugia, and Genoa) and aim to help them face this specific epidemic. I am interested to compare Gentile's work with Augustine's treatise, an exercise already briefly carried out by Jon Arrizabalaga, regarding these two personalities' teaching in Perugia.⁵⁰

Hence, in what follows I will compare Augustine's text with that of Gentile da Foligno, taking into consideration (3.1.) the role of astrology, (3.2.) the role of both medical measures and preventive medicine, and (3.3.) the way both texts give advice and counsel to medical professionals.

I limit my analysis only to the *consilia* addressed by Gentile to both Genoa and Perugia and I will not take into account either the commentary on the Canon of Avicenna book IV fen I tr. IV, the *Receptae* on this part of the Avicennian text, the *Considerationes*, or the two *consilia* handed down under the name of Gentile (Wien, Österreichischen Nationalbibliothek, Pal. Lat. 2317 inc: "Emergentis [...]") and Città del Vaticano, Biblioteca Apostolica Vaticana, Pal. Lat. 1260, ff. 96va-98rb inc.: "Scripsimus [...]"), nor the *Sumarium de peste*, transmitted by the manuscript Vat. Lat. 8690.

3.1. As Arrizabalaga points out,⁵¹ both authors refer to astrology, but they do so in different ways and Gentile follows the Avicennian scheme of distinguishing between remote and proximate causes of the illness. First tak-

⁵⁰ See ARRIZABALAGA 1994, 252.

⁵¹ See ARRIZABALAGA 1994, 252.

ing into consideration the shorter *consilium* dedicated to the city of Perugia, it should be noted that Gentile mentions the astrological causes as the most remote causes of the plague. In his view, some astrologers consider an eclipse to be the remote cause, while others pinpoint the great conjunction of Jupiter Saturn and Mars on the 20th of March 1345. This conjunction is said to have taken place in the eighth house, namely the house of death, and falls in the sign of Aquarius and opposite to Leo.

As is known, this astronomical phenomenon is also mentioned in the *Compendium de epidimia* or *Consilium de pestilentia* written by the masters of the Faculty of Medicine of Paris in October 1348. Based on astrological reasons, says Gentile, these astrologers understand an influence of the plague on cities to be dominated by the sign of Leo (according to the date of their foundation), while others deem planetary influences to be responsible for the corruption of water. After mentioning the opinion of the astrologers, Gentile states that, whatever the remote cause of these events, on the basis of extensive analysis and experience it was considered more appropriate to focus on the immediate and particular causes, namely the poisonous matter that poisons the lung and the heart:

Cuius causam astrologi quidam credunt esse preteritam non a multis annis eclipsim, alii credunt causam fuisse commotionem maiorem planetarum Saturni, Iovis in domo VIII et signo Aquarii et in oppositione Leonis A.D. 1345 [*coni. ex* 1348] die 20 Marcii [*coni. ex* Maii] indicant impressionem magnam in civitatibus attributis signo Leonis. Quidam autem sunt qui credunt causam huius esse corruptionem aquarum ex determinata impressione planete corrumpentis aquam dant signum corruptionis multe in piscibus. Quidquid autem sit de ista discordia nos post multam sollicitudinem et experientias difficiles invenimus causam particularem immediatam fore quasdam materias venenosas, quae circa cor et pulmonem generant quarum impressio non est excessus graduum qualitatum primarum.⁵²

52 GENTILIS DE FULGINEO 1496(2), *In epidimia magna que accidit Perusii*, f. 76va.

The astrological causes are not mentioned by Gentile in the *consilium* for the city of Genoa,⁵³ but the reference to astrology appears again in the other *consilium* against the plague dedicated to the city of Perugia.⁵⁴ This text is considerably longer than the first one addressed to his city and is divided into four sections. The first text is devoted to the examination of the causes (both universal and particular) of the pestilence, while the second proposes a preventive regimen and describes the treatments which can be performed physically and surgically. The work ends with Gentile giving responses to a series of doubts concerning his advice. In the first of these four parts, which treats universal and remote causes, Gentile recalls the astrological causes, citing Avicenna, recalling his scheme, and referring to the *Conciliator* by Peter of Abano,⁵⁵ which lists the role of eclipses and the conjunction of Mars and Saturn in the house of life (i.e., the eighth house). Although the remote astrological causes are mentioned in the two texts, they are not further examined and focus is given to the proximate causes. Gentile also mentions the celestial causes but does not seem to leave much room for this explanation, focusing more on the action of the venomous matter and vapors; he assumes that the disease was transmitted by inhalation or by transpiration.

Unlike Gentile, Augustine gives great importance to astrology, even if the theory of great conjunctions of Albumasar does not feature in his text. The author does not take into account the great conjunction of 1345, which was referred to in many plague treatises after this astronomical event happened and was addressed by 14th-century astronomers before the plague outbreak. Not only did Augustine write his work before this conjunction

53 See SUDHOFF 1911, 332–333 and GENTILIS DE FULGINEO 1496(1), *Consilium ad pestilentiam que accidit Ianue*, f. 76ra–va.

54 GENTILIS DE FULGINEO 1479, *Contra pestilentiam consilium*.

55 PETRUS DE ABANO 1496, *Conciliator differentiarum philosophorum et precipue medicorum*, f. 137rb.

happened, but he was also probably not familiar with astronomical texts, which mathematically predicted its occurrence. Instead, attention is paid to the theory of houses and in particular to the presence of Mars in the sixth house, which is connected to health, and not in the eighth, the house of death and inheritance. As far as the secondary natural causes are concerned, Augustine also briefly takes into consideration the role of corrupt air and water but focuses more on celestial causes, that is to say, the causes of these secondary causes. For example, when speaking of the reason why the city of Florence was subject to pestilence, he lists seven factors, which also include the role of water, air, and food. In addition, he affirms that medical errors occur when the physicians ignore the first principles of their art:

Inde est, quot multis civitatibus accidit error et pestis infirmitatum propter causas tactas, et principaliter Florentinis accidit in quantum Florentinis predicta pestis ratione ascendens eorum. Fuit ascendens eorum repertum in sexta domo. [...] Accidit eis secundo propter Martem repertum in sexta domo. In revolutione anni sexta domus est infirmitatum, et Mars minutus nunc dicitur et cetera. *Accidit eis tertio ratione aeris corrupti.* Nam aer eorum mirabiliter est pullulans et generans [...] peregrinas impressiones, quia secundum Aristotelem in libro *De generatione*: ubi est facilis transitus, facilis <est> corruptio et cetera. Accidit eis quarto propter aquas alteratas et cetera. Accidit eis quinto ratione humorum corruptorum propter mala cibaria usitata. Accidit eis sexto ratione comete reperte ibi in Leone [...]. Accidit eis septimo ratione medicorum <im>peritorum. [...] Iste error incepit pullulare in aliquibus medicis de Perusio [...] *accidit iste error pestiferus istis viris ratione ignorantie primorum principiorum artis medicine. Primum principium medicine est astronomia, ut satis deductum est.*⁵⁶

From this last passage we can also see how Augustine conceives medicine to be a subordinate art to astrology.

3.2. In both authors there is then the attempt of a strong preventive action by prescribing a regimen. In fact, Augustine dedicates an entire chapter to proper nutrition and in the non-abbreviated version the recommendations

⁵⁶ BONINI 2021, *Tractatus de astrologia et medicina*, 432,44–69.

are literal quotations from treatise *De flore dietarum* and from *De proprietatibus rerum* by Bartholomew the Englishman. Further, in his list of twelve health dangers, Augustine mixes the six *res non naturales* with dietary precepts and combines them with the theory of houses:

specialiter usque ad aliam revolutionem anni caveant sibi primo universi a fructibus [...]

Secundo caveat sibi a rebus crudis ut a cepis, scalonibus, lactucis et cetera, et precipue saturnini [...]

Tertio caveant sibi a variis motibus [...]

Quarto <caveant> ne fenestras camerarum de nocte dimittant apertas, et specialiter ubi dormiunt, quia venti et venticuli frequenter flabunt nunc ab oriente nunc ab occidente nunc a septentrione nunc ab aquilone varios vapores elevando et implendo [...]

Quinto caveant a locis corruptis et fetidis, et precipue ubi cadavera et corpora mortuorum sepeliuntur [...]

Sexto caveant sibi a repletionibus e a diversis cibis [...]

Septimo caveant sibi a stupis et a balneis [...]

Octavo caveant sibi a potatione diurna et serotina [...]

Nono caveant sibi a sompno meridiano [...]

<Decimo> Ulterius caveant sibi a caulibus [...]

Undecimo caveant ne in mane seu in prandio comedant nimis tarde nec in cenis nimis tempestive [...]

Duodecimo caveant sibi universi tam parvi quam magni in isto anno secundum astrologos, qui habuerunt Martem in sexta domo et in radicibus suarum natiuitatum, quia tales fere quassabuntur variis et diversis egritudinibus, quia Mars dominatur infirmitatibus in isto anno ratione sexte domus.⁵⁷

Unlike Augustine, Gentile seems to rely less on astrology, focusing more on the *regimen*, and on medical and pharmacological remedies. And it is precisely the latter who are absent from Augustine's text. In fact, although a sort of regimen is proposed and space is given to dietary precepts, the pharmacological part and the indication of the doses to prepare the remedies are miss-

57 BONINI 2021, *Tractatus de astrologia et medicina*, 436,67–441,13.

ing. The absence of these elements of pharmacy, as well as notions of surgery, makes it difficult to think that Augustine, in addition to having an undeniable interest in medicine and especially astrological medicine, did actually practice medicine.⁵⁸ In the *consilia* on the plague of Gentile, as in other medical treatises on the plague there are in fact recipes with indications of the components and doses. In particular, Gentile refers to the use of the theriac, mentions the *mithridatum*, the use of amber and an odoriferous apple to which the Faculty of Paris had also referred to, as well as considering a remedy that provides for gold in water.⁵⁹ Gentile also distinguishes between drug remedies for the rich and the poor.

3.3. Here we discuss the way that both authors offer advice and consultation to medical doctors. For both authors their texts have an intrinsic usefulness, which is made explicit in Augustine's text, and both works address not only political authorities but professional physicians as well. As has already been noted, Gentile was responsible for giving to the literary genre of the *consilia* a fixed structure. In both redactions, Augustine addresses doctors (*medice/bone medice*) and offers them an astrological framework, which can help them to be successful in their everyday practice. Furthermore, in his work Augustine makes use of the verb *consulo* and the term *consilium*:

Consulo tamen, quod [...] eas aliquantulum faciant bulire in aqua et postea comedant cum aceto.⁶⁰

Consulo tamen hiis [...] aliquantulum faciant bulire in aqua simplici, et deinde extrahantur et comedantur cum aceto.⁶¹

Unum tamen *consilium* do, quod persone diligenter custodiant se per totum

58 Noteworthy is the mention of the anonymous *Practica fratris*, a medical treatise probably composed by an Italian religious at the end of the 13th century. See BONINI 2021, *Tractatus de astrologia et medicina*, 427,13 and MOULINIER-BROGI 2017.

59 CRISCIANI, PEREIRA 1998, 11–12.

60 BONINI 2021, *Tractatus de astrologia et medicina*, 436,78–80.

61 BONINI 2021, *Tractatus de astrologia et medicina*, 459,4–7.

mense⟨m⟩ Iulii, Augusti, Septembris et Octobris a contrariis et a replectionibus.⁶²

Nevertheless, the text does not follow the structure of this literary genre that crystallized in the hands of Gentile.⁶³ Even if not every *consilium* follows the exact same scheme, typically, after a description of the patient's situation and its causes, the appropriate *regimen* is recommended, and, finally, pharmaceutical remedies are prescribed. Augustine does not address a specific study-case, but aims at offering universal and everlasting rules. The text lacks the preliminary description of the particular clinical case or the initial situation, which is replaced instead by a metaphysical description of the cosmos. Further, Augustine offers an explanation of the causes behind the illness, but focuses on the most universal explanation, namely astrological causality.

As seen above, Augustine advises preventive measures and in doing so his text partially resembles the prophylactic section of Gentiles' *consilia*. Nevertheless, his treatise lacks a final section which discusses any pharmaceutical remedy and the instructions to prepare it.

Despite the use of the terms *consulo* and *consilium*, it is not possible to define Augustine's work as a *consilium* in a technical sense. It certainly aims at providing medical professionals with an astrological framework within which they can understand and articulate the practical act of healing, it is not produced by a professor of medicine, it does not offer guidelines for operative medicine, and it is not connected with university teaching and medical training.

Nevertheless, it qualifies as a treatise with a prescriptive purpose, as the author aims at giving instructions in light of an ongoing medical crisis. Start-

62 BONINI 2021, *Tractatus de astrologia et medicina*, 458,76–77.

63 CRISCIANI 2004, 266.

ing from a theoretical framework, the author offers both a regimen and nutritional precepts. Augustine's treatise can therefore be understood as part of the practice of advice-giving in a broad sense; as part of the bishop's court as a secretary and chaplain, he is likely to have served as a consultant on several matters.

4. Conclusion

Whereas the Dominican Niccolò de Paganica relies mostly on astrological texts, the master of medicine Gentile da Foligno is highly influenced by the Avicennian *Canon*. Augustine of Trento can be placed in the middle of these two extremes, as he draws on both astrological and medical sources, dealing with astrology in some sections of his text and devoting other sections to (preventive) medicine. Augustine does not qualify either as a doctor or as a *peritus* in medicine, but he addresses a hypothetical physician representing his audience and invites him to form a judgement according to astrology.⁶⁴

This being said, Augustine is still far from the University medical tradition and conceives the medical art as not only intertwined with but also subordinate to astrology. In addition, it is worth noticing that from 1215 onward it was forbidden for mendicant friars to engage in the study and practice of medicine.⁶⁵ For this reason, we find works on medical astrology (which differ

64 BONINI 2021, *Tractatus de astrologia et medicina*, 430,1-2; 448,90-93.

65 For example, this prohibition (as well as the mention of special exemptions from the prior provincial) had been reiterated several times in the General Chapters of the Dominican Order. See REICHERT 1898-1904, vol. I, 268,41-43: "Inhibemus districte, ne aliquis frater artem medicine exercent nec de medicina se aliquatenus intromittat, nisi prius in seculo audiverit et fuerit sufficienter instructus" (year 1293), vol. II, 122 (year 1320), 146 (year 1323), 239 (year 1336), 250 (year 1337), 286 (year 1343), 298 (year 1344), 348 (year 1353), 358 (year 1354), 365 (year 1355), vol. III, 83 (year 1407), and 127 (year 1498). Notably, the frequent iteration of this ban in general chapters suggests that many contemporaries broke this rule and developed an interest in medicine especially after the plague outbreak in 1347/1348.

from both the practice of medicine and Scholastic medicine) written by mendicant authors interested in the medical field. The Dominican friar Niccolò de Paganica (1330), the Augustinian lector Augustine of Trento (1340), and the later Franciscan master Jean Ganivet (1431) are all prominent examples of this trend.

Also noteworthy is the fact that neither the Niccolò de Paganica nor Augustine from Trento explicitly refer to the astrological tradition of Peter of Abano's *Conciliator*, as Gentile does. This absence further confirms that they were not properly acquainted with the University medical tradition. Nevertheless, the astrological works by Niccolò and Augustine cannot be considered by any measure as a fall into the irrational. Rather, they aim at conveying a naturalistic explanation of the phenomenon, at investigating the chain of causes behind them, and at analyzing the ultimate cause of the epidemics.

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