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MEDICAL AND PHILOSOPHICAL PERSPECTIVES ON ILLNESS AND DISEASE IN THE MIDDLE AGES

A cura di
Alessandro Palazzo e Francesca Bonini

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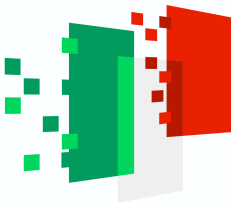

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INDICE

Introductory Remarks on Medieval Discourses on Diseases

Alessandro Palazzo

In the past two decades, a growing body of research has been produced on the relationship between medicine and philosophy in the medieval world. Scholars have particularly examined the epistemic status of medicine alongside its relation to philosophical theories, the medical conceptions of prominent philosophers and theologians, and cross-disciplinary debates with medical relevance. They have also investigated the institutional settings and teaching practices shared by philosophers, theologians, and physicians, their personal interactions, and the traces these exchanges left in surviving manuscripts.[1] This volume aims to explore the complex relationships between medicine and philosophy in the Middle Ages with specific regard to theories of disease. The ten papers presented in the volume cover a period of one thousand years, from Late Antiquity to the Black Death. Most were delivered at a conference held in Trento in 2023 (*Prospettive mediche e filosofiche sulla malattia nel medioevo*), with additional contributions added later to provide a more comprehensive view of medieval ideas and theories on pathology. The papers address authors and works from three distinct cultural and linguistic contexts: the Latin West, the Islamic world, and the Jewish tradition. While

1 See, for example, Ziegler 1999; Reynolds 1999; Chandelier 2011; Crisciani 2014; Zuccolin 2017; Zuccolin 2019; Hirvonen 2018; Ventura, Forlivesi 2022; Chandelier, Tabarroni 2023; Beneduce 2023; Cerrito 2023; Resnick 2023; Bianchi, Campi 2025.

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numerous studies have already explored the topics of sickness and diseases in the Middle Ages from various perspectives,[2] the uniqueness of this volume lies in its portrayal of the diverse discourses on maladies developed by theologians, philosophers, and physicians across different times and contexts. The scenario that emerges is one where discussions on sickness transcended disciplinary boundaries, allowing concepts, doctrines, and methods to be shared and adapted by experts from different fields, and where theological, philosophical, and medical perspectives are intertwined, reinterpreted, and reframed. Moreover, attention is given to the different terminologies used to describe pathological phenomena. Some contributions also investigate the processes of translation and transmission of medical theories and sources across linguistic contexts, such as from Arabic to Latin and from Latin to Hebrew. This variety of discourses on maladies is hardly surprising, as the pair health-sickness was not only central to medicine – both as a theoretical science and a 'clinical' practice – but also served as a cornerstone of Christian civilization. Salvation was regarded as healing from the malady of sin, achieved through the intercession of Christ the Saviour, the true doctor, and through the spiritual medicines of the sacraments.

The rich and complex intertwining of medicine and religion in the Latin world is the specific focus of the contributions by Giovanni Catapano and Chiara Crisciani. The former ("Il senso medico di *pestilentia* in Agostino") surveys all occurrences of the term *pestilentia* throughout Augustine's works, offering a detailed analysis of its usages. While in some of the loci examined Augustine leans towards a metaphorical and moral interpretation – viewing God as the cause of calamities such as pestilences – in other instances he employs the term in its medical sense. Although Augustine was not specifically

2 A recent multidisciplinary contribution, though lacking a philosophical perspective, is JONES, VARLIK 2022.

interested in medicine from a technical point of view, he was nonetheless well-acquainted with the term *pestilentia*, understanding it as referring to a pandemic or epidemic, and was able to differentiate it from other words within the medical vocabulary of pathology, such as *morbus* and *aegritudo*.

According to Chiara Crisciani ("Medicina e 'medicina spirituale': alcuni casi (secoli XII–XV)"), while the use of medical metaphors in religious contexts was common throughout medieval culture due to its soteriological character, it was only from the 12th century onwards that a true 'medicine of the soul' or 'spiritual medicine' emerged. This was characterized by the systematic use of medical analogies for both exegetical and theological purposes. For example, basic medical notions (humors, complexions, diseases, etc.) were used to interpret moral deviations within the cloister (Hugh of Fouilloy's *De medicina animae*) and to analyze the sacrament of confession (Alain de Lille's *Liber poenitentialis*). Medical *exempla* became part of the repertoire of images and anecdotes used by preachers to make their sermons more effective (Giovanni di Gimignano's *Liber de exemplis*). We find spiritual medicine celebrated by Humbert of Romans (*Expositio regulae sancti Augustini*) and Jean Gerson (sermon *Pro licentiandis in medicina*). In the prologue to his *Sentences* commentary, Nicholas of Ockham draws on Avicenna's *Canon* to define the *subiectum* of theology as the *genus humanum reparabile*. Accordingly, he understands theology as a supernatural medicine, thereby confirming an increasing tendency toward the medicalization of theology in the second half of the 13th century. On the other hand, some physicians (e.g., Giles of Corbeil, Arnau de Vilanova, and Galvano da Levanto) also demonstrated how medical knowledge could be transposed to a moral and spiritual level. Moral recommendations and pastoral reflections also found their way into some texts dealing with the plague (e.g., in the treatises by Bartolomeo da Ferrara and Michele

Savonarola). The interference of religious, theological, and moral implications is nowhere more evident than in discussions about leprosy. Theological and exegetical reflections, inspired by famous Biblical prescriptions and episodes, intermingled with medical analyses, granting leprosy the complex status of both a 'disease of the soul' and a physical pathology.[3] Three contributions address leprosy, reflecting the diverse conceptual and disciplinary perspectives applied to this illness.

Amalia Cerrito's paper ("Leprosy and Inherited Diseases in 13th-Century Discussions on the Original Sin") reconstructs the theological debate on leprosy in the 13th century. By this time, Western medicine had already evolved into a true science, aided by a large body of sources made available through Latin translations in the 12th and 13th centuries, as well as by the institutionalization and consolidation of medical education within universities. Many theologians – e.g., William of Auvergne, Roland of Cremona, Bonaventure, Thomas Aquinas, and Henry of Ghent – shaped their explanations of the transmission of original sin from parents to progeny after the model of inherited diseases, particularly leprosy. After bringing to the fore the main sources and traditions that sparked this debate (the juridical concept of *hereditas*, Biblical *loci* such as II *Kings* 5, Augustine's and Peter Lombard's reflection on the original sin, and the 'new' medical and philosophical sources on human generation and inherited diseases), Cerrito explores the aetiology of leprosy and other hereditary diseases, their ontological status, various models of transmission, and more. Marienza Benedetto ("A Divine Punishment? Leprosy in the Reflections of Moses Maimonides") focuses on Maimonides' views on biblical leprosy (*ṣāra'at*). A variety of approaches to this disease emerges from his corpus of works. In the *Mishneh Torah*, a 14-book work dealing with the

3 BRODY 1974; DEMAITRE 2007.

precepts of the *Torah*, Maimonides, drawing primarily on the Bible – notably the well-known passages in *Leviticus* (13-14) – describes leprosy in religious and moral terms as a divine punishment for those guilty of depravity, impurity, and corrupt language. *Ṣāraʻat* is also discussed in several loci of the *Guide of the Perplexed*, where a religious interpretation – leprosy as a 'miracle' inflicted upon the Jewish people as punishment for impurity – coexists with a medical explanation presented in Chapter 72 of Part I. Here, Maimonides explains leprosy, along with other diseases, in Galenic terms as resulting from an improper mixing of the elements. As one would expect, Maimonides endorses a medical explanation in the *Medical Aphorisms*, attributing *ṣāraʻat* to an excess of black bile, an explanation that some scholars interpret as referring to elephantiasis. However, in another medical treatise, *On Poisons and the Protection against Lethal Drugs*, he depicts elephantiasis as a form of poisoning caused by the menstrual blood of adulterous wives.[4]

Anna Gili ("Leprosy (*al-ǧuḏām*) and Smallpox (*al-ǧudarī*) in the *Kitāb al-Malakī* and its Two Latin Translations") examines the chapters on leprosy (*al-ǧuḏām*) and smallpox (*al-ǧudarī*) in the medical encyclopedia *Kitāb al-Malakī* by ʿAlī ibn al-ʿAbbas al-Maǧūsī, along with its Latin translations by Constantine the African (*Pantegni)* and Stephen of Antioch (*Liber Regalis).* Al-Maǧūsī provides a scientific explanation of leprosy that is free from any religious or theological connotations. Within his explanatory model, leprosy is associated with a humoral imbalance as the remote cause, while its transmission is explained both in terms of inter-generational inheritance through the father's sperm and contagion caused by harmful vapors exhaled by the lepers' bodies and inhaled by those in close proximity. Al-Maǧūsī also presents a complex aetiology for smallpox (*al-ǧudarī*), considering several

4 For the linguistic, historical, and medical implications of the distinction between leprosy and elephantiasis, see the penetrating reconstruction in GRMEK 1983, chapter 6.

factors (pestilential air, contagion through close proximity, and a bad regimen) along with heredity (in this case, through the mother's menstrual blood), which, as with leprosy, plays the primary role in the disease's appearance. Moreover, Gili accounts for the challenge that both Constantine the African and Stephen of Antioch faced in their efforts to translate al-Mağūsī's technical terminology into Latin. By adopting different strategies, they were able to adhere to the scientific approach of the original Arabic text – though with varying degrees of fidelity – while at the same time creating a new Latin lexicon for infectious diseases. The study furthermore presents three appendices, which provide an edition and an English translation of the sections of al-Mağūsī's encyclopedia that address leprosy and smallpox.

Unsurprisingly, another disease prominently featured in the volume is plague, with three papers addressing the 14th-century plague epidemic. Francesca Bonini's paper ("Prognostication and Medical Astrology in 14th-Century Italy: Three Case Studies") focuses on a late-medieval plague tractate by the Augustinian friar Augustine of Trento, which was notably written around 1340, before the outbreak of the mid-14th-century plague pandemic known as the Black Death. Therefore, Augustine's treatise predates the wave of *Pestschriften* that followed the Black Death. Bonini investigates Augustine's astrological approach to the prognostication, prevention, and treatment of the plague epidemic, and elucidates the intellectual environment that might have influenced him in composing his treatise. Moreover, to properly assess its original features, the text is compared with nearly contemporaneous works, including the *Compendium medicinalis astrologiae* by the Dominican Niccolò de Paganica and some of the *consilia* produced by the medical master Gentile da Foligno. One of Gentile's *consilia* on plague is also examined by Diana Di Segni, who contrasts it with an anonymous Hebrew translation ("Gentile da

Foligno's *Consilium contra pestilentiam* and its Hebrew Translation"). After surveying the manuscript tradition and early printed editions of all the *Pestschriften* traditionally ascribed to Gentile, Di Segni focuses on the *Consilium* addressed to the city of Pisa, analyzing its structure and content. The practical character of the *Consilium* – whose main purpose was to provide therapeutic, prophylactic, and hygienic prescriptions – aroused the interest of Jewish physicians. Since they were excluded from academic education and lacked proficiency in Latin, Jewish physicians were unable to access the advanced medical knowledge being produced at that time within European universities. This situation explains the increasing number of Latin-into-Hebrew translations of scientific and medical texts during the 14th and 15th centuries. The Hebrew translation of Gentile's *Consilium*, preserved in two manuscript versions – Wien, Österreichische Nationalbibliothek, Cod. hebr. 59 (ff. 224v-225v) and Jerusalem, The National Library of Israel, Ms. Fr. 81.2 – is part of a broader process of intercultural exchange. Di Segni closely examines the two versions from a linguistic perspective and demonstrates that they represent two different stages in the translation process. The paper concludes with an appendix containing the edition of Gentile's *Consilium* and its Hebrew translation.

The plague pandemic is also discussed in my contribution ("Health and Sickness in Henry of Herford's *Catena aurea entium*"), which focuses on the medical theories of Henry of Herford, a Dominican friar who served as a *lector* in German convents during the 14th century. Renowned both during his lifetime and posthumously as a historian, Henry left a vivid account of the cultural, social, and political consequences of the plague pandemic in his masterwork, the *Chronicon*, a universal chronicle spanning from creation to his own time. Though based on firsthand knowledge and reliable accounts

from his contemporaries, Henry's tragic depiction also draws heavily on Paul the Deacon's *Historia Langobardorum*, a source also used by Boccaccio. This intertextual connection likely accounts for similarities between the *Chronicon* and the *Decameron*. In his other major work, the *Catena aurea entium*, a ten-book encyclopedia, Henry frequently addresses health, sickness, and specific diseases. My paper provides an overview of these passages, highlighting Henry's surprisingly broad and diverse medical library as well as his emphasis on practical medicine, pharmacology, and the regimen. The paper concludes with an edition of select sections from the *Catena aurea entium* that discuss specific diseases.

Gabriella Zuccolin's paper ("Heat and Moisture. From the Classification of Fevers to the 'Truth of Human Nature'") focuses on the concept of 'radical moisture', a medical notion that played a significant role in medieval philosophical and scientific debates (e.g., the duration of life, fevers, and the theological issue of the numerical identity between the living body and the resurrected body). In Zuccolin's historical reconstruction, Aristotle was the first to address the interrelation between heat and moisture in his *Parva naturalia*, correlating aging with the consumption of moisture by heat. In Galen's works (*De marasmo*, *De methodo medendi*, *De differentiis febrium*), the relationship between heat and moisture is used to explain the formation of febrile pathologies. Fevers – in particular hectic fevers – are thought to produce an unnatural, non-temperate heat that consumes the body's own moisture. After exploring the historical intermediaries of the Galenic theory of fevers (Isaac Israeli's *Liber febrium* and Constantine the African's *Megategni*) and highlighting the innovations introduced by prominent medieval sources (such as Avicenna's *Canon* and Averroes' *Colliget*), Zuccolin illustrates how the medical discussion on the inherent consumption of radical moisture in living bod-

ies was reshaped by theological sources. She examines how Thomas Aquinas integrated these medical ideas into theological debates, particularly concerning resurrection. Specifically, with regard to the question of which part of the flesh is destined to be restored in the resurrection, Aquinas argues that the *veritas humanae naturae* (the truth of a human nature) encompasses not only the essential substratum of the human body, but also the food that has been assimilated into it.

Finally, Tommaso Alpina ("Healing the Soul by Transforming the Body: A New Way of Framing Avicenna's Science of the Soul") investigates the notion of pneuma, a medical concept that became central to medieval philosophical discourse, with particular emphasis on Avicenna's work.[5] Renowned for his medical expertise, which found an accomplished form in the *Canon of Medicine* – a work destined to have a tremendous impact on Latin medical science – Avicenna also incorporated medical concepts and theories into his philosophical writings, most notably in his masterwork *Kitāb al-Shifāʾ* (the *Book of Salvation*). Alpina examines how Avicenna employed and interpreted pneuma (*rūḥ*) in the psychological section of the *Shifa*, the *Kitāb al-Nafs* (known in Latin as the *Liber de Anima seu Sextus de naturalibus*). His analysis addresses three different topics: the ensoulment of the body, powers differentiation, and the role of emotions.

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5 For an accurate analysis of Albert the Great's theories of *spiritus*, which are heavily indebted to Avicennian philosophy, see MERONI 2024.

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Il senso medico di *pestilentia* in Agostino

Giovanni Catapano*

Abstract: In this contribution, an analysis of the term *pestilentia* in Augustine's works is developed. First, all the textual places where the term recurs are listed, specifying the type of meaning it has. A distinction is made between a proper sense, of a medical kind, and a metaphorical sense, of a moral kind. Secondly, the passages where the word *pestilentia* is used in a clearly medical sense are examined in detail.

Keywords: Augustine; epidemic; pandemic; pestilence; plague.

English title: *The Medical Meaning of* Pestilentia *according to Augustine*

Permettiamoci, in via eccezionale, un piccolo esperimento mentale. Immaginiamo che il 25 aprile 420 fosse stata concessa ad Agostino, in occasione del trentatreesimo anniversario del suo battesimo, una visione profetica della città di Milano esattamente sedici secoli dopo. Immaginiamo anche che, terminata la visione, il vescovo di Ippona ne avesse raccontato in un sermone (ovviamente non giunto sino a noi) il contenuto. Tralasciamo le parti del sermone esprimenti il presumibile stupore per le strabilianti novità tecnologiche dei nostri giorni e chiediamoci invece in che termini Agostino avrebbe potuto spiegare ai suoi contemporanei la causa del confinamento a cui erano costretti nell'aprile del 2020 i milanesi, così come tutti i lombardi e gli italiani in genere. Ebbene, è assolutamente verosimile che egli, per designare nel suo latino

* Dedico questo lavoro alla memoria di Antonio Pieretti (1940-2022) e Frederick Van Fleteren (1941-2022), che tanto hanno dato agli studi agostiniani in Italia e negli Stati Uniti, lasciando una traccia profonda di scienza e di umana simpatia in coloro che hanno potuto sperimentare personalmente il loro generoso impegno e la loro instancabile dedizione.

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la pandemia da Covid-19, avrebbe usato la parola *pestilentia*, in espressioni simili a quelle che leggiamo nei suoi scritti reali: «nescio qua horrenda pestilentia […] latissime peruagante»[1]; «pestilentia maxima exorta»[2]; «pestilentia grauis exorta est»[3]. Usciamo adesso dal nostro esperimento e proviamo a entrare nei significati posseduti da questa parola, concentrandoci su quello medico.

I. Il vocabolo *pestilentia* nella sua famiglia lessicale

Il nome latino *pestilentia* appartiene a una famiglia lessicale che oltre ad esso include, secondo il *Thesaurus linguae Latinae*, almeno altri quindici termini[4]: il nome *pestis*, da cui tutti gli altri direttamente o indirettamente derivano, e i nomi *pestibula* e *pestilitas*; gli aggettivi *pestibilis*, *pestifer*, *pestiferus*, *pestilens*, *pestilentiarius*, *pestilentus*, *pestilis* e *pestinuntius* (quest'ultimo a volte sostantivato); gli avverbi *pestifere* e *pestilenter;* i verbi *pestifero* e *pestifico.*

Pestilentia deriva da *pestilens*, che a sua volta deriva da *pestis*. La differenza semantica tra *pestis* e *pestilentia* – i due termini principali di questa famiglia lessicale – è chiarita dal Forcellini come la differenza tra il genere e la specie (oggi si direbbe tra l'iperonimo e l'iponimo): *pestis* «nomen est generale omnis mali, perniciei, morbi, exitii, calamitatis, ruinae, cladis, noxae, siue hominibus incidat, siue brutis, siue rebus inanimis. Quare differt a pestilentia, ut genus a specie»[5]; *pestilentia*, invece, «est pestis, seu morbus contagione in

1 AUGUSTINUS 1981(1), *Confessiones*, IX, cap. 9, n. 21, 146,45.
2 AUGUSTINUS 1955, *De ciuitate dei*, III, c. 17, 83,63-64.
3 AUGUSTINUS 1955, *De ciuitate dei*, III, c. 17, 84,120.
4 *TLL*, vol. X,1, 1920-1931. Il *TLL* (p. 1926) inoltre segnala che il cod. 176 della *Vetus Latina* presenta la lezione *pestilentii* nella traduzione di *Dn.*, 11, 14 (*filli pestilentii* anziché *filii pestilentiae*). Infine, l'aggettivo *pestimus* probabilmente è stato trasmesso per errore («uix recte trad.»: *TLL*, 1926-1927.
5 FORCELLINI, FURLANETTO, CORRADINI, PERIN 1940, voce *Pestis* (ho consultato il Forcellini online, mediante il *Database of Latin Dictionaries*).

plurimos se effundens, ac tum homines, tum uaria brutorum genera uulgatis funeribus absumens»[6]. Il corrispettivo greco di *pestis* è κακὸν o βλάβη (in italiano, «male, calamità, disgrazia, rovina, danno»; in inglese, «a pest, mischief, calamity by fire, the sword etc., destruction, ruin»), mentre il corrispettivo greco di *pestilentia* è λοιμός (in italiano, «peste, contagio, pestilenza, epidemia»; in inglese, «a plague, pestilence, epidemic disorder, an infection or contagion»)[7]. *Pestis* può a volte assumere il significato specifico di *pestilentia*, che tuttavia rimane il termine proprio per indicare quella che noi indichiamo come "epidemia"[8].

Gli scritti di Agostino contengono cinque termini di questa famiglia lessicale: *pestifer* (57 occorrenze), *pestilens* (19), *pestilentia* (75), *pestilentiosus* (15) e *pestis* (118). Le 284 occorrenze totali sono distribuite in 50 opere, 23 lettere e 24 sermoni[9]. Si tratta di un numero considerevole, anche se inferiore alle due famiglie principali del lessico patologico agostiniano, quella di *aeger* (con *aegresco*, *aegritudo*, *aegrotabilis*, *aegrotatio*, *aegroto* e *aegrotus*, 939 occorrenze) e quella di *morbus* (con *morbidus* e *morbosus*, 445 occorrenze). Il campo semantico del contagio infettivo include anche i termini *contagio*, *contagium* e *lues*, che insieme totalizzano 212 occorrenze (ma *contagio* e *lues* hanno solo due occorrenze ciascuno). Per quanto concerne in particolare *pestilentia*, le 75 occorrenze in Agostino sono comunque quasi la metà rispetto alle 164 occorrenze di tutta la latinità antica (anteriore al II secolo) e costituiscono il 16% delle 466 occorrenze della prima età patristica (II-V secolo)[10]. La famiglia lessicale di *pestis* in Agostino è stata studiata, a quanto mi risulta, solo per la pubblicazione

6 FORCELLINI, FURLANETTO, CORRADINI, PERIN 1940, voce *Pestilentia*.
7 Riprendo letteralmente queste corrispondenze dal Forcellini.
8 Il nostro termine "epidemia" corrisponde solo in parte al greco ἐπιδημία. Sull'identificazione di quest'ultimo con il latino *pestis*, si veda PINO CAMPOS 2008.
9 Ricavo questi dati dal *Corpus Augustinianum Gissense*.
10 Ricavo questi dati dalla *Library of Latin Texts*.

dei relativi lemmi negli *Specimina eines Lexicon Augustinianum* a cura di Werner Hensellek e Peter Schilling[11]. Nella voce *Pestilentia, -ae*, essi distinguono due significati fondamentali, quello medico di «Krankheit, Seuche, Anstekkung», suddiviso a sua volta in un senso proprio e in un senso metaforico, e quello morale di «Verderbtheit, Schlechtigkeit, Übel», fornendo per ciascuno numerosi esempi. La differenza tra il senso metaforico del significato medico e il significato morale (che in alcuni luoghi mostra una colorazione metonimica) è sottile: dei luoghi in cui l'errore o la cattiva condotta sono chiamati *pestilentia*, sono rubricati sotto il senso metaforico solo quelli in cui il contesto sottolinea la «eigentlich-medizinische Bedeutung» del termine. Gli *Specimina* infine evidenziano aspetti sintattici e stilistici della parola: attributi, sinonimi, giustapposizioni, giunture.

Nel presente contributo, intendo sviluppare l'analisi del termine *pestilentia* in Agostino, di cui gli *Specimina* hanno posto le prime basi. Per prima cosa, elencherò tutti i luoghi testuali in cui il nome ricorre, specificando il tipo di significato che esso vi assume. Distinguerò solo tra un senso proprio, di tipo medico, e un senso traslato, di tipo morale. Ritengo infatti che il senso "medico-metaforico" distinto dagli *Specimina*, in quanto appunto metaforico, si collochi su un piano semantico diverso da quello medico di partenza e coincidente di fatto con quello morale, che è ottenuto anch'esso per traslazione dal significato base. In secondo luogo, esaminerò in dettaglio i luoghi in cui la parola *pestilentia* è usata in senso chiaramente medico.

II. Le occorrenze di *pestilentia* in Agostino

La seguente tabella elenca tutte le occorrenze di *pestilentia* negli scritti di Agostino, seguendo l'ordine cronologico per quanto concerne le opere e invece

11 Hensellek, Schilling 1990.

l'ordine numerico progressivo per quanto concerne le lettere, le esposizioni sui *Salmi* e i sermoni. Nella colonna intermedia è indicato il numero di occorrenze presente in ciascun luogo. Con le sigle A e B sono indicate le occorrenze contenute rispettivamente in altri autori citati da Agostino e in citazioni o allusioni bibliche. L'abbreviazione "Med" indica l'accezione medica del termine e "Mor" quella morale.

Luogo[12]	**Occorrenze**	**Accezione**
Mor., I, cap. 32, n. 69	1	Mor
Ps. c. Don., v. 123i	1 (B)	Mor
Conf., II, cap. 4, n. 9	1	Mor
Conf., IX, cap. 9, n. 21	1	Mor
C. Faust., XVI, cap. 33	1	Mor
Trin., XIII, cap. 3, n. 6	1	Mor
C. ep. Parm., II, cap. 4, n. 8	1	Mor
C. ep. Parm., III, cap. 1, n. 2	1	Mor
C. ep. Parm., III, cap. 2, n. 14	1	Mor
C. ep. Parm., III, cap. 3, n. 18	1	Mor
Op. mon., cap. 32, n. 40	1 (B)	Mor
C. litt. Pet., II, cap. 46, n. 107	1 (A, B)	Mor
C. litt. Pet., II, cap. 51, n. 117	1 (A, B)	Mor
C. litt. Pet., II, cap. 51, n. 118	1	Mor
C. Don., cap. 24, n. 41	1	Med
Nat. et gr., cap. 1, n. 1	1	Mor
Ciu., I, cap. 32	5	Med, Mor
Ciu., II, cap. 8	1	Med
Ciu., III, cap. 17	13	Med

12 Le abbreviazioni delle opere di Agostino sono quelle dell'*Augustinus-Lexikon*, disponibili online alla pagina https://www.augustinus.de/images/pdf/WerkeverzeichnisAL5.pdf#page=6 (ultimo accesso 10 agosto 2024).

Ciu., III, cap. 31	1	Med
Ciu., X, cap. 26	1	Mor
Ciu., XVI, cap. 11	1 (B)	Mor
C. adu. leg., II, cap. 9, n. 34	1 (B)	Mor
C. ep. Pel., II, cap. 1, n. 1	1	Med/Mor
C. ep. Pel., IV, cap. 4, n. 4	1	Mor
C. ep. Pel., IV, cap. 8, n. 24	2	Mor
C. Iul., I, cap. 8, n. 38	1	Mor
C. Iul., I, cap. 8, n. 40	1	Mor
C. Iul., I, cap. 9, n. 43	1	Mor
C. Iul., III, cap. 17, n. 31	1	Mor
Cath. fr., cap. 12, n. 31	1	Mor
C. Iul. imp., IV, cap. 114	1	Mor
C. Iul. imp., V, cap. 56	1	Mor
C. Iul. imp., VI, cap. 8	1	Mor
Ep., 22, cap. 1, n. 4	1	Mor
Ep., 79	1	Mor
Ep., 93, cap. 1, n. 3	1	Med/Mor
Ep., 93, cap. 11, n. 49	1	Mor
Ep., 191, cap. 2	1	Mor
Ep., 10*, cap. 4	1	Mor
Ep., 10*, cap. 6	1	Mor
En. Ps., 1, cap. 1	5 (di cui 4 B)	Med, Mor
En. Ps., 33, s. 1, cap. 2	1	Mor
En. Ps., 35, cap. 13	1	Med
En. Ps., 39, cap. 14	1 (B)	Mor
En. Ps., 51, cap. 6	1 (B)	Mor
En. Ps., 83, cap. 2	1 (B)	Mor
En. Ps., 93, cap. 6	1 (B)	Mor
En. Ps., 150, cap. 2	1 (B)	Mor

S., 5, cap. 2	1	Med
S., 76, cap. 6, n. 9	1	Med
S., 167, cap. 3, n. 4	1	Med
S., 311, cap. 5, n. 5	1	Mor
S., 392, cap. 3	1 (B)	Mor

Come si può notare, le occorrenze sono distribuite in 16 opere, 5 lettere, 8 esposizioni sui *Salmi* e 5 sermoni, per un totale di 54 luoghi testuali. L'opera che contiene il maggior numero di occorrenze è il *De ciuitate dei*, con ventidue; al secondo posto, a pari merito e assai distanti, seguono il *Contra epistulam Parmeniani*, il *Contra duas epistulas Pelagianorum* e il *Contra Iulianum*, con sei occorrenze ciascuno. Le *Enarrationes in Psalmos* ne contengono dodici; soltanto cinque sono contenute sia nelle lettere che nei sermoni. Il luogo a più alta densità di occorrenze è *Ciu.*, III, cap. 17, con addirittura tredici; *Ciu.*, I, cap. 32 e *En. Ps.*, 1, cap. 1 ne hanno cinque ognuno. Tranne *C. ep. Pel.*, IV, cap. 8, n. 24, che ne ha due, tutti gli altri luoghi contengono una sola occorrenza. Due delle tre occorrenze nel *Contra litteras Petiliani* si trovano in citazioni tratte dalla lettera del vescovo donatista Petiliano, il quale a sua volta citava il primo versetto dei *Salmi* in una traduzione latina basata sulla versione greca dei LXX: «et super cathedram pestilentiae [in greco ἐπὶ καθέδραν λοιμῶν] non sedit». L'espressione "cathedra pestilentiae" derivante da *Sal.*, 1, 1 ricorre, questa volta sotto la penna di Agostino, nello *Psalmus contra partem Donati*, nel *De opere monachorum*, nel *Contra aduersarium legis et prophetarum* e *nelle Enarrationes in Psalmos* (la 1, ovviamente, ma anche la 93 e la 150). Un'altra espressione di origine biblica è "filius pestilentiae", che si trova al plurale nel *De ciuitate dei* e nelle *Enarrationes in Psalmos* 51 e 83, e al singolare nel sermone 392; essa potrebbe derivare da *1 Sam.*, 2, 12 (nel greco della LXX, υἱοὶ λοιμοί).

I luoghi in cui il termine *pestilentia* è usato in accezione chiaramente medica sono solo una decina, appartenenti al *Post conlationem contra Donatistas*, al *De ciuitate dei*, alle *Enarrationes in Psalmos* 1 e 35 e ai sermoni 5, 76 e 167; va notato, tuttavia, che tra essi figurano i luoghi a maggior densità di occorrenze della parola. In *C. ep. Pel.*, II, cap. 1, n. 1 ed *Ep.*, 93, cap. 1, n. 3 l'unica occorrenza presente congiunge, nel modo che vedremo, l'accezione medica con quella morale.

III. Analisi delle occorrenze di *pestilentia* in accezione medica

Per ciascuno dei luoghi agostiniani in cui il termine *pestilentia* ricorre in accezione medica, viene qui di seguito riportato il testo secondo l'edizione di riferimento, con un breve commento esplicativo. Vengono citate per intero le *sententiae* in cui il termine si trova e, solo quando strettamente utile alla comprensione di queste, anche quelle immediatamente adiacenti. L'ordine seguito è lo stesso della tabella esposta *supra* nel § II.

L1, AUGUSTINUS 1910, *Post conlationem Contra Donatistas,* cap. 24, n. 41, 143,1-2:

> An forte sic eos inuaserat PESTILENTIA, ut eorum tertiam partem repente prosterneret?

Il *Contra Donatistas* fu scritto da Agostino qualche mese dopo la Conferenza di Cartagine del 411, in cui i vescovi cattolici dell'Africa romana si confrontarono con i vescovi donatisti e furono dichiarati vincitori dal tribuno Flavio Marcellino. L'opera fu composta per esortare i fedeli donatisti a non indugiare nello scisma e a non prestare ascolto ai loro vescovi che contestavano la le-

gittimità della sentenza di Marcellino[13]. Nel luogo da cui è tratta la frase citata, Agostino sta contestando l'affermazione dei vescovi donatisti di essere più di quattrocento. Alla Conferenza, infatti, furono raccolte solo 279 firme di vescovi donatisti. Poiché questi dichiararono che tra loro erano assenti solo quelli impediti da motivi di salute (al posto di alcuni dei quali, per giunta, essi posero la firma), come si può credere che in totale essi superassero le quattro centinaia? La domanda se per caso un terzo di loro fosse stato abbattuto improvvisamente da una *pestilentia* è ironica: evidentemente non si registrarono epidemie in Nord Africa nel 411, tantomeno tali da assalire unicamente i donatisti.

L2, AUGUSTINUS 1955, *De ciuitate dei*, I, cap. 32, 32,9-24:

> Dii propter sedandam corporum PESTILENTIAM ludos sibi scaenicos exhiberi iubebant; pontifex autem propter animorum cauendam PESTILENTIAM ipsam scaenam constitui prohibebat. Si aliqua luce mentis animum corpori praeponitis, eligite quem colatis! Neque enim et illa corporum PESTILENTIA ideo conquieuit, quia populo bellicoso et solis antea ludis circensibus adsueto ludorum scaenicorum delicata subintrauit insania; sed astutia spirituum nefandorum praeuidens illam PESTILENTIAM iam fine debito cessaturam aliam longe grauiorem, qua plurimum gaudet, ex hac occasione non corporibus, sed moribus curauit inmittere, quae animos miserorum tantis obcaecauit tenebris, tanta deformitate foedauit, ut etiam modo (quod incredibile forsitan erit, si a nostris posteris audietur) Romana urbe uastata, quos PESTILENTIA ista possedit atque inde fugientes Carthaginem peruenire potuerunt, in theatris cotidie certatim pro histrionibus insanirent.

I primi tre libri del *De ciuitate dei* sono stati composti con ogni probabilità tra il 412 e il 413[14]; sono dunque di poco successivi al *Contra Donatistas*. Essi appartengono alla prima grande sezione dell'opera, costituita dai libri I-V, i quali confutano la posizione di quanti sostengono che il culto politeistico pagano sia necessario alla prosperità terrena e che l'averlo proibito sia stato la

13 LANCEL 1996.
14 ANOZ 2002, 236.

causa dei mali attualmente sofferti dall'Impero romano[15]. Il cap. 32 del libro I fa parte di un gruppo di capitoli (30-33) in cui Agostino tesse l'elogio di Scipione Nasica, eletto pontefice massimo durante la seconda guerra punica. Egli era contrario alla distruzione di Cartagine, temendo giustamente che, venuto meno il timore per il pericolo rappresentato dalla potenza rivale, il popolo romano cadesse preda dei vizi. Si oppose alla costruzione di una cavea teatrale che il Senato stava per decidere; a giudizio di Agostino, avrebbe persino eliminato da Roma i *ludi scaenici* stessi, se non fosse stato frenato dall'autorità di quelli che credeva fossero dèi ed erano invece demoni.

Nel brano citato, Agostino si riferisce alla tradizione[16] secondo la quale i *ludi scaenici* sarebbero stati istituiti a Roma durante il consolato di Gaio Sulpicio Petico e Gaio Licinio Stolone (364 a.C.) al fine di placare l'ira degli dèi e far cessare una violenta *pestilentia*. Prima di allora, i Romani erano abituati solamente ai *ludi circenses*, più adatti a un popolo bellicoso come era quello romano più antico. Il brano è costruito sulla contrapposizione tra la *pestilentia* dei corpi (secondo il senso letterale-medico del termine) e quella degli animi (secondo il senso metaforico-morale), tanto più grave della prima quanto più l'animo va anteposto al corpo. Scipione Nasica, avverso agli spettacoli teatrali, meriterebbe di essere venerato dai pagani più dei presunti dèi che ordinarono l'introduzione a Roma dei *ludi scaenici*, con l'insana frenesia (*insania*) che questi avrebbero suscitato nella gente fino ai tempi di Agostino. Viene citato infatti l'esempio dei profughi scampati al sacco di Roma del 410 e giunti a Cartagine, luogo di spettacoli teatrali quotidiani, dai quali Agostino stesso era

15 AUGUSTINUS 1981(2), *Epistulae*, 1/A*, cap. 1, 8,2-5; AUGUSTINUS 1999, *Retractationes*, II, cap. 43, n. 1, 124,12-125,15.

16 Tramandata in particolare da Tito Livio: TITUS LIUIUS 1932, *Ab urbe condita*, VII, cap. 2, n. 3, 399,16-20. Si veda inoltre Valerio Massimo: VALERIUS MAXIMUS 1888, *Facta et dicta memorabilia*, IV, cap. 4, n. 4, 69,1-20.

stato rapito nella sua giovinezza[17]. L'importazione dei *ludi scaenici*, peraltro, non indusse affatto gli "dèi" a far cessare la *pestilentia* in senso proprio: la fine dell'epidemia fu semplicemente prevista da quegli "spiriti nefandi" venerati dai Romani, in virtù del fatto che i demoni possiedono sensi più acuti di quelli umani, secondo una teoria che Agostino ha esposto nella maniera più compiuta nel *De diuinatione daemonum*.

L3, AUGUSTINUS 1955, *De ciuitate dei*, II, cap. 8, 40,9-10:

> Nam ingrauescente PESTILENTIA ludi scaenici auctoritate pontificum Romae primitus instituti sunt.

In questo luogo, Agostino richiama quanto già detto in L2 circa l'origine dei *ludi scaenici* a Roma, sottolineando in aggiunta il loro effetto moralmente deleterio in quanto istituiti per volere degli dèi: la rappresentazione scenica di atti moralmente riprovevoli (come ad esempio un adulterio compiuto da Giove) assume una forza negativamente esemplare, superiore alle proibizioni poste dalle leggi umane, perché sancita da una *auctoritas* che è creduta divina e che invece si dimostra per quello che è, cioè demoniaca. Riecheggia in questo giudizio la condanna platonica delle raffigurazioni poetiche del divino, non a caso richiamata esplicitamente da Agostino poche pagine dopo, nel cap. 14[18].

L4, AUGUSTINUS 1955, *De ciuitate dei*, III, cap. 17, 83,53-85,147:

> Vbi erant, quando densissimis fatigata ciuitas seditionum malis, cum legatos Athenas missos ad leges mutuandas paululum quieta opperiretur, graui fame PESTILENTIAque uastata est? […] Vbi erant, quando PESTILENTIA maxima exorta diis inutilibus populus diu multumque fatigatus noua lectisternia, quod numquam antea fecerat, exhibenda arbitratus est? […] Vbi erant, cum illa insignis

17 AUGUSTINUS 1990, *Confessiones*, III, cap. 2, n. 2-4, 27,1-29,50. Sulla condanna morale del teatro antico da parte degli scrittori cristiani, si veda LUGARESI 2008.

18 AUGUSTINUS 1955, *De ciuitate dei*, II, cap. 14, 45,6-46,55.

PESTILENTIA tam ingentem stragem dedit, qua et ille Furius Camillus extinctus est, qui rem publicam ingratam et Veientibus ante defendit et de Gallis postea uindicauit? In hac PESTILENTIA scaenicos ludos aliam nouam pestem non corporibus Romanorum, sed, quod est multo perniciosius, moribus intulerunt. Vbi erant, quando alia PESTILENTIA grauis de uenenis matronarum exorta credita est, quarum supra fidem multarum atque nobilium mores deprehensi sunt omni pestilentia grauiores? […] Vel quando graui PESTILENTIA ceteris laborantibus multi etiam in exercitu icti fulmine perierunt? Vel quando item alia intolerabili PESTILENTIA Aesculapium ab Epidauro quasi medicum deum Roma aduocare atque adhibere compulsa est, quoniam regem omnium Iouem, qui iam diu in Capitolio sedebat, multa stupra, quibus adulescens uacauerat, non permiserant fortasse discere medicinam? […] Atque in tanta strage bellorum etiam PESTILENTIA grauis exorta est mulierum. Nam priusquam maturos partus ederent, grauidae moriebantur. Vbi se, credo, Aesculapius excusabat, quod archiatrum, non obstetricem profitebatur. […] Quid? Illa itidem ingens PESTILENTIA, quamdiu saeuiit, quam multos peremit! Quae cum in annum alium multo grauius tenderetur frustra praesente Aesculapio, aditum est ad libros Sibyllinos. […] Tunc ergo dictum est eam esse causam PESTILENTIAE, quod plurimas aedes sacras multi occupatas priuatim tenerent: sic interim a magno imperitiae uel desidiae crimine Aesculapius liberatus est. […] Namque tunc uelut ad sedandam PESTILENTIAM diligenter repetita atque reparata nisi postea eodem modo neglecta atque usurpata latitarent, non utique magnae peritiae Varronis tribueretur, quod scribens de aedibus sacris tam multa ignorata commemorat. Sed tunc interim elegans non PESTILENTIAE depulsio, sed deorum excusatio procurata est.

Il lungo cap. 17 del *De ciuitate dei*, basandosi sulla narrazione di Sallustio e di altri *scriptores historiae*, rammenta agli avversari pagani del cristianesimo le sventure patite da Roma nel periodo repubblicano anteriore alla seconda guerra punica. Lo scopo di questa argomentazione storica è enunciato da Agostino con la massima chiarezza: «Dov'erano dunque quegli dèi, che si pensa debbano essere venerati a motivo dell'esigua e fallace prosperità di questo mondo, quando i Romani, ai quali si offrivano in venerazione con bugiardissima astuzia, erano afflitti da così tante calamità?»[19]. *Vbi erant?*, dov'erano? Questa domanda retorica viene ripetuta anaforicamente per ben otto volte, a enfatizzare l'inutilità degli dèi nei riguardi delle numerose disgrazie capitate ai Romani. Tra queste, sono ricordate sette *pestilentiae*: nell'ordine,

19 AUGUSTINUS 1955, *De ciuitate dei*, III, cap. 17, 83,46-49.

quella scoppiata mentre era in corso l'ambasceria ad Atene per studiarne le leggi (453 a.C.)[20]; quella durante la quale per la prima volta furono organizzati dei lettisterni (399 a.C.)[21]; quella, già menzionata in L2 e L3, in cui furono istituiti i *ludi scaenici*; quella che fu imputata ai veleni delle matrone (331 a.C.)[22]; quella che colpì l'esercito, quando anche un fulmine si abbatté sui soldati (295 a.C.)[23]; quella in cui si volle far venire Esculapio (ossia la sua statua) da Epidauro a Roma (292 a.C.)[24]; quella che fece morire le donne incinte durante la guerra contro Pirro (276 a.C.)[25]; infine, la grande *pestilentia* che indusse a consultare i libri Sibillini e a restituire al culto pubblico molti templi (266 a.C.)[26].

Il dossier storico delle *pestilentiae* sofferte dall'antica Roma è accurato e impressionante. Agostino lo rende ancora più pungente presentandolo con una spietata ironia sulla vacuità delle divinità adorate dai Romani, come quando ipotizza che essi siano ricorsi ad Esculapio perché Giove Capitolino da giovane era troppo intento a violare donne per imparare la medicina, o quando giustifica Esculapio dal mancato soccorso nella *pestilentia* delle gravide perché egli faceva professione di archiatra e non di ostetrico. La conclusione risulta evidente: per essere difesi dalle *pestilentiae*, il culto degli dèi è inutile oggi così come lo era allora.

Si noti come Agostino, in accordo con le sue fonti, chiami *pestilentia* qualsiasi epidemia, non solo e non necessariamente un'epidemia di peste (significata invece dal termine italiano "pestilenza").

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20 TITUS LIUIUS 1932, *Ab urbe condita*, III, cap. 32, n. 2, 171,37-172,38.
21 TITUS LIUIUS 1932, *Ab urbe condita*, V, cap. 13, n. 4-8, 299,19-35.
22 TITUS LIUIUS 1932, *Ab urbe condita*, VIII, cap. 18, n. 1-11, 472,18-473,13.
23 TITUS LIUIUS 1932, *Ab urbe condita*, X, cap. 31, n. 8, 601,10-13.
24 TITUS LIUIUS 1932, *Ab urbe condita*, X, cap. 47, n. 6-7, 621,15-23.
25 OROSIUS 1991, *Historiae aduersum paganos*, IV, cap. 2, n. 2, 14,4-11.
26 OROSIUS 1991, *Historiae aduersum paganos*, IV, cap. 5, n. 6-8, 18,17-19,9.

L5, AUGUSTINUS 1955, *De ciuitate dei*, III, cap. 31, 97,43-98,52:

> Lucustarum etiam in Africa multitudinem prodigii similem fuisse, cum iam esset populi Romani prouincia, litteris mandauerunt; consumptis enim fructibus foliisque lignorum ingenti atque inaestimabili nube in mare dicunt esse deiectam; qua mortua redditaque litoribus atque hinc aere corrupto tantam ortam PESTILENTIAM, ut in solo regno Masinissae octingenta hominum milia perisse referantur et multo amplius in terris litoribus proximis. Tunc Vticae ex triginta milibus iuniorum, quae ibi erant, decem milia remansisse confirmant.

Il cap. 31 conclude il libro III del *De ciuitate dei* e tira le somme del discorso sviluppato nel libro. Se il cristianesimo fosse sorto prima e fosse stato accolto da Roma durante il periodo repubblicano, i suoi avversari odierni avrebbero imputato tutte le sventure subite dai Romani in quell'epoca all'adesione alla religione cristiana. Come mai essi non li attribuiscono invece agli dèi che i Romani allora veneravano e pretendono anzi che si ritorni a venerarli pubblicamente, se non perché le loro accuse ai cristiani si basano su un pregiudizio?

Ciò vale anche per i *prodigia* dannosi narrati nei libri *historici* dei pagani. Agostino ne ricorda due: un'eruzione dell'Etna, la cui lava fece ribollire il mare, e (nel brano citato) un'invasione di cavallette in Africa, le quali poi precipitarono in mare e, riportate morte sulla spiaggia, corruppero l'aria provocando una devastante *pestilentia che* causò la morte di ottocentomila persone nel solo regno di Massinissa e di ventimila *iuniores* su trentamila nella città di Utica[27]. La causa della *pestilentia* viene indicata qui, seguendo probabilmente la fonte della notizia[28], nella *corruptio* dell'*aer* determinata dalla putrefazione dei corpi delle cavallette.

27 Addirittura 29990, secondo alcuni manoscritti e AUGUSTINUS 1845, 112,7, per i quali i sopravvissuti furono soltanto dieci.

28 Un libro perduto di Tito Livio, verosimilmente. Si veda TITUS LIUIUS 1910, *Liuiani operae periochae*, LX, 73,7.

L6, AUGUSTINUS 1913, *Contra duas epistulas Pelagianorum*, II, cap. 1, n. 1, 461,1-7:

> Neque enim quia Manicheorum morbo non laborant, propterea fidei sanae sunt. Non unum est PESTILENTIAE genus quemadmodum in corporibus ita et in mentibus. Sicut ergo medicus corporis non continuo pronuntiasset a mortis periculo liberum, quem negasset hydropicum, si alio letali morbo perspexisset aegrotum, ita istis non ideo ueritas gratulatur, quia Manichei non sunt, si alio genere peruersitatis insaniunt.

Il libro II del *Contra duas epistulas Pelagianorum* fu composto, come il resto dell'opera, nell'inverno 420-421[29] e inaugura la seconda parte dello scritto, dedicata alla confutazione di una lettera inviata al vescovo di Tessalonica da diciotto vescovi pelagiani, tra i quali Giuliano di Eclano. Questi avevano presentato le posizioni contrarie alla propria (inclusa la posizione di Agostino) come manichee. Agostino osserva che, in realtà, il rifiuto del manicheismo da parte degli antipelagiani come lui è fuori discussione e che non è sufficiente dichiararsi ed essere antimanichei per pensare in maniera pienamente conforme alla fede cattolica. Paragonando un'eresia come quella manichea a un *morbus* e l'ortodossia alla salute, il nostro autore rende ancora più chiaro il concetto: essere liberi da un'eresia non significa necessariamente avere una fede retta, così come non essere idropici non significa necessariamente essere fuori pericolo di morte. Il fatto è che anche nelle menti, così come nei corpi, non c'è un unico genere di *pestilentia*. Qui il termine ha sia un significato letterale (medico), in riferimento ai *corpora*, sia un significato metaforico, in riferimento alle *mentes*. Dal punto di vista medico, risulta confermato che le *pestilentiae* sono di vario tipo, a seconda della malattia che si manifesta collettivamente (non solo epidemie di peste, dunque).

29 ANOZ 2002, 242.

L7, AUGUSTINUS 1898, *Epistulae*, 93, cap. 1, n. 3, 447,25-26:

> Numquid ideo neglegenda est medicina, quia nonnullorum est insanabilis PESTILENTIA?

L'epistola 93, databile al 407 o 408[30], è indirizzata a Vincenzo, vescovo rogatista di Cartenna (oggi Ténès, in Algeria), nella provincia romana della Mauritania Cesariense. Questa lunga lettera è uno dei testi principali in cui Agostino giustifica l'utilità e la legittimità delle misure coercitive per ricondurre i donatisti (e più in generale gli scismatici e gli eretici) nel seno della Chiesa cattolica. L'epistola si apre con l'espressione del rallegramento di Agostino per il fatto che molti donatisti (persino nella loro ala più fanatica, quella dei cosiddetti "circoncellioni"), impauriti dall'applicazione dei provvedimenti imperiali da parte dei vescovi cattolici, si siano ravveduti accorgendosi del loro errore.

La frase citata replica alla possibile obiezione che non a tutti giovano questi sistemi basati sulla paura di subire delle sanzioni temporali (nel caso in questione, si trattava specialmente della confisca dei beni e dell'esilio)[31]. Anche qui, si istituisce un paragone con la medicina. Se un farmaco o un altro rimedio terapeutico si rivelano efficaci per curare un'epidemia, forse che devono essere trascurati soltanto perché alcuni pazienti non ne traggono beneficio? La domanda è retorica e utilizza i termini *medicina* e *pestilentia* in senso letterale, anche se in un contesto di genere morale: la *medicina* e la *pestilentia* a cui si intende fare realmente riferimento non sono quelle intese in senso medico, ma altre, di cui quelle mediche sono una semplice e perspicua metafora.

30 ANOZ 2002, 249.

31 Agostino invece respingeva categoricamente la pena di morte: CATAPANO 2010, 142-143, n. 2.

L8, AUGUSTINUS 1956, *Enarrationes in Psalmos*, 1, cap. 1, 1,8-20:

> Et in cathedra PESTILENTIAE non sedit. Noluit regnum terrenum cum superbia; quae ideo cathedra PESTILENTIAE recte intellegitur, quia non fere quisquam est qui careat amore dominandi et humanam non appetat gloriam. PESTILENTIA est enim morbus late peruagatus, et omnes aut paene omnes inuoluens. Quamquam accommodatius accipiatur cathedra PESTILENTIAE, perniciosa doctrina, cuius sermo ut cancer serpit. Deinde considerandus est ordo uerborum, abiit, stetit, sedit. Abiit enim ille, cum recessit a deo; stetit, cum delectatus est peccato; sedit, cum in sua superbia confirmatus, redire non potuit, nisi per eum liberatus, qui neque abiit in consilio impiorum, nec in uia peccatorum stetit, nec in cathedra PESTILENTIAE sedit.

La prima versione delle *Enarrationes* sui *Salmi* 1-32 risale al breve periodo del presbiterato di Agostino, tra il 392 e il 395[32]. Questo luogo, che sta all'inizio di tutte le *Enarrationes* e commenta il primo versetto del *Salmo* 1, è dunque il più antico tra quelli in cui Agostino usa il nome *pestilentia* in senso medico. Egli lo fa in una sola delle cinque occorrenze del termine qui presenti, al fine di chiarire, partendo dal significato letterale della parola, il significato morale dell'espressione biblica "cathedra pestilentiae" (sulla quale si veda *supra* il § II).

L'occorrenza è particolarmente importante, perché è inserita in una vera e propria definizione della *pestilentia* in senso medico. Questa è «una malattia largamente diffusa e coinvolgente tutti o quasi tutti»; un'epidemia, quindi, o più precisamente una pandemia, poiché è *omnes aut paene omnes inuoluens*. Il carattere pandemico della *pestilentia* simboleggia, metaforicamente, un vizio quasi universale, che nel caso specifico è costituito dall'amore per il dominio e dal desiderio della gloria umana. Da questo vizio, che è quello della superbia, fu immune Cristo, il *uir* che il *Salmo* proclama *beatus* perché, non volendo per sé un regno terreno, non sedette sulla «cattedra della *pestilentia*», per quanto tale espressione possa essere intesa, in modo più appro-

32 ANOZ 2002, 255; FIEDROWICZ 2001.

priato, come «una dottrina perniciosa, il cui discorso serpeggia come un cancro».

L9, AUGUSTINUS 1956, *Enarrationes in Psalmos*, 35, cap. 13, 332,13-15:

> Quando enim illos admonebat, et flagellabat in his omnibus quibus delectabantur, et auferebat ea, patiebantur famem, bella, PESTILENTIAS, morbos, et conuertebantur ad idola.

La datazione dell'esposizione sul *Salmo* 35 (secondo la numerazione della LXX) è problematica: le ipotesi spaziano dal 393-395 al 412[33]. Commentando la seconda parte del versetto 8 («filii autem hominum sub tegmine alarum tuarum sperabunt»), Agostino illustra, in riferimento alla storia biblica del popolo ebraico, la differenza tra i «figli degli uomini» e gli «uomini» menzionati del versetto precedente («homines et iumenta saluos facies, domine»). Questi ultimi sono gli israeliti che desideravano da Dio soltanto gli stessi beni dei giumenti, cioè quelli terreni; quando Dio li toglieva loro per ammonirli a ricercare i beni celesti, essi, patendo «carestie, guerre, *pestilentiae*, malattie», si rivolgevano agli idoli.

Vanno qui notate almeno due cose. La prima è la distinzione tra *pestilentiae* e *morbi*: la *pestilentia* non è una semplice malattia ma, come sappiamo da L8, è un *morbus late peruagans*. La seconda cosa da notare è che essa è conseguenza della provvisoria sottrazione di un bene materiale da parte di Dio, a scopo di correzione morale e spirituale. Come carestie, guerre e malattie conseguono alla sottrazione rispettivamente di cibo, pace e salute, così le *pestilentiae* conseguono alla sottrazione di un bene fisico che, quando è presente, impedisce la vasta diffusione di un certo morbo. Da un punto di vista teologico, il testo sembra suggerire che Dio non invia direttamente calamità quali le *pes-*

33 ANOZ 2002, 255, n. 322.

tilentiae; invece, essendo il datore di ogni bene, a volte ne toglie qualcuno di tipo terreno (come quelli che difendono dalle epidemie) perché non ci si dimentichi che egli ne promette di più grandi, di tipo celeste.

L10, AUGUSTINUS 1961, *Sermones*, 5, cap. 2, 51,66-52,69:

> Attendamus, fratres, numquid non illos flagellat? Numquid non illos corripit? Si non illos corripit, unde fames, unde aegritudines, unde PESTILENTIAE et morbi? Omnes enim istae correptiones dei sunt.

Il sermone 5 potrebbe essere stato predicato a Cartagine nel 403[34]. Agostino espone, nel passo citato, un concetto del rapporto tra Dio e le *pestilentiae* simile a quello espresso in L9: esse (anche qui elencate insieme a carestie e malattie e distinte da queste ultime) sono flagelli con i quali Dio rimprovera esseri umani che ama[35]. Interessante è la distinzione delle *pestilentiae* non solo rispetto ai *morbi*, ma anche rispetto alle *aegritudines*: questi tre termini appartengono tutti al lessico patologico, ma con delle sfumature semantiche che li diversificano. La *aegritudo*, come spiega il Forcellini, «proprie est aegri status», cioè è la condizione in cui si trova chi è ammalato, l'infermità del paziente, il malessere di chi soffre un determinato stato patologico. È, potremmo forse dire, la malattia considerata dal punto di vista del malato più che dal punto di vista (clinico o epidemiologico) del medico.

L11, AUGUSTINUS 1991, *Sermones*, 76, cap. 6, n. 9, 62,146-149:

> Quando enim bella, quando tumultus, quando fames, quando PESTILENTIA, quando cuique hominum, etiam singulo euenit priuata calamitas, tunc putatur uentus aduersus, ibi putatur inuocandus deus.

34 ANOZ 2002, 267.

35 Sarebbe interessante confrontare questa visione con quella esposta da Cipriano nel *De mortalitate*: CIPRIANO DI CARTAGINE 2022. Quella descritta da Cipriano è una pandemia secondo HARPER 2015.

Si può collocare la predicazione del sermone 76 verso il 415[36]. Si tratta di un'omelia che commenta l'episodio evangelico di Gesù e Pietro che camminano sulle acque (*Mt.*, 14, 24-33). Come in L9 e L10, anche nel passo citato – collocato al termine del sermone – è in questione l'atteggiamento nei confronti di varie calamità, tra cui la *pestilentia*. Oltre alle carestie e alle guerre, menzionate pure negli altri due luoghi, qui si fa riferimento ai tumulti. Si pensa che siano proprio simili avversità a essere simboleggiate dal vento contrario di cui parla l'evangelista e che sia dunque al loro verificarsi che Dio debba essere invocato, così come Pietro, impaurito mentre camminava sulle acque agitate del mare di Galilea, invocò il Signore. In realtà, il vento contrario che bisogna temere è quello interiore della *cupiditas*, che soffia più forte quando nel mondo esteriore ci sono tranquillità e prosperità; da esso occorre essere salvati, per non affondare nel *saeculum*.

L12, AUGUSTINUS 1841, *Sermones*, 167, cap. 3, n. 4, 910,48-50:

> Punicum enim prouerbium est antiquum: nummum quaerit PESTILENTIA; duos illi da, et ducat se.

Come data del sermone 167 si sono ipotizzati gli anni 410-412[37]. A conclusione di questa breve predica, che commenta *Ef.*, 5, 15-16, Agostino cita un antico proverbio cartaginese, che egli stesso traduce in latino dal momento che non tutti i suoi ascoltatori conoscevano il punico: «La *pestilentia* cerca una moneta; dagliene due, e se ne vada».

Secondo il vescovo di Ippona, l'insegnamento morale di questo proverbio, in cui il termine *pestilentia* è usato in accezione letterale per veicolare però un significato metaforico, collima con quello del precetto evangelico di lascia-

36 ANOZ 2002, 272. La datazione, tuttavia, non è sicura: si veda DROBNER 2024, 306-308.
37 ANOZ 2002, 278. Anche questa datazione è incerta secondo DROBNER 2024, 582.

re anche il mantello a chi vuole toglierti la tunica (*Mt.*, 5, 40). Si tratta, infatti, di fare buon uso del tempo, lasciando perdere il proprio denaro per vivere i propri giorni in pace con il prossimo e con Dio. Sono sempre soldi ben spesi quelli che ci risparmiano liti e fastidi, così come lo sarebbero quelli che fossero in grado di allontanare una *pestilentia*.

IV. Conclusioni

Agostino, com'è ben noto, non era un medico e non era particolarmente interessato alla medicina né sul piano scientifico né su quello pratico. Egli, tuttavia, sapeva osservare con attenzione il modo in cui i medici si esprimevano ed esercitavano la loro professione e spesso ne traeva spunto per veicolare ammaestramenti morali e teologici[38]. Il suo uso del termine *pestilentia* non fa eccezione: egli mostra di conoscerne con esattezza il senso medico-epidemiologico e la differenza semantica rispetto ad altri termini del lessico patologico, come *morbus* e *aegritudo* (L9, L10). La sua definizione della *pestilentia* come «malattia largamente diffusa e coinvolgente tutti o quasi tutti» (L8) è ineccepibile, così come è estesa e precisa la sua conoscenza storica delle *pestilentiae* che colpirono gli antichi Romani (L4). Agostino è consapevole che una *pestilentia* in breve tempo può mietere moltissime vittime (L5) o costringere chi ne è colpito a non muoversi da casa (L1). Le *pestilentiae* non sono di un unico genere (L6) e ve ne sono alcune per le quali esiste una *medicina* efficace, benché non su tutti (L7). Sulla base delle sue fonti, egli ritiene che una *pestilentia* possa essere causata anche da una gran quantità di cavallette morte che ammorbano l'aria (L5). Il rapporto tra la *pestilentia* e il divino è variabile: mentre i se-

38 Si vedano le eccellenti voci enciclopediche di BOCHET 2010 e BOCHET 2012, con la bibliografia ivi citata. A questa si possono aggiungere i seguenti studi: BERNARD 2012; BURT 2007; DAGEMARK 2010; DJUTH 2016(1); DJUTH 2016(2), 63-83; GARCÍA ÁLVAREZ 2020; WEBER 2013.

dicenti dèi (in realtà demoni) furono del tutto inerti nel far cessare le *pestilentiae* abbattutesi su Roma, approfittandone invece per farsi celebrare dei *ludi* che provocarono negli animi una *pestilentia* morale ben più grave di quella fisica (L2, L3, L4), il Dio di Israele si servì di calamità quali le *pestilentiae* come rimproveri per fustigare un eccessivo attaccamento del suo popolo ai beni terreni (L9, L10). Non è tanto in quelle avversità che Dio va invocato, quanto piuttosto nelle tempeste interiori suscitate dalla *cupiditas* (L11), pronti a spendere anche il doppio del necessario pur di ottenere in cambio la serenità e la pace (L12).

Rientriamo, per concludere, nell'esperimento mentale fatto all'inizio. Dovendo riferire al suo gregge il comportamento degli italiani nel drammatico frangente della prima ondata di Covid-19, il vescovo di Ippona forse avrebbe elogiato la loro sorprendentemente disciplinata osservanza del confinamento imposto dalle autorità, l'avrebbe citata come esempio di applicazione della saggezza antica contenuta nel proverbio punico enunciato in L12, e avrebbe concluso esortando i fedeli a contrastare con almeno altrettanto impegno le *pestilentiae* dell'animo. In fin dei conti, non c'è nulla di nuovo sotto il sole.

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Heat and Moisture. From the Classification of Fevers to the 'Truth of Human Nature'

Gabriella Zuccolin

Abstract: The first part of the essay examines the different premises, of Aristotelian and Galenic origin, for the idea of an inherent consumption of the natural heat of every living body, discussing the contributions of Isaac Israeli, Avicenna and Averroes to the reflection on the relationship between the secondary humours (or moistures) and the peculiar category of fevers called 'hectic'. The second part of the article discusses how the link between moisture, heat and food was taken up and elaborated by Latin Scholastic masters (in particular Thomas Aquinas), and considers the use of the notion of 'radical moisture' in the field of theology. Aquinas does not follow the previous theological tradition, originating with Peter Lombard, which denies the possibility that the matter assimilated through food is part of the bodily core that belongs to every human being from birth. The moisture provided by food is, in fact, inseparable from the (radical) moisture that originally belongs to each individual; as such, it is part of the 'truth of human nature' (*veritas humanae naturae*) that will be restored at the moment of the resurrection of the body.

Keywords: Aristotle; Galen; Isaac Israeli; Avicenna; Averroes; Thomas Aquinas; taxonomy of fevers; hectic fever; taxonomy of moistures; radical moisture; innate heat; truth of human nature.

1.

In justifying the varying (natural) length of human life, Dante refers in the 4th treatise of the *Banquet* to the quantity and quality of the radical moisture that is specific to each individual:

> Ed è da sapere che questo arco [di giù, come l'arco] di su sarebbe equale, se la materia della nostra seminale complessione non impedisse la regola della umana natura. Ma però che l'umido radicale [è] meno e più, e di migliore qualitade [e men buona], e più ha durare [in uno] che in uno altro effetto – lo quale [è] su-

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> bietto e nutrimento del calore che è nostra vita –, aviene che l'arco della vita d'un uomo è di minore e di maggiore tesa che quello dell'altro (Cv IV XXIII 7).[1]

Dante is writing here in the context of the complex explanation of the biological and embryological conditions that, together with celestial influence, predispose to nobility.[2] His words are evidence of what has been called the "presenza ubiquitaria e consistente"[3] of the notion of radical moisture, not only in medicine, but also in medieval (and scholastic in particular) philosophy and theology. Ultimately, radical moisture is the fundamental principle (and at the same time the main indicator) of the existence of every living thing, man included: life and the duration of life depend, in natural terms, on the relationship between moisture and heat, or, more precisely, on the consumption of radical or original moisture by vital heat.[4]

In what follows, drawing on some of my earlier work,[5] I would like to try to retrace some fundamental junctures in the history of the notion of radical moisture in medieval medical and philosophical thought. I will dwell in particular – taking the point of view of Thomas Aquinas – on the question of how moisture can be partly restored through nutrition and how it contributes to what essentially defines the identity of each human being (i.e., to use the technical expression, the *veritas humanae naturae*).

1 NARDI 1967.
2 See, e.g., PORRO 2019.
3 See CRISCIANI, FERRARI 2010, 343.
4 HALL 1971; MCVAUGH 1974; FERRARI 2005 and CRISCIANI 2005; FERRARI 2013. On radical moisture, see also REYNOLDS 1999; DUNNE 2009; POMATA 2018; BENEDUCE 2019.
5 ZUCCOLIN 2022 and ZUCCOLIN 2020.

2.

Medieval authors refer to radical moisture in at least three areas: the duration of life; a specific pathology, that of a class of fevers; and the theological issue of the numerical identity between the living body and the resurrected body. The origins of the medieval discussions on moisture typically depend (in both the Arabic and Latin contexts) on the confluence and overlapping of elements from the Aristotelian and Galenic traditions. Already present in the Hippocratic corpus, the polarity between heat and moisture is explicitly thematised in several places by Aristotle, in particular in the *Parva naturalia*. In *De longitudine et brevitate vitae*, the loss of moisture (desiccation) is seen as the decay of living beings (old age, and ultimately death):

> We must remember that an animal is by nature humid and warm, and to live is to be of such a constitution, while old age is dry and cold, and so is a corpse. This is plain to observation. But the material constituting the bodies of all animals consists of the following—the hot and the cold, the dry and the moist. Hence when they age they must become dry, and therefore the fluid in them requires to be not easily dried up. […] Again the humid element in animals must not be small in quantity, for a small quantity is easily dried up. This is why both plants and animals that are large are, as a general rule, longer-lived than the rest, as was said before; it is to be expected that the larger should contain more moisture.[6]

But the quantity of moisture alone is not enough to ensure a longer life; as we learn in Dante, the quality of the moisture, that is to say its ability to resist desiccation, is also important. Moisture and heat are not understood, in this context, as merely opposing principles. Rather they are synergetic, so much so that Aristotle specifies that "moisture must be not only great in amount but also warm, in order to be neither easily congealed nor easily dried up."[7]

6 *De longitudine et brevitate vitae*, 5, 466a18–8; ARISTOTLE 1984, vol. 1, 1631.
7 *De longitudine et brevitate vitae*, 5, 466a30–32; ARISTOTLE 1984, vol. 1, 1631.

Indeed, even heat can help prevent desiccation; for example, if it originates from fat. On the other hand, the degeneration and progressive corruption of living bodies are favoured by the accumulation of residues (which also belong to the sphere of 'moisture'): the excess of superfluous material determines the onset of disease and can ultimately lead to natural death. "This is why" – as Aristotle adds (taking up another Hippocratic principle) – "animals that copulate frequently and those abounding in seed age quickly; the seed is a residue (περίττωμα) , and further, by being lost, it produces dryness."[8] Fatigue also contributes to desiccation. Aristotle, in this way, understands warm moisture as the cause of growth and life.[9] However, Aristotle also concedes that heat can consume its own matter:

> Both plants and animals perish if not fed, for in that case they consume themselves; just as a large flame consumes and burns up a small one by using up its nutriment, so the natural warmth which is the primary cause of digestion consumes the material in which it is located.[10]

The basic idea is that the natural heat of living beings prevails over hot moisture. Natural heat does this in the way that a larger flame absorbs and consumes a smaller one, taking away from it what feeds it (the fuel, i.e., in this case, the moisture).[11] The connection between heat and moisture is clear in Aristotle's *De iuventute et senectute, de vita et morte, de respiratione*, where it seems that it is innate natural heat – rather than moisture – that is to be used up gradually until death: "in animals all the members and the whole body possess some connate natural heat, and hence when alive they are observed

8 *De longitudine et brevitate vitae*, 5, 466b7–9; ARISTOTLE 1984, vol. 1, 1632.
9 *De longitudine et brevitate vitae*, 5, 466b21–22.
10 *De longitudine et brevitate vitae*, 5, 466b28–33; ARISTOTLE 1984, vol. 1, 1633.
11 That the nourishment of heat, and of every vital process in general, is moisture, is specified by Aristotle in several places. See e.g. ARISTOTELES 1957, *Metaphysica*, I, 3, 983b20–24.

to be warm, but when dead and deprived of life they are the opposite."[12] This apparent contrast is explained by the fact that heat can be extinguished in two ways, namely by consumption or by actual extinguishing:

> However, it is to be noticed that there are two ways in which fire ceases to exist; it may go out either by exhaustion or by extinction. That which is self-caused we call exhaustion, that due to its opposite is extinction. But either of these ways in which fire ceases to be may be brought about by the same cause, for, when there is a deficiency of nutriment and the warmth can obtain no maintenance, the fire fails; and the reason is that the opposite, checking digestion, prevents the fire from being fed.[13]

But when it is not the opposite principle that causes the extinguishing, it is the heat itself that is self-extinguishing by consuming what feeds it:

> But in other cases the result is exhaustion – when the heat accumulates excessively owing to lack of respiration and of refrigeration. For the heat, accumulating in great quantity, quickly uses up its nutriment and consumes it all before more is sent up by exhalation.[14]

Here, perhaps for the first time in the long history of writing on the interaction between heat and moisture, the example of the lantern appears. This image would later be declined in very different ways in medieval compositions on radical moisture:

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12 *De iuventute et senectute, de vita et morte, de respiratione,* 4, 469b6–10; ARISTOTLE 1984, vol. 1, 1644. See also 469b18–20: ARISTOTLE 1984, vol. 1, 1644: "Hence, of necessity, life must be simultaneous with the maintenance of heat, and what we call death is its destruction."

13 *De iuventute et senectute, de vita et morte, de respiratione*, 5, 469b21–27; ARISTOTLE 1984, vol. 1, 1644.

14 *De iuventute et senectute, de vita et morte, de respiratione*, 5, 469b27–31; ARISTOTLE 1984, vol. 1, 1644–1645. And a little further on (*De iuventute et senectute, de vita et morte, de respiratione*, 14, 474b20–22; ARISTOTLE 1984, vol. 1, 1659): "if there is too much heat close at hand and the thing burning does not have a fresh supply of fuel added to it, it goes out by exhaustion, not by the action of cold."

> Hence not only is a smaller fire readily put out by a larger one, but of itself the lamp's flame is consumed when inserted in a large blaze, just as is the case with any other combustible. The reason is that the nutriment in the flame is seized by the larger one before fresh fuel can be added […].[15]

For Aristotle, then, the case of the oil lamp is just a more specific example of what we read in *De longitudine e brevitate vitae,* namely that a larger fire extinguishes a smaller one by taking from it what feeds it (this example will take on a different meaning – as we shall see – in the Galenic tradition). If, therefore, heat is extinguished by the opposite quality (cold), it is consumed when it is excessive: hence the need for cooling, which is ensured by respiration. Desiccation – the dissolution of vital moisture – is thus a process that can be attributed to the overwhelming prevalence of heat itself, which consumes all its substrate, i.e. to self-dissolution:

> The source of life is lost to its possessors when the heat with which it is bound up is no longer tempered by cooling, for […] it is consumed by itself.[16]

It is, therefore, not surprising that, in the Galenic tradition, the theme of the imbalance in the balanced relationship between heat and moisture is linked to the treatment of febrile pathologies. There excessive, hence unnatural (and somewhat extrinsic) and aggressive heat comes into play. The Galenic approach starts from a different assumption than the Aristotelian one, as Niebyl has already shown:[17] natural or innate heat (*émphutos*) is always temperate, while acquired heat (*epíktētos*) is non-temperate (*akratos*) and indeed almost

15 *De iuventute et senectute, de vita et morte, de respiratione*, 5, 469b31–470a1; ARISTOTLE 1984, vol. 1, 1645.
16 *De iuventute et senectute, de vita et morte, de respiratione*, 23, 479a7–10; ARISTOTLE 1984, vol. 1, 1671.
17 See NIEBYL 1971.

igneous (*purōdes*).[18] Such an approach inevitably downplays the idea that one can speak of intrinsic consumption or corruption of the natural heat proper to every living thing: a natural principle cannot in itself be destructive, let alone lead to nefarious outcomes. In his treatise on marasmus, Galen thus polemizes against those who admit the self-extinction of heat by the progressive consumption of the moisture on which it feeds, and compares innate heat to fire or flame:

> It is claimed by some people that, in the same way, the heat within us, being inseparable from the body, as if it were inseparable from some substance, is originally humid and weak; but as the body reaches the prime of life, the heat grows and acquires its greater strength, and acts in the same way as do the flames of a fire. Shortly, though, in old age, the heat starts fading because of lack of fuel, and it finally goes out completely in death. This explanation is accepted by almost all the newer philosophers and physicians, although it is not true; and if I am to judge a comparison of the flames of a fire to the heat of the animals, I do not quite understand, namely, how one can compare the destruction of matter by fire with the creation of matter by the internal heat of the animals. For what is seen happening in the case of a fire does not happen in growing animals which are instead controlled by their innate heat, which is constantly spreading and carrying powers other than those which are its direct results.[19]

The metaphor of fire, which we have seen used explicitly by Aristotle, is thus in Galen's eyes entirely inappropriate: it is an error to confuse the formative and constructive action of innate heat with the destructive action of fire.[20] It is true that Galen, with hermeneutic charity, acknowledges that Aristotle would have distinguished intrinsic heat from extrinsic fire or fire as an element, on

18 See GALENUS 1825(1), *De causis pulsuum*, III, 129.

19 Quoted from THEOHARIDES 1971, 375–376.

20 See also, for example, GALENUS 2011, *Method of Medicine*, 141 (GALENUS 1825(2), *De methodo medendi*, XI, 753): "What, then, is the nature of putrefaction? It is the change of the whole putrefying substance of the body toward corruption due to external heat. For it is surely not due to its own heat that something is corrupted; on the contrary, each and every living thing is increased, strengthened, made healthy and lives when governed by its own heat."

the basis of the distinction between the 'digestive' function of innate heat and the corruptive or putrefactive nature of extrinsic or elemental fire.[21] But it is also clear that, unlike Aristotle, Galen focuses his attention primarily on pathological, extrinsic alterations in the balance between heat and moisture.

External heat is generally produced by fevers. To be more precise: if *marasmus* (*marasmós*, a term used by Galen alongside the more common *máransis*, 'withering') refers to the corruption of the human body by desiccation, we must distinguish between simple atrophy (due, for example, to lack of nourishment) and more complex atrophy associated either with cold – in the case of ageing – or with heat – in the case of 'consumptive' or 'hectic' fevers. The term used by Galen – *hektikós* – derives from *héxis*, 'habit': fevers that, through their unnatural heat, consume the living body's own moisture are thus 'habitual' fevers (as opposed, for example, to 'ephemeral' ones). This febrile state is the final stage in a process that successively affects the moisture on which the solid limbs feed, then the soft parts, and finally the more solid limbs. Such a course is actually described in slightly different terms in the works of Galen, for instance, in the aforementioned *De marasmo* (written before the death of Marcus Aurelius, that is, before 180) and in the *Methodus medendi*, book X (whose writing is usually placed, together with Books VII–XIV, after 193). In the first case, Galen seems to be referring to two distinct affections (which would give rise to two different temperaments), one relating to the moisture that nourishes the soft parts, and the other to the moisture that nourishes the solid parts:

> There are two different temperaments of people who become thin in this way, and they must be discussed separately. Thus, one wasting affection arises when the humor of the solid parts, which we call the proper nourishment of these

21 See GALENUS 1824, *De differentiis febrium,* XI, 374–375.

> parts, perishes, afterwards the soft fleshy parts are liquified; the other affection attacks the solid parts, which we call both primary and homogeneous. This latter case is incurable, just as is aging. The first case is dangerous, but by no means incurable.[22]

In *De methodo medendi*, however, the idea of a more or less linear progression between three different stages is suggested:

> In the first place, such a fever consumes the proper moisture [*tèn oikeían ikmáda*] of the parts from which they are nourished. From here, it passes to the fleshy class, which grows around the fibrous and membranous parts of the solid bodies. Then, in this way, it also involves the solid parts themselves.[23]

In any case, the last phase – the one that leads to pathological marasmus (and not to 'physiological' marasmus, due to ageing) – is due to the persistence of the 'hectic' or habitual fever, which erodes the proper moisture inherent in solid limbs. In *De differentiis febrium* (which, like *De marasmo*, is usually dated to the second Roman sojourn, before the death of Marcus Aurelius) the characteristic element of 'hectic' fevers is precisely that they affect the solid parts, unlike putrid fevers which affect the primary humours (blood, phlegm, yellow bile and black bile).[24] In the same work, Galen uses the example of the oil lamp, mainly to liken the desiccation of the heart to that of a wick that has been lit too many times: not even sprinkling it with oil would rekindle the flame.[25]

22 THEOHARIDES 1971, 383.
23 GALENUS 2011, *Method of Medicine*, 107 (GALENUS 1825(2), *De methodo medendi*, X, 730).
24 See GALENUS 1824, *De differentiis febrium*, I, c. 9, 304.
25 See GALENUS 1824, *De differentiis febrium*, I, c. 10, 314.

3.

In the Arabic and Latin Middle Ages, this Galenic line to some extent imposes itself, overlapping with Aristotelianism, albeit through bumpy events that have been reconstructed by McVaugh, Crisciani and Ferrari.[26] The *De differentiis febrium* was translated into Latin by Burgundio of Pisa in the second half of the 12th century. The *De methodo medendi* was also translated into Latin (twice) in the 12th century: by Gerard of Cremona, under the title *De ingenio sanitatis* (according to the attribution of several manuscripts, despite the fact that the work does not appear in the list of Gerard's translations compiled by his pupils), and by Burgundio da Pisa, under the title *Terapeutica*, limited to Books VII–XIV.[27] However, a widely circulated paraphrase of the work (translated from Arabic) by Constantinus Africanus was already known, under the title *Megategni*, from the last quarter of the 11th century. And even earlier – from the beginning of the 11th century – Isaac Israeli's *Liber febrium* circulated in the West. This, as McVaugh again points out,[28] is the first text to convey the Galenic taxonomy of fevers in the Latin world, and along with it the idea that a particular type of fever (the 'hectic' ones, which generally become *ethicae* in Latin) affects the moisture found in the organs of the human body; ephemeral fevers, note, affect the spirits, and putrid fevers the primary humours.

An element that becomes characteristic, starting with the *Liber febrium*, is the intersection or overlap between the doctrine of bodily moisture and dis-

26 See *supra*, n. 3 and 4.

27 The translation would be continued by Pietro d'Abano in the following century. Burgundius was also responsible for the translation of books III–IV of *De causis pulsuum*. As for *Ad Glauconem de methodo medendi*, it was accessible in Latin, under the title *De febribus ad Glauconem*, thanks to an anonymous translation made as early as the 5th–6th century, but one that is rather different from the Greek original.

28 McVaugh 1974, 259–261.

cussion of the different types of digestion. Food undergoes three distinct processes of digestion or 'coction' in the human body: the first takes place in the stomach; the second in the liver, and produces the venous blood; the third is that which takes place from the venous blood and ends with the complete assimilation of the nutritive moisture into the solid organs of the body. This third process of digestion can be further divided into four stages, although the first two are still properly preliminary: in the first, the moisture flows through the veins waiting to be assimilated (i.e., to be drawn or attracted by the various organs); in the second, it is distributed in the cavities between the organs; in the third, it is in the organs (and this is the beginning of the third digestion *stricto sensu*), but it is not yet fully assimilated and coagulated, as is observed in the soft parts; in the fourth, the moisture is fully assimilated into the solid organs of the body.

Three different species of 'hectic' fever are distinguished on the basis of these four phases (*Igitur quia corporea humiditas quadruplex est, necessario species ethice tres sunt*). The parallel described in the *Liber Febrium* is that between the fourth moisture, fully assimilated in the solid part, and ripe wheat or raisins, which does not in itself render these substances rotten, but rather protects them from rotting.[29] We can try to schematise these phases as follows:

29 ISAAC ISRAELI 1515, *Liber de febribus*, f. 208rb (folium erroneously numbered as 198): "Ethica vero quattuor modis est. Causa est, quia humores sunt quattuor. Unus est in vasis sanguineis [*ed.:* sanguineus] sicut humor in venis existens sicut humiditas arborum terrequenascentium [*sic*] permanens in summitatibus eorum, velut humiditas in ramis vitis existens. Secundus est humiditas existens in concavitate membrorum, in quibus natura nondum tertiam fecit digestionem, nec eam membris assimilavit, sicut est aquosa humiditas que est in arboribus et terrenascentibus, et velut humiditas que est in frumento et uvis nondum maturis. Tertius humiditas est membrorum in quam natura incepit operare, sed tamen non coagulavit neque perfecit eam sicut est caro tenera que non est membris assimilata, et sicut humiditas frumenti que cepit coagulari et saporifera fieri, et mollis tamen adhuc permanet et humiditas uve coagulari et dulcis fieri incipiens, sed tamen non est desiccata nec ad duriciem conversa. Quartus est humiditas membra regens et custodiens sicut humiditas in membris coagulata, et ad duriciem conversa et cum membris unum effecta, sicut humiditas frumenti assimilata, illud ne putrefiat cu-

Third digestion	Preparation	Moisture inside the veins	Moisture within tree branches	
		Moisture in the cavities of organs	Moisture inside unripe wheat and grapes	First species of 'hectic' fever. Curable
	Completion	Moisture inside the organs, but not yet assimilated	Moisture in wheat and grapes as they begin to ripen and develop flavour	Second species of 'hectic' fever. Curable
		Coagulated moisture inside the organs, allowing them to be preserved	Fully assimilated moisture in ripe wheat and grapes	Third species of 'hectic' fever. Incurable

The numerical discrepancy between the types of moistures and the species of fever can be explained by considering that the first type of moisture is still in the blood – a humour which, as already mentioned, is the subject of putrid fevers, and not of 'hectic' ones. The third species of 'hectic' (or habitual or 'ethical') fever is incurable. This is because the unnatural heat induced by the fever itself (and spread through the body by the heart, as is the case with natural heat) works on the moisture assimilated in the organs. It does so in the same way as the heat of the sun works on stone and wood, producing, albeit over a much longer period of time, the same effects as elemental fire. These

stodiens, et sicut humiditas uvarum passarum substantiam earum ne putrefiant observans. *Igitur quia corporea humiditas quadruplex est, necessario species ethice tres sunt*. Una est humiditas in membris permanens, in qua natura nondum tertiam digestionem operata est, neque membris eam assimilavit. Secunda membrorum est humiditas qua operari natura iam incepit, sed tamen non coagulavit neque eam perfecit. Tertia est substantialis humiditas qua reguntur et custodiuntur membra" (the italic is mine). See also FERRE, DELGADO 2015.

effects would be the calcining of stones and the reduction of wood almost to ashes, which is equivalent to desiccation in inanimate compounds.[30] It is no coincidence that in the modern age, *phthisis* – that is consumption and general deterioration – will be considered a paradigmatic form of 'hectic' or habitual fever, such as to compromise the patient's general condition.

The connection between the processes of digestion or 'coction' and moisture that appears in Isaac Israeli is found a few decades later in Avicenna's *Canon*, which was to become one of the main, if not the main, conduit for Greek-Arabic discussions on the role of moisture(s) in the Latin West. The most innovative aspect of Avicenna's approach is his choice to address the question of the function of moisture not only in connection with febrile pathologies, but in the presentation of the basic concepts of medical science and the constitution of the human body. Avicenna, in short, proposes a *physiology*, and not just a *pathology* of moisture. Consider his general definition of humour or moisture: "Humor est corpus humidum liquidum in quod in primis nutriens convertitur", "Humour [or moisture] is a liquid humid body into which nourishment is transformed in first instance."[31] It is no coincidence that this is immediately followed by the distinction between good and bad humours:

> Eius vero est humor bonus, et est illud de cuius proprietate est ut fiat pars substantie nutriti solus vel cum alio, et assimilari ei solus vel cum alio, et in summa materia restaurationis eius quod ex ea dissolvitur. Et eius superfluitas est humor malus est quod istud agere non convenit, aut raro in bonum convertitur honor, unde antea a corpore expelli et proijci debet.[32]

30 ISAAC ISRAELI 1515, *Liber de febribus*, f. 208va.
31 AVICENNA 1507, *Canon medicinae*, I, fen 1, doctr. 4, c. 1 ("Quid sit humor et eius divisiones"), f. 4va.
32 AVICENNA 1507, *Canon medicinae* I, fen 1, doctr. 4, c. 1, f. 4va.

The 'good' humours, then, are those which become part of the substance of the person who takes food, are assimilated and that contribute to the restoration of what is constantly being consumed or dissolved. The 'bad' humours are those which do not fulfil this function, and thus constitute superfluous residues whose accumulation is harmful to the organism. On the basis of this definition, Avicenna proposes a taxonomy of the organic humours, which has the great merit of explicitly coordinating, perhaps for the first time, the four primary humours with the other humours of the human body, subdivided precisely into *superfluitates* and *non-superfluitates*.[33] The more complete picture that can be drawn is as follows:

primary humours	secondary humours	
blood	non-superfluous	superfluous
yellow bile black bile phlegm	1. humour contained in the pores of the extremities of the small veins supplying the simple organs	expelled from the body
	2. humour spread through the simple organs like dew (*ros*), suitable for conversion into nourishment	
	3. humour already converted into the substance of the organs as for its	

33 AVICENNA 1507, *Canon medicinae*, I, fen 1, doctr. 4, c. 1, f. 4va: "Et que sunt non superfluitates sunt humores qui a principali dispositione conversi membris delegati fuerunt: sed nondum alicuius membrorum simplicium operatione perfecta pars effecti sunt: quorum sunt quatuor species. Una est humor in foraminibus extremitatum parvarum venarum contentus membris simplicibus propinquarum inbibentium eam. Alia est humor per omnia simplicia [*ed.:* simplicibus] transiens membra, sicut ros qui in nutrimentum converti est aptus cum corpus nutrimento caret, et ut membra humectet cum aliqua causa, fortis motus aut alia, ea exiccaverit. Tertia est humor qui parum ante congelatus fuit, et est nutrimentum quod in substantia membrorum ex parte complexionis conversum est. Sed ex parte essentie complete et similitudinis nondum conversum fuit. Quarta est humor qui est intus in membris simplicibus a principio nativitatis per quem partium eorum continuitas existit, cuius principium est ex spermate. Spermatis vero principium est ex humoribus."

	complexio, but not as far as complete essence and similarity are concerned	
	4. humour contained in the simple organs from birth, originating from sperm and ensuring the continuity of the parts	

The most problematic aspect of this arrangement seems to be the transition between the third and fourth non-superfluous secondary humidities. It is not quite clear, in fact, whether the fourth moisture (which has the fundamental function of ensuring the continuity of the organs, and thus coincides with what is called *stricto sensu* 'radical moisture') is a product of the further transformation of the third moisture, and the final result of the third digestion, or whether it is instead something present from birth (*a principio nativitatis*). It would, in that case, originate from the paternal semen (*cuius principium est ex spermate*), as Avicenna wrote. Since the sperm itself originates from the (primary) humours, the moisture derived from it would come both before and after the secondary humours (and this, in turn, raises the question of whether it is actually possible to restore, through nutrition, this original moist nucleus). The same classification of (non-superfluous) secondary humours or humidities is proposed again when Avicenna discusses the different types of fever in Book IV of the *Canon*.[34] Here Avicenna distinguishes:

34 AVICENNA 1507, *Canon medicinae*, IV, fen 1, tract. 3, c. 1, f. 413va–b: "Iam scivisti quod in membris sunt humiditates diversarum specierum de quibus sunt humiditates preparate ad nutriendum et humectandum iuncturas. De illis ergo est illud quod est repositum in venis, et de illis est illud quod est spacium in membris sicut ros. Et istae sunt due divisiones. Et prima earum est materia febris putredinis, aut febris ebullitionis […]. Et de illis sunt humiditates proximi temporis coagulationi, et sunt humiditates quae fiunt actu nutrimentum, scilicet attracte ad locum quod est permutatio eius quod est de eo resolutum, et fiunt additio in eo similis illi, verumtamen tempus cursus earum propinquum est, ergo sunt non coagulate. Et de eis sunt humiditates cum quibus continuantur partes membrorum similium partium a principio creationis et per ipsarum destructionem perveniunt ad separationem."

1. the moisture contained in veins,
2. the moisture located in the interstitial spaces between the organs,
3. the moisture close to coagulation, which is nourishment *in actu*,
4. the moisture that ensures the continuity of organs.

However – as with Isaac Israeli's *Liber febrium* – the correlation between the four types of moisture and the different types of fever is not entirely clear, at least in the Latin version of the *Canon*. At first, the fever that concerns the first moisture is defined as *febris putredinis* or *ebullitionis*: and putrid fevers, as noted above, are traditionally considered to be those that attack the primary humours. But Avicenna seems to be referring here in a clear way to the first 'division' of the secondary humours. Immediately afterwards, then, Avicenna introduces a tripartition of 'hectic' fevers, which at first glance seems ill-suited to the quadripartition of secondary humours:

> Verum dum ipsa permanet finiendo humiditates que sunt in digestione prima [*McVaugh*: in divisione prima][35] in membris, et proprie cordis, sicut finit candela oleum infusum in lucerna, tunc est gradus primus appropriatus nomine generis quod est ethica, et grece ecteticos cum non habeat in speciebus suis nomen. Et cum finit humiditates quae sunt divisionis prime et incipit resolvere humiditates que sunt divisionis secunde et finire eas sicut finit flamma oleum evacuatum in lucerna, et incipit finire imbibitum in corpus lichinii erit gradus secundus […]. Cum ergo finiuntur istae et incipit finire humiditates quae sunt divisionis tertiae sicut incipit flamma adurere corpus lichinii et humiditates eius radicales est egritudo gradus tertii […].[36]

35 One might indeed be tempted to read with McVaugh *in divisione prima* instead of *in digestione prima*, on the basis of what is found in other editions of the *Canon* (which bear *divisionis prime membrorum*), and by analogy with the two occurrences of *divisio* to be found in the immediately following lines of this quotation. See McVaugh 1974, 267, n. 20. In this way, however, the *divisiones* would in no way correspond to those set out at the beginning of the same chapter 1 of treatise 3 of *Canon* IV.1, which we read in the previous passage.

36 Avicenna 1507, *Canon medicinae*, IV, fen 1, tract. 3, c. 1, f. 413vb.

It is probable that Avicenna is referring here to the three successive stages of 'digestion' of nourishment *in the organs* (starting with the action of the heart): i.e. to the last three secondary humidities, leaving aside the moisture contained in the veins, whose febrile pathology – insofar as it still essentially concerns the blood – would fall precisely into the class of putrid fevers. In short, following Isaac Israeli, the first *digestio* here would not be the first in absolute terms, the one that takes place in the stomach. Rather it would be the first of the stages of the third digestion that begins to affect the organs, thus – to further increase the difficulty of this Latin text passage – the second of the four stages previously individuated within the third digestion itself[37]. These three stages correspond, then, to three degrees – progressively more serious – of 'hectica' fever, considered as a *genus* in itself (*nomine generis*).[38] The first of these degrees, which is the least serious, is compared by Avicenna to the consumption of the oil poured into an oil lamp. The second degree is likened to the consumption of the oil soaking the wick itself. The third – the fatal one – corresponds to the desiccation of the moisture that holds the fibres of the wick together, ensuring its continuity.[39] The image of the dried wick is already to be found, as we have seen, in Galen's *De differentiis febrium*, but Avicenna makes a substantial transformation of the metaphor of the oil lamp: the radical moisture, or rather the *humiditates radicales* in the plural, according to the lexicon of the Latin tradition of the *Canon*, is/are made to correspond to the intrinsic moisture of the wick, and not to that provided by the oil that feeds the oil lamp and that impregnates the wick itself.

37 This seems to me to be the interpretation of Hall, 'Life, Death and the Radical Moisture', in particular at 4–5.

38 McVaugh 1974, 267, n. 20 reads and transcribes *nomine granis*, instead of *nomine generis*.

39 See Avicenna 1507, *Canon medicinae*, IV, fen 1, tract. 3, c. 1, f. 413vb: "Et similitudo humiditatum primarum est oleum lucernae infusum in lucerna, et similitudo secundarum est oleum imbibitum in corpore lychinii. Et similitudo tertiae humiditatis est humiditas qua continuantur partes cotti de quo factus est lychinius."

The relationship between secondary humours and the distinctive category of febrile illnesses designated as 'hectic' fevers is substantiated by Avicenna on the basis of a more traditional tenet, namely that deterioration and death can be reduced to two fundamental factors: the *resolutio* of the moisture *ex qua creati sumus* (which is intrinsic to our being, not least due to its spermatic origin), and the alteration, corruption, or decay of the primary humours. The desiccation of the vital humours can, in turn, be brought about in two distinctive ways: either by intrinsic heat (as a consequence of the ageing process) or by externally induced heat (as is the case with 'habitual' fevers).[40]

4.

Despite the opacity regarding the origin of radical moisture (which, as mentioned, seems to be due as much to the semen as to the completion of the process of third digestion), the Avicennian arrangement of 'non-superfluous' secondary moistures is the one destined to prevail in the Latin West. The Avicennian approach has, in fact, the dual advantage of framing the subject of moistures in a broader context, not limited to the consideration of a particular class of fevers, while at the same time consolidating the link between 'hectic' fevers and digestion in a more coherent way. In Constantine

40 See AVICENNA 1507, *Canon medicinae*, I, fen 3, doctr. 3, c. 1 ("De causis sanitatis et egritudinis et necessitatis mortis"), ff. 52vb–53ra. But in a symmetrical way, an excess of moisture from outside also compromises or extinguishes natural heat, just as – to stay with the oil lamp metaphor – adding water to oil risks extinguishing the flame: f. 53ra: "Flamma namque duas habet humiditates, aquam et oleum: una quarum consistit, et altera extinguitur. Similiter calor innatus in humiditate consitit naturali et ab augmento extranee extinguitur, que provenit ex debilitate digerendi et est sicut aqua humiditas flamme, et cum siccitas ad complementum accidit calor innatus extinguitur et mors subsequitur naturalis. Corpus autem non permanet tempore quo perdurat nisi propterea quod ipsius innata humiditas prima resolutioni resistit caloris mundani et caloris sui corporis in natura sui."

Africanus' *Pantegni* – a translation/reworking of the *Kitāb al-malikī* or *Liber regalis* of Haly Abbas (ʿAlī ibn ʿAbbās al-Maǧūsī), the circulation of which in the Latin world preceded that of the *Canon* (translated by Gerard of Cremona in the 12th century) – one does indeed find a terminological and conceptual oscillation between *febris ethica* and *phthisis*. In the theoretical part of the work, *ethica* serves as the genus that encompasses both aging and febrile pathology (referred to as *phthisis*); in the practical part, the terminology is reversed, with *phthsis* instead constituting the general term, of which aging and *febris ethica* are the main subdivisions. Nevertheless, the *Pantegni* played an important role in introducing into Latin vocabulary the names of the various forms of secondary moisture (names that are partially found in the *Canon*, but which Avicenna seems not to give much weight). And yet, even in the *Pantegni*, we find a certain amount of fluctuation. In its *pars practica* (III, c. 18), the humidities progressively consumed by the different stages of *febris ethica* differ as follows:[41]

[humor] rosaceus	moisture in blood vessels
cambium	moisture present in the recesses of the organs, before completion of the third digestion
gluten	substantial moisture that holds and guards the limbs/spermatic moisture

However, in the discussion conducted in the *pars theorica* (VIII, c. 7), and in particular in the description of the second species of *febris ethica* (the *con-*

41 CONSTANTINUS AFRICANUS 1515, *Pantegni*, II (*Practica*), f. 88rb: "Unum est in vasis sanguineis et in venis humorum existens, et dicitur rosaceus; secundum est humiditas in membrorum concavitate in quibus nondum natura perfecit tertiam digestionem, et dicitur cambium; tertium est substantialis humiditas qua reguntur et custodiuntur membra que in vasis sanguineis existit, et dicitur gluten sive humiditas spermatica."

sumptive one), *ros* or *aeris umbra* seems rather to designate the moisture present in soft flesh.[42] It will be recalled that *ros* is instead mainly used by Avicenna to designate the moisture present in the interstitial spaces between organs.

Averroes, whose role in the elaboration of the doctrine of radical moisture (*ruṭūba aṣlīya*) was first highlighted by Paola Carusi, helps us understand the way in which the link between humidity, heat and food was taken up and discussed by the Latin scholastics (physicians, philosophers and theologians).[43] Perhaps Averroes' most important contribution was to address a question that had remained largely in the background throughout the previous tradition: why, beyond what had been handed down by the Greek philosophical and medical tradition, do living beings need moisture? The answer, according to Averroes, can be deduced from a fundamental difference: whereas inanimate bodies are produced directly from the four elements (and the interaction between the four fundamental qualities), living beings require an intermediary that allows the assimilation and transformation of the elements into the tissues and organs that make up the living being. Indeed, the difference between inanimate and animate bodies comes down ultimately to the fact that anything animate always presupposes the presence of organs (as stated in the Aristotelian definition of the soul as the act of an *organic* body that possesses life in potency).

But differentiating the organs means that the external elements and qualities cannot be distributed homogeneously in the body. Hence the need for an intermediary that allows the differentiated assimilation of substances taken in from outside. This intermediary is moisture: the food, properly 'digested', is transformed into a liquid substance (blood) which passes through

42 CONSTANTINUS AFRICANUS 1515, *Pantegni*, I (*Theorica*), f. 37vb.
43 CARUSI 2014.

all the limbs; this moisture mixes with the moisture already present in the organs themselves, and it is this mixing that, under the action of heat, causes the food to be perfectly assimilated into each of the organs and perfectly integrated into their form and function, becoming, for example, flesh in flesh and bone in bone.[44] The theoretical framework of the question of moisture is thus radically altered, and it is no coincidence that Averroes is consequently forced to abandon at least two of the basic tenets of the Avicennian synthesis: 1. the idea of the spermatic origin of radical moisture – for Averroes it is the blood that allows the progressive assimilation of food in the different organs, and not a moisture derived from sperm; 2. the very use of the metaphor of the oil lamp. On this last point, in the process of assimilation, for Averroes it is not so much the intrinsic moisture of the wick that is at stake. Rather, it is the fact that the wick itself is immersed in oil, and that the complete mixing between what already belongs to the organs and what comes instead from outside, through nutrition, takes place in this moist environment.

In this way, Averroes makes a significant step forward in the reinterpretation of moisture as a vital principle. It is no longer a matter of relying on the traditional link between moisture and heat. Averroes, instead, gives a more technical explanation of how, from a rather simple and undifferentiated basic 'alphabet' (the four elements and the four fundamental qualities), the complexity of organic bodies, i.e. living bodies, can be achieved. Moisture is the basis of life not so much or not only because it acts as fuel for heat (innate or extrinsic, endogenous or exogenous), but also and above all because it is the 'medium' that allows each living being to develop and differentiate, assimilating and integrating in the most appropriate way all that it takes in through nutrition. To put it in another way, moisture is not only what is con-

44 See in particular the passages from the *Colliget* and the *Epitome* to *De generatione et corruptione* translated into Italian by Carusi 2014, esp. 69 and 72.

sumed, it is what enables every living being to profitably interact with the outside world.

As we have seen, the idea that radical or substantial moisture is a kind of glue for the simple organs was already well established in Avicenna. The same idea is further developed, in Latin Scholasticism, by Albertus Magnus. For Albertus, as is clearly stated in *De animalibus*, this adhesive function is what defines moisture in living bodies:

> Colla autem corporum mixtorum est humidum: nec aliquid est quod contineat mixta in continuatione unius formae mixturae nisi humidum. Specialiter tamen humidum quod est colla mixtorum, est in animatorum corporibus.[45]

The parts of the organs are held together by this glue just as the stones in a wall are held together by cement ("Continuum autem secundum collae rationem est colligatum sicut lapides in muro per caementum").[46] However, Albertus points out that the term 'glue' is predicated by analogy, *per prius et posterius*, since moisture is actually threefold:

> Et hoc est humidum triplex. Unum quidem imbibitum mixtis elementis et hoc praestat continuationem. Alterum autem est fluens per ipsa quod praestat mollificationem. Et tertium est quod continue assimilatur eis, et hoc praestat nutrimentum.[47]

Compared to his sources, Albert goes backwards, so to speak: he starts from the moisture that is properly 'glue', and that provides the continuity of the organs, and then goes back to the moisture that still flows in the organs them-

45 ALBERTUS MAGNUS 1920, *De animalibus*, XX, tract. 1, c. 9, 1298,9–12. On the importance of radical moisture in all living things, including plants, see PANARELLI 2020.
46 ALBERTUS MAGNUS 1920, *De animalibus*, XX, tract. 1, c. 9, 1299,10–11.
47 ALBERTUS MAGNUS 1920, *De animalibus*, XX, tract. 1, c. 9, 1298,13–16.

selves, spreading out into the pores and spongy parts (*in partium spongiositate et poris*) and ensuring their softness (*mollificatio*) or permeability. He then ends by focussing on the moisture that is continuously assimilated, and which acts as nourishment.

It is the function of the 'mollifying' moisture that deserves special attention here. If the organs of living beings were not made soft and permeable, they could not receive the input of the sensible forms coming from outside through nutrition and digestion.

5.

This brings us to the last author I wish to consider, namely Thomas Aquinas, whose position allows us to broaden the scope of this contribution from medicine and natural philosophy to the theological implications of the theme of radical and 'alimentary' moisture. Aquinas' theses, as we noted at the outset, are linked to the problem of the *veritas naturae humanae*, the truth of human nature: what is superfluous and incidental, in the bodily constitution of an individual, and what is instead essential? There are at least two aspects to this question. The first is theological, and it calls into question the constitution of the post-lapsarian nature of humankind: in what way did Adam's sin alter the physical constitution of the human species? The second is eschatological, insofar as it entails the destiny of humanity itself: if the resurrection of the flesh is an essential element of the Christian faith, what exactly of the flesh is destined to be restored, and in what way can the glorious body be considered identical, in a certain respect, to the earthly body? The entire philosophical tradition is radically opposed to any kind of continuity between the bodies of the dead and the resurrected. Aristotle already saw a

radical case of equivocation between the living and the dead body. It is impossible that what has become corrupt can be restored as numerically identical to what it was before. On the other hand, if this identity were completely denied or called into question, it would no longer even make sense to speak of 'resurrection' in the strict sense: the soul itself would find itself in glory, united to a body other than that with which it was united in earthly existence. If, however, man (and this is particularly true to Aquinas) is not simply his soul, but the union of soul and body, it would be difficult, if not impossible, for the *same* (numerically identical) man who had lived on earth to be resurrected.

And yet – as has already been noted – our bodies do change: our matter undergoes a whole series of quantitative changes due mainly (but not only) to the growth and assimilation of food. Should we then assume – to allude, with deliberate anachronism, to a famous expression – that we are somehow what we eat, or rather that there is something about our bodies that remains independent of all quantitative changes? That, in a nutshell, is what the 'truth of human nature' is about. The expression most likely dates back to Anselm of Aosta's *Cur Deus homo,* which asks whether mortality is part of the truth of human nature. In the 12th century, however, and in particular from the *Summa sententiarum* attributed to Odon of Lucca and the *Sentences of* Peter Lombard, the expression came to designate that part of the human body which does not come from food. As such it, therefore, constitutes an essential substratum that persists independently of the variability determined by the assimilation of food[48]. The *veritas humanae naturae* is thus – to use the words of Chiara Crisciani and Giovanna Ferrari – "il nucleo identificativo dell'individuale identità corporea (nucleo che per primo è animato dall'anima; e che è la

48 See in this regard PRINCIPE 1990 and PRINCIPE 1991; REYNOLDS 1999 (esp. chapters 2 and, on Aquinas, 13 and 14); CRISCIANI, FERRARI 2010, esp. 345–351; FITZPATRICK 2017.

materia destinata a risorgere)."[49] There are three main places where Thomas Aquinas addresses the question of the exact identification of the *veritas humanae naturae*, i.e. what material component is actually part of the human essence. Two belong to the early *Commentary on the Sentences*, completed before Aquinas became a teacher, i.e. before March 1256 (II, dist. 30, q. 2, art. 1, and IV, dist. 44, q. 1, art. 2, qc. 4, to which the later *quaestiuncula* 5 can also be added). The other coincides with q. 3 of *Quodlibet VIII*, disputed in the Lenten Session of 1257.[50] Not least because of their chronological proximity, these three texts present a coherent doctrine, without conspicuous discrepancies or deviations, even if Aquinas' personal adherence to one of the theses is sometimes more explicit and sometimes more concealed.

The first of these places, taken from the *Commentary* on Book II of the *Sentences*, concerns the transmission of human nature from Adam. As we have already noted, it is precisely in this context that Peter Lombard uses the expression *veritas humanae naturae*, thus giving it the technical value that it then acquires among all commentators.[51] The starting point of the discussion, for Peter (cap. 14), is the Augustinian thesis that the whole of humanity was contained in Adam. Some might object that Adam's body clearly did not contain the same flesh that would later belong to humankind in its development. Peter Lombard responds to this objection in a way that is, at first sight, surprising. Instead of invoking a formal continuity of humanity from Adam, he actually defends the presence *materialiter et causaliter* in Adam of everything that would later be *naturally* (*naturaliter*) carried forward in all human bodies.

49 CRISCIANI, FERRARI 2010, 337.

50 For the respective reference editions see: THOMAS DE AQUINO 1929, *Scriptum super libros Sententiarum*, II, dist. 30, q. 2, art. 1, 776–787; THOMAS DE AQUINO 1858, *Commentum in quartum librum Sententiarum*, IV, dist. 44, q. 1, art. 2, qc. 4, 1076 and IV, dist. 44, q. 1, art. 2, qc. 5, 1078–1080; THOMAS DE AQUINO 1996, vol. 1, *Quaestiones de quolibet,* Quodl. VIII, q. 3, 60–65.

51 PETRUS LOMBARDUS 1971, *Sententiae*, II, dist. 30, c. 14–15, 503–505.

This material component is a kind of nucleus that, transmitted by the first parent, grows and multiplies in each human individual without any contribution from the food ingested. The propagation of humankind therefore consists in the transmission of a small amount of Adam's substance (*modicum de massa substantiae eius*), which develops autonomously in each of the descendants without the addition of any external component; part of this transmitted core in turn separates in the descendants to give life to subsequent bodies, and so on until the end of humankind. One might ask why Peter Lombard is so adamant that the food consumed by each human individual is not part of the essential bodily component of humanity. There are two reasons. One is scriptural, and is related to *Matthew* 15:17, which in the *Vulgate* reads: "Omne quod intrat in os, in ventrem vadit et in secessum emittititur" ("everything that enters the mouth goes into the abdomen, then is expelled through the secret places"). The second – according to Peter – is a rational argument: children who die prematurely are resurrected with the stature and size they would have had if they had lived to the age of thirty. But how can that same small amount of substance be expected to grow so large if it is not given the ability to grow and multiply on its own? Peter admits, of course, that the food ingested is transformed into flesh and blood, but he denies that it becomes part of the "truth of human nature" which comes from the ancestors of humankind. It is therefore flesh that, at the moment of resurrection, will be dropped as superfluous.

This is the starting point of the first question that Aquinas devotes to the problem, whose precise title is: "Utrum alimentum transeat in veritatem humanae naturae". The comparison with Peter Lombard's text, however, is mediated on the one hand by the tradition of existing commentaries (and in particular, as we shall see, by the positions of the Franciscans), and on the

other hand by Aquinas' awareness of another doctrinal line, that of Aristotle's *De generatione et corruptione*, and of the Averroist interpretation of this text. There are thus, according to Aquinas, three different ways of approaching the question and this tripartition is constant in all three places where Aquinas addresses the question of the *veritas humanae naturae* mentioned above.

The first position is precisely that of Peter Lombard: the *veritas* of each human being is contained in what has been transmitted by the parents (fundamentally by the father). This core is preserved intact in each individual and develops (through self-multiplication) to that full stage of growth which will then be restored in the resurrected body. Food ingested during life in no way becomes part of this essential core, and, as we have just seen, will be discarded at the moment of resurrection. The function of food during earthly life is, therefore, essentially to nourish the natural heat of the body, without affecting the matter that constitutes its *veritas*. The comparison is made to lead that is added in the process of liquefying gold, not so that the lead mixes with the gold, but so that lead, and not gold, is consumed in the process. Aquinas has no hesitation in dismissing this thesis as irrational, for two distinct reasons. First, it is incomprehensible that the same nucleus of matter could develop or increase only 'by multiplying itself'. Accretion implies either that the same quantity of matter previously contained in smaller dimensions is found in larger dimensions, and this is what happens in any process of rarefaction. Alternatively, the amount of matter itself increases as the dimensions increase, and this can only happen either through the creation of new matter or through the assimilation of matter originally belonging to another body. It is clear, however, that the human body does not develop or increase by rarefaction, nor by God's creation of new matter: all of the natural processes that oc-

cur in our world are merely transforming the matter originally created by God. Therefore, there seems to be no alternative but to admit that the growth of the human body takes place through the assimilation of matter that previously belonged to other bodies (food).

A second reason why Peter Lombard's thesis seems unreasonable has to do with the function of food itself. If the intake of food were not a natural end in itself, but a function of something potentially harmful to every living thing (i.e. to feed the natural heat that consumes the moisture proper to every living body), nature would be doing something against itself. If food were not really intended to be transformed into the living body, the transforming function of heat itself would be entirely superfluous. The strategy with which some try to defend Peter Lombard's position, by assuming, for example, that the multiplication of man's essential matter is a miracle similar to the multiplication of the loaves and fishes, is likewise meaningless to Aquinas. First of all, it seems quite inappropriate to convert purely natural processes into miracles ("Sed istud expressam continet falsitatem, dum opus naturae in miraculum convertitur").[52] Then, even in the case of the miracle just mentioned, it can be assumed that the matter of the multiplied loaves and fishes was actually obtained by converting or transmuting the matter of other bodies. In short, for Aquinas the transformation of food into living flesh is an entirely natural operation, delegated by God to nature, and there is no need to resort to miracles for it ("Quod autem naturae possibile est, operationi naturae a Deo committitur, qui unicuique dat perfectionem secundum quod capax est; unde non oportet ad miraculum confugere").[53]

52 THOMAS DE AQUINO 1929, *Scriptum super libros Sententiarum*, II, dist. 30, q. 2, art. 1, resp., 780.

53 THOMAS DE AQUINO 1929, *Scriptum super libros Sententiarum*, II, dist. 30, q. 2, art. 1, resp., 780.

Others have tried to defend the same thesis by questioning the presence in the human body of a celestial or quintessential component, capable of multiplying itself, just as sunlight multiplies itself in the air, without any external contribution. But even such an invention (*adinventio*) is false for Aquinas. After all, the presence of a quintessential component in the human body is purely virtual, not physical, meaning that it is reduced to the influence of celestial bodies on human generation, without anything 'ethereal' or celestial actually being physically present in human bodies. Moreover, the propagation of light does not involve any material multiplication, since light is not – for Aquinas and most masters of the same period – a body: light propagates by the propagation of form, humans propagate by the propagation of both form and matter. Finally, others have tried to invent another kind of argument to 'save' the thesis of the *Sentences*: prime matter, taken in itself, is completely devoid of all form and all quantity, and is therefore equally capable of receiving all form and all quantity. Therefore, however small the portion of prime matter in a body may be, it remains such that it can receive any quantity – so that from a single grain of millet one could make the whole universe.

This argument is inadmissible, for Aquinas, firstly because it assimilates prime matter to a geometric point, imagining that bodies can be obtained from it by extension. But the indivisibility of prime matter consists in the negation of any quantity, whereas the geometric point is the principle of (continuous) quantity. Therefore, when prime matter takes on a quantity, this certainly does not happen by extension (since extension itself would presuppose the existence of a quantitative component), but simply because it receives, by determining itself, a quantitative dimension. Secondly, it cannot be imagined that prime matter – insofar as it is still devoid of quantity – can be in potency towards any quantity, but only towards the determined quantity that per-

tains to the natural form that can be inherent in matter itself. One cannot in fact presuppose the existence of a passive potency that is not commensurate with that of the corresponding active potency (the natural forms). This makes any process of multiplication or increase to infinity impossible. In this way, the process of accretion would, in any case, again coincide with a kind of rarefaction. Most importantly, when we speak of the matter of a given thing (in this case, the human body), we are no longer referring to matter taken in an absolute sense: the matter proper to a body is already quantified, that is to say, it is already endowed with the indeterminate dimensions to which we referred at the outset. Such a matter is not capable of infinite multiplication (up to and including the entire universe), but only within the limits imposed by its own quantitative dimension. Aquinas' conclusion is thus unequivocal: the thesis set forth in Peter Lombard's *Sentences* is false, and so are the arguments with which Peter had tried to defend it.

The second main thesis discussed by Aquinas is that of those who admit that there is a kind of unalterable core in the human body, but at the same time claim that the intake of food serves not only to nourish natural heat: the assimilated food, on the contrary, contributes to increasing the quantity of body matter until it reaches its optimal size. The immutable part is thus mixed with that which comes from outside, just as a greater quantity of (watered-down!) wine can be obtained by adding water to it, without the original wine itself undergoing any quantitative change. In this way, what is produced by the ingestion of food does not remain entirely outside the truth of human nature (as in the first thesis), but contributes to it only in a secondary way, as an addition necessary to reach the due quantity. Thus, at the moment of resurrection, not all matter produced by food will be deposited (as the advocates of the first thesis wanted), but only a part of it: instead, the part

that is needed to complete the quantity of the body itself will remain in the resurrected body. Following Averroes (*Commentarium medium in Aristotelis De generatione et corruptione*, I, 38), Aquinas ascribes this thesis to Alexander of Aphrodisias, but it is in fact a compromise solution – as the example (unfortunate!) of watered-down wine clearly shows – taken up by some Franciscan masters, which Aquinas may well have had in mind. Even this position, however, is not correct for the Dominican Master: if one identifies the inalienable and unalterable part of the matter of the human body with the so-called 'radical moisture', which is transmitted in the generative process and spreads throughout the body of the new individual, ensuring its cohesion, one would have to explain why the natural heat (which acts as an instrument of the vegetative soul) can consume the moisture produced by the assimilated food (the so-called 'nutrimental moisture') without affecting the former, the 'radical'. Moreover, according to this thesis, the intake of food would not be aimed at restoring what has been lost in the life processes, but only (inexplicably) at increasing the amount of matter. It is easy to see, however, that the assimilation of something external always changes the nature of the original substance – as is the case with watered-down wine. Even in the case of human nutrition, we can see how the nourished body is somehow changed by the food it takes in: "[…] sic etiam videmus quod ex humido nutrimentali adveniente immutatur corpus nutritum ut assequatur in aliquo conditiones ciborum ex quibus nutritur."[54]

In a certain sense, then, for Aquinas we are what we eat or we become what we eat. It is therefore obvious and inevitable that the food ingested, once assimilated, mixes with pre-existing flesh. This mixture does not allow any distinction to be maintained between the unchangeable part of the hu-

54 THOMAS DE AQUINO 1929, *Scriptum super libros Sententiarum*, II, dist. 30, q. 2, art. 1, resp., 783.

man bodily nature (radical moisture) and an adventitious part (nutrimental moisture), or between a part that expresses the truth of human nature in a primary and principal way and a part that expresses it in a secondary and integrative way. To stay with the example of wine: once wine has been diluted, it is illusory to be able to maintain a distinction between the original and pure part of the wine and the added water. What is obtained is only an indistinguishable mixture of one and the other, with an intermediate quality: "totum est habens eam [i.e. the virtue of wine] mediocriter"[55]; very *mediocriter*, we might add. The theoretical assumptions of this second position are clearly set out by Aquinas: from a philosophical point of view, the distinction between flesh according to species and flesh according to matter, and from a medical point of view, the aforementioned distinction between radical moisture and nutrimental moisture. But neither distinction – as Aquinas points out in his responses to the arguments (*ad 2um* and *ad 3um*) – actually supports the thesis in question. The first because, in strictly Aristotelian terms, the distinction itself does not hold. The flesh 'according to matter' is in fact not really distinct from the flesh 'according to species', but the same numerically identical flesh is said to be 'according to species' insofar as it participates in the form and properties that define the species, and 'according to matter' insofar as it consists precisely of matter.

As for the 'medical' distinction between the radical and the nutrimental moisture, for Aquinas this is not to be understood in the sense that the two components remain separate and distinct throughout life (without the latter adding to and somehow restoring the former). Rather, the 'radical' moisture is so called because it is what originally acts in each individual as a substratum for the natural heat. The nutrimental moisture, on the other hand, only

55 THOMAS DE AQUINO 1929, *Scriptum super libros Sententiarum*, II, dist. 30, q. 2, art. 1, resp., 784.

participates in the species (i.e.: it is transformed, for example, into the flesh, blood and organs *proper to humans*, although it has a completely different origin) insofar as it merges with the radical moisture already present. The radical moisture is, therefore, called 'radical' because it is the root (*radix*) of all that is subsequently added by the transformation of food. But this is not the reason why, at the end of the final digestion (the one by which the food is completely assimilated and integrated into the living body), the two humids remain distinct. On the contrary, there is only one humidity, endowed with the same property so it can participate in the nature of the species and to be consumed jointly. Similarly, the consumption of radical moisture does not consist only in the progressive erosion of the original component, but in the consumption (by heat) of all the mixed moisture produced during life, which at a certain point can no longer be adequately restored and thus maintain the *virtus* of the species (in the same way that, when a hand is forcibly amputated, it cannot be restored by nutrition because the *virtus* of the species that was in that organ is now missing).

The third position presented by Aquinas is the one derived from Averroes' commentary on *De generatione*: there is nothing material in a body endowed with quantity that can be considered fixed or permanent. All that pertains to the matter of the body is therefore transitory, while what remains pertains to the form and the species. To use the same example offered by Aristotle in Book I of *De generatione* (1, 327b10–15), the transformation of food into flesh is similar to the burning of wood: the form of the fire remains, while the wood that feeds it is constantly changing, allowing the species of the fire to be 'saved'. In the same way, that which belongs to the species and form of the flesh continues to exist in man throughout his existence, while that which receives this form or serves as a substrate for it is continually con-

sumed and just as continually restored until death. The difference with the first two positions is thus clear: there is no *signified* (i.e. quantitatively dimensioned) part of the matter of the human body that is exempt from change; instead, the only stable component is form. But in addition to this, another difference is immediately apparent: if according to the first point of view the food consumed does not become part of the truth of human nature at all, or, according to the second, only contributes to it in an accessory and complementary way, for the third point of view this barrier falls completely. Food becomes part, *simpliciter et primo*, of the truth of human nature. At the end of the assimilation process, the mixture is such that it takes on the 'truth' of the species as a whole, in an indistinct way. So, with all due respect to Peter Lombard and some contemporary theologians, even assimilated food is destined, within the limits of due quantity, to resurrect as part of us. And albeit with a cautionary formula, which actually makes little sense in the light of the reservations expressed earlier, Aquinas openly defends the third position: "Et huic positioni inter omnes magis consentio sine praejudicio aliarum."[56]

6.

The other two texts mentioned above – as already noted – do not substantially alter this structure, adding only a few clarifications. Both in the *quaestiuncula* taken from the Commentary on Book IV of the *Sentences* and in q. 3 of *Quodlibet VIII,* for example, Aquinas traces back to Avicenna (the metaphysical Avicenna, not the medical one) the specific meaning that *veritas* takes on in the expression *veritas humanae naturae*. The 'truth' of each thing is the property of its being; and the truth of human nature – what pertains most to its be-

56 THOMAS DE AQUINO 1929, *Scriptum super libros Sententiarum*, II, dist. 30, q. 2, art. 1, resp., 785.

ing – depends on its form (just as 'true' gold is that which possesses the true form of gold, on which its own specific being depends). The reference to Avicenna reflects Aquinas' great interest at that time in the metaphysics of the Persian philosopher (see his *De ente et essentia*). But this is obviously a purely conceptual overlap, since the 12th-century authors who first used the expression *veritas humanae naturae* certainly did not derive it from Avicenna's *scientia divina.*

A discussion of the positions we already know follows in both texts. With regard to the second option, in the Commentary on Book IV of the *Sentences*, Aquinas not only makes explicit the full identification – proper to this thesis – between the truth of human nature and the radical moisture. He also explains that the contribution of food must be considered accessory with respect to the 'truth of the nature' of a given individual, but primary and essential with regard to whom descends from that individual. In fact, the advocates of this thesis maintain that the seed is the *superfluous* residue part (the *superfluum*) of food assimilation, so nutrimental moisture in the father becomes (transmitted by the seed) radical moisture in the son. Another important clarification is introduced – again in the Commentary on Book IV of the *Sentences* – regarding the third position. In fact – Aquinas explains partly correcting himself – the distinction between radical and nutrimental moisture must not be derived from the principle of generation, so that the moisture generated by the seed is considered to be 'radical', and the moisture produced by the food is considered 'nutrimental' (as in the second opinion). Rather the distinction between the two has to derive from the end of the generative process: radical moisture is, therefore, something which is perfectly integrated into the body starting from both the *virtus generativa* and the *virtus nutritiva,* that is, starting from both seed and food. Nutrimental moisture is, instead,

simply that which has yet to be perfectly assimilated, and, thus, has not yet reached its end, but is still carrying out its nutritive function (*in via nutriendi*).

In this way, Aquinas, in contrast to a widespread contemporary opinion, rejects any strict identification between the radical moisture and the component transmitted by the paternal seed. This is true, even if it must be recalled that in the Commentary on Book II, Aquinas himself had in any case considered radical moisture to be the primordial substratum of natural heat, and therefore the *radix* of the moisture brought by food. The example of fire and combustible wood is replaced by the more 'political' example of the city or state: the 'matter' of a city, that is to say the set of its citizens, is constantly changing, as those who die are replaced by others who fulfil the same function; but the form does not change, because the order and functions do not change. This ensures that, despite the natural alternation of generations, the city always remains numerically identical. Aquinas, however, seems to partially mitigate the difference between the second and third position by stressing that the 'adventitious' parts of the body, derived from food, do not belong as perfectly to the truth of the species as the 'non-adventitious' ones. Therefore, in resurrection, the original core will be restored in its entirety, even if it is mixed with what has been assimilated in life.

Regarding q. 3 of *Quodl. VIII* (*Utrum alimentum convertatur in veritatem humanae naturae*), having taken up the reference to Avicenna's *Metaphysics*, Aquinas goes on to specify once again that the 'truth' of something pertains to its completion and fulfilment on the basis of its form, and not to what serves its individual preservation or improvement. For example, in the case of a tree, the trunk and fruit are essential, and belong to the truth of its nature, but not the leaves, which (for Aquinas) are somehow preordained to the preservation of the fruit. In the case of the human being, the truth of its

nature consists in that which belongs to the perfection of nature itself, participating fully in the form of the species, while excluding everything that serves to preserve or improve it. In presenting the first opinion, Aquinas introduces new objections. First, it is not well understood how an original nucleus can remain unaltered in the history of humankind, since every individual death seems to entail a loss of matter anyway; second (but this is really only a reformulation of an argument already encountered), no capacity for increase or multiplication can be attributed to matter except insofar as it is already endowed with quantitative dimensions. But since the supporters of the first thesis deny the acquisition of any new part of matter, they seem to understand the multiplication of matter as a mere process of rarefaction (and at this point in history, humankind should already be more rarefied than fire, as Aquinas observes, not without a hint of sarcasm). The third position is reformulated in even sharper terms: the human form is realised and perfected indifferently and equally (*indifferenter et aequaliter*) by what comes from parents and what comes from food, and both components equally consume and persist. They consume matter, but they persist as far as the species is concerned, as the example of the city clearly shows. In the human body, flesh, bones and other parts are constantly changing in terms of matter, but they persist in terms of species and form (with respect to place, figure and *virtus*). A human being remains a human being even if all his cells, as we would say today, die and are incessantly replaced. And here, as in the Commentary on Book II of the *Sentences*, Aquinas does not hide his preference: "Et hec opinio uidetur ceteris probabilior."[57]

57 THOMAS DE AQUINO 1996, vol. 1, *Quaestiones de quolibet*, Quodl. VIII, q. 3, 64,253.

7.

In conclusion, there is little doubt that for Thomas Aquinas the 'truth of human nature' inextricably includes what we eat. Admittedly, the meaning of this discussion has little in common with the traditional German proverb ("Man ist was man ißt") later borrowed by Feuerbach.[58] And yet one cannot fail to note the determination with which Aquinas rejects any attempt to separate an original core of human nature (at least as far as the body is concerned) from the contribution of the assimilated food. Indeed, he refuses to the point of admitting – as we have noted – that the body is transformed by adapting in some way to the conditions of the food that feeds it ("immutatur corpus nutritum ut assequatur in aliquo conditiones ciborum ex quibus nutritur"). It could be argued, however, that this conclusion is relative, since the 'truth of human nature' is in any case still subordinate to the specific form, which is what ultimately makes a human being 'human'. In the end, a person is a person because she possesses a rational soul, not because of the matter that enters into the 'truth' of his nature. But even in this case, a clarification is necessary: for Aquinas, the intellectual and moral inclinations of the soul are strongly influenced by the complexion of the body.

Indeed – to come back to our point of departure, namely the question of the origin of nobility as posed by Dante – the degree of 'nobility' of the soul itself directly depends on the quality of bodily complexion. This is a thesis which, unsurprisingly, led to the condemnation of Aquinas and of Thomism by Bishop Tempier and Aquinas' Franciscan opponents.[59] What we are, and even our natural disposition to do good and think great thoughts (our natural 'nobility'), depends ultimately, according to Thomas, on the quantity and

58 In his own review of Moleschott's *Physiologie der Nahrungsmittel* (1850) and later, more systematically, in *Das Geheimnis des Opfers oder Der Mensch ist was er ißt* (1862).
59 See Porro 2016.

quality of the moisture we received as a dowry at birth, and on the moisture we are able to supplement through diet.[60]

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60 I have dealt with the relationship between the powers of the rational soul and bodily complexion elsewhere: ZUCCOLIN 2019.

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Leprosy (*al-ǧuḏām*) and Smallpox (*al-ǧudarī*) in the *Kitāb al-Malakī* and its Two Latin Translations

Anna Gili

Abstract: The contribution aims to analyze the pathology of leprosy (*al-ǧuḏām*) and smallpox (*al-ǧudarī*) in the Arabic medical encyclopedia *Kitāb al-Malakī*, composed by the physician ʿAlī ibn al-ʿAbbas al-Maǧūsī, and in its two Latin translations, the *Pantegni* by Constantine the African and the *Liber Regalis* by Stephen of Antioch. The study of the Arabic text shows that the etiology of these diseases involves an interplay of different factors, including contagion, and explains to what extent the *Kitāb al-Malakī* presents original doctrines. Secondly, by taking into account similarities and shifts in comparison with the Arabic original, the contribution shows how the two Latin translators faced the challenge of creating a new lexicon as a vehicle for the innovative translated ideas.

Keywords: leprosy; smallpox; *Kitāb al-Malakī*; *Pantegni*; *Liber Regalis*; contagion.

The present contribution aims to illustrate the pathology of leprosy (*al-ǧuḏām*) and smallpox (*al-ǧudarī*) in the Arabic medical encyclopedia *Kitāb al-Malakī* (*KM*), composed by the physician ʿAlī ibn al-ʿAbbas al-Maǧūsī, and in its two Latin translations, the *Pantegni* (*PA*) by Constantine the African and the *Liber Regalis* (*LR*) by Stephen of Antioch. Concerning the Arabic text, this study will outline its content and show its originality; moreover, it will specifically pay attention to the concept of 'contagion', which is considered as a cause of both diseases. In the case of the two Latin translations, the analysis will first focus on the lexicon, and, in the second place, it will consider similarities and shifts in comparison with the content of the Arabic original.[1]

1 Without the constant and fruitful dialogue with my supervisors, Professors Cecilia Martini Bonadeo and Rino Mondonutti of the University of Padua, this work would not

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1. The pathology of leprosy (*al-ǧuḏām*)

The *KM* was composed during the second half of the 10th century.[2] Influenced in its structure both by the late Alexandrian medical teaching and by the so-called 'byzantine' physicians, it is divided into a theoretical and a practical section.[3] The first one analyses the six natural and non-natural things in books I-V and the things against nature in books VI-IX, moving from etiology and symptomatology to nosology. Leprosy is discussed in chapter I.VIII.15,[4] inside a section concerning skin diseases, under the Arabic name of *al-ǧuḏām*, derived from the root *ǧaḏama*, 'mutilate'. This word corresponds to ἐλέφας in Greek into Arabic translations and is used by al-Mağūsī to refer to the lepromatous, more serious form of the diseases, thus differentiating it from other skin conditions such as *baraṣ*, *bahaq* and *qūwābāʾ*.[5] The text of chapter I.VIII.15 (Appendix I) can be divided into three main sections: a general etiology, an etiological distinction between two kinds of leprosy and a symptomatologic part. The most remote cause of the disease is a cold and dry complexion, in which black bile dominates the blood; this has two consequences: first, the mutative faculty is weak in the leper and cannot properly transform food into nutrition; second, the sperm is corrupted and therefore its bad substance can be transmitted from father to son. Moreover, this bad temperament is also transmissible through bad vapors exhaled by the lepers' bodies and inhaled by people surrounding them.

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have been possible: I express my sincerest gratitude to them. I also want to thank Rebecca and Lorenzo for their help with the English writing of this essay, underlining that all mistakes are my only responsibility.

2 On al-Mağūsī's life and work, see MICHEAU 1994.

3 I will use the numbers I and II to refer to theory and practice, both in the Arabic text and in its Latin translations.

4 Only in manuscript D (for the codex see *infra*, n. 70) leprosy (*al-ǧuḏām*) is discussed in chapter 14 and smallpox (*al-ǧudarī*) in chapter 13, while in all other manuscripts they are the subject respectively of chapter 15 and 14.

5 ULLMANN 2002, *index*; ULLMANN 2007, *index*. See RICHTER 1911(1) for an effort to associate all these skin conditions to modern ones.

According to differentiations of the most remote cause, two kinds of leprosy are distinguished: the first one is caused by an excess of the black humor itself, which prevents the blood from flowing correctly, and is curable; the second one goes back to a remoter process, the burning of the bile, and is incurable. Finally, a distinction is drawn between symptoms of an initial stage and those related to a further development. An interesting aspect of this text is its hint at interpersonal contagion;[6] to better understand it, other passages of the *KM* in which transmissible diseases are mentioned must be considered. In I.V.11 there is a description of air alterations, one of the non-natural things, and particularly of the "air unbalanced in its substance, which is the infectious (*wabāʾī*) air." After having stated that an unbalance in its substance and quality, due to either geographical or meteorological factors, causes pestilential diseases, it is underlined that

> It must be known that pestilential [*wabāʾī*] diseases do not affect people only because of corruption of the air, but, on the contrary, they mostly affect people in whose body bad, corrupted humors are already collected, and whose bodies are prepared to receive what the air does and induces on them […]. Galen says in his *Book about Fevers* that it is impossible that a cause acts on a body if the body is not prepared to receive what this cause induces on it.[7]

Citing Galen, *De differentiis febrium* I.6[8] and, further on, the doctrines of Hip-

6 SEIDEL 1912 maintains that the Islamic thought did not grasp the possibility of contagion at all. However, more recent studies have underlined that the idea of contagion is not foreign to the ancient thought and have explained in which sense such concept can be ascribed to it: GRMEK 1984; NUTTON 2000; STOK 2000; ROBERT 2011.

7 The translation is based on codex G (see *infra*, n. 70) of the Arabic text, f. 57r.

8 The quotation is basedon the translation of *De differentiis febrium* made by Ḥunayn ibn Isḥāq (GALENUS 2011, *De differentiis febrium libri duo Arabice conversi*, c. I.6): the text of the *KM* corresponds almost entirely with lines 18–22. This notwithstanding, it must be underlined that while Galen is talking about fevers (*ḥummā*), al-Mağūsī applies his reflections to diseases (*marḍ*) in general. It is not possible to analyze chapter I.V.11 in detail, but a deeper comparison with the Galenic and Hippocratic works about pestilences would be much needed to understand how al-Mağūsī has interpreted and reassembled them.

pocrates, al-Mağūsī clarifies that the first condition for the development of a pestilential disease is the natural predisposition of every single body. Accordingly, in chapter II.I.26, pestilential diseases (*wabāʾī*) are treated following the principle of 'contrast': people should maintain their bodies in a complexion opposed to the substance of the corrupted air. Nonetheless, the last part of this chapter abandons pestilential diseases and focuses on the prevention from the infectious ones, called *al-muʿdiyya*, among which leprosy is enumerated (Appendix III). As these are characterized by the fact that they infect healthy people living with sick ones and inhaling the same air breathed by them, different prescriptions are given: one should not sit or live with affected people and should move to places which cannot be reached by the wind that blows by them.

From these passages it must be inferred that al-Mağūsī makes a distinction between *wabāʾī* or *wāfid* diseases – the pestilences – and *muʿdin* diseases – the infectious ones, such as leprosy or smallpox.[9] Concerning the first ones, al-Mağūsī had at his disposal coherent Greek sources where, according to the 'miasmatic' paradigm, contagion plays a minimal role compared to natural predisposition.[10] On the contrary, for at least some infectious diseases, the tradition offered more complex and incoherent information: nomenclature and classification of leprosy, for example, were not firmly established. Al-Mağūsī, living in the Arabic world, had to reconcile disharmonic sources with its experience of leprosy as an endemic disease: for this reason, he classifies it both as a skin disease and as an infectious one, somehow like pestilences, as it

9 SEIDEL 1912, 86–87 maintains that al-Mağūsī distinguishes, among *wabāʾī* diseases, two different kinds (*wāfid* and *muʿdin*), but it is evident that the first two terms are both used to name pestilences, as exposed in ULLMAN 1970, 245; obviously, the lexical aspect concerning pestilential diseases deserves a more thorough study, in order to grasp differences, if any, between *wabāʾī* and *wāfid* and their connection with Greek sources.

10 See *supra*, n. 5.

might affect more people in the same moment, but also clearly different, as it has another origin and development.

Within this framework, al-Mağūsī introduces the notion of 'infection' using the Arabic root *ʿadā*, 'infect'.[11] In chapter I.VIII.15 contagion is not conceived of as the primary cause of leprosy: humoral pathology occupies the first lines and allows al-Mağūsī to rationally explain how the disease develops. In the case of the transmission from father to son, the simple corruption of humors provides a sufficient explanation, as the substance of the son originates from the father's sperm, and the disease seems to be part of one and the same body. But in the case of people sitting next to each other, al-Mağūsī hints at a process of exhalation and inhalation of vapors that implies the agency of an external factor on the healthy body, viewed as co-existent with the humoral etiology.[12] In the absence of knowledge about bacteria, contagion alone cannot explain why a disease rises in the first place; on the other side, its contemporary development in many bodies is not explained exclusively by an independent recurring of the same cause, but also by the contagion of a healthy body by a sick one – even if the mechanics of this process would call for a deeper explanation (why is the vapor exhaled? What happens after its inhalation? How does it affect the humoral balance?)

Consequently, it must be underlined that there is a difference between the bad vapor transmitting leprosy and the 'pestilential' or 'miasmatic' air, beside the terminology (*hawāʾ*, *buḥār*, *rīḥ*) employed. While that air is conceived of as a universal factor, this vapor is individual, spreading from one person to those physically near. Indeed, ancient physicians contemplated a form of contagion implying exhalation of air, mainly through breath, from

11 Al-Mağūsī uses both the first stem *ʿadā* and the fifth derived stem *taʿaddā* with the preposition *ʾilā* introducing the infected person; see *infra*, n. 71.
12 On such coexistence of different morbid causes, see ROBERT 2011, 46.

the sick body, and subsequent inhalation by other people, but mostly with reference to pestilential diseases: thus, the exhaled air just reproduces the characteristics of the external aerial condition.[13] This is not the case in the *KM*, where the morbid condition of the vapor originates in the patient independently of the environment. The originality of the *KM* clearly emerges if we compare it, on one side, with the Greek sources al-Mağūsī had at his disposal, and, on the other side, with previous Arabic authors.[14] An attentive perusal of the occurrences of *leprai* and *elephas* both in the Hippocratic *corpus* and in the Galenic works has shown only general similarities with the *KM*, for example in symptomatology[15] and etiology,[16] that could also have reached al-Mağūsī via an indirect transmission;[17] anyway, contagion through bad vapor does not play any role.

13 STOK 2000, 80–89.

14 Aretaeus of Cappadocia, in his book about chronic diseases (ARETAEUS 1958, *Editio altera lucis ope expressa nonnullis locis correcta*, VIII.13.1), mentions, concerning leprosy, the mechanics of infection (βαφή) via breath (αναπνοή) as an easy way of transmission (μεταδοσις). One might notice the similarities with the *KM*, but this text was not translated into Arabic.

15 For example, in GALENUS 1830, *Definitiones Medicae*, 346–462: 428 (on the Arabic translation of this spurious work see SEZGIN 1970, 138–139), the symptoms of *elephas* are like those mentioned by al-Mağūsī, but any etiological element is lacking. Under the title *kitāb al-ʿilāl wa al-ʾarāḍ* four Galenic works were translated: see STOK 2000, 89–90; here leprosy is described under a symptomatologic point of view, with a peculiar attention to the changes in the physical aspect: see for example GALENUS 1824, *De Causis Morborum,* 29; GALENUS 1824, *De Symptomatum Differentiis*, 175: there are some points of contact with the *KM*, but also noticeable differences.

16 The *Ad Glauconem de Methodo Medendi* was certainly read by Arabic authors (see SEZGIN 1970, 82–83); here, leprosy is regarded as one τῶν καρκινωδῶν ὄγκων, "of cancer-like swellings," that are caused by an excess of black bile poured by liver and spleen in the blood when producing it. This happens when the human complexion is bad and food digestion does not work properly. Insufficiency in the mutative faculty is here mentioned for the first time as the cause of leprosy: see GALENUS 1826, *Ad Glauconem de Methodo Medendi*, 141–144.

17 For example, the first part of chapter 45.26 of the *Collectiones Medicae* of Oribasius presents a summary of the relevant information coming from the Galenic *corpus*, and this work has been translated into Arabic: see SEZGIN 1970, 153–154.

The *Pragmateia* by Paulus Aegineta has already been recognized by Peter Pormann as an important source for the *KM*;[18] leprosy is discussed in its fourth book, dedicated to diseases manifesting themselves on the body surface. Here, there is the same comparison with a cancer affecting the whole body and the same distinction between two kinds of leprosy.[19] Moreover, relevant similarities can also be found in therapy, discussed in *KM* II.IV.3: this makes it likely that a copy of the translation of the *Pragmateia* was consulted by al-Mağūsī. This is also suggested by the presence of a conclusive paragraph at the end of the relevant chapter in the *Pragmateia* where the disease is considered εὐμετάδοτος, 'easily transmissible', like the pestilential ones, and prescriptions are accordingly imparted.[20] The fact that leprosy and pestilences are compared might explain why al-Mağūsī mentions them in sequence in II.I.26; moreover, the *Pragmateia* can be considered a source for the idea of leprosy as transmissible disease – could *muʿdin* be a translation of εὐμετάδοτος?[21] Anyway, the severity of the prescriptions given in the *Pragmateia* is lessened in the *KM*, where the advice is simply not to associate with lepers assiduously or to avoid the air they breathe. Moreover, the topic of contagion is not mentioned at the end of the therapy, but within the nosological description, where vapor is alluded to as its vehicle.

In conclusion, even if etiology, symptomatology, and therapy of leprosy are discussed in the Greek sources al-Mağūsī had at his disposal, he was able to rearrange and complete them in every domain, achieving new clearness and adding at least some glimpses of novelty. This innovation appears in a

18 PORMANN 2004; concerning skin diseases, similarities had already been noted by RICHTER 1911(1).

19 PAULUS AEGINETA 1921, *Epitomae medicae libri septem*, c. IV.1.1, 317.

20 See PAULUS AEGINETA 1921, *Epitomae medicae libri septem*, c. IV.1.7, 321.

21 In ULLMANN 2006 no such parallel is attested, but not all Greek translated texts are included.

more evident way if we turn to previous Arabic works,[22] such as the *Risala fī-l-bayāḍ allaḏī yaẓhuru fī-l-badan* (*Letter about the whiteness that appears on the body*) of Abū al-Ḥasan Ṯābit ibn Qurra; the *Firdaws al-ḥikma* (*Paradise of Wisdom*) of ʿAlī ibn Sahl Rabbān al-Ṭabarī; the *al-Ḥawī* of al-Rāzī. In these works, there is neither a precise differentiation between *al-ǧuḏām* and other skin diseases, nor a precise etiology, nor a more than sporadic mention of contagion.[23] The physician Abū al-Ḥasan al-Ṭabarī was related to Abū Māhir b. Mūsā b. Yūsuf ibn Sayyār like al-Maǧūsī and active as Rukn al-Dawla's court physician; in his treatise *al-Muʿālaǧa al-Buqrāṭīya* (*The Hippocratic Treatments*) *al-ǧuḏām* is discussed in book VII, chapter 56. Here, it is clearly distinguished from other skin diseases and the author aims to reestablish a correct understanding of two different forms of leprosy on the basis of ancient writings; however, no precise similarities with the *KM* can be found.[24]

When compared to earlier or contemporary Arabic authors, al-Maǧūsī seems to have traced a systematic and innovative description of leprosy, also by introducing hints at a dynamic of contagion, even if not as an exclusive etiological factor and under the influence of the miasmatic theory. Moreover, he synthesizes in the *KM* various and incoherent sources into a scientific description of leprosy, where any preoccupation about religious or theological implications is absent and which does not imply prescriptions about social isolation of lepers. Such attitude is maintained by the two Latin translators.

22 MÜLLER-BÜTOW 1981, 56–172 presents edition and translation of some relevant passages.

23 See ʿALĪ IBN SAHL RABBĀN AL-ṬABARĪ 1996, *Firdaws al-ḥikmat fī al-Ṭibb*, 318, in which we read that "leprosy is among the diseases that infect who comes near to them (the affected people), such as smallpox," but no further explanation is given. Some similarities can be found with the *Kitāb fī al-iʿdā'* by Qusṭā ibn Lūqā, as quoted in STEARNS 2011, 71–73, where: vapors, the vehicle of contagion, are considered as originating from corrupted air and reproduced by the infected body. However, in the *KM*, the inhaled vapor does not have an external origin, and no observation on its interplay with the bodily predisposition is made: thus, it does not depend on Qusṭā ibn Lūqā's treatise.

24 The text can be read in München, Bayerische Staatsbibliothek, Cod. arab. 810, p. 476.

In the bibliography about leprosy in the Latin Middle Ages it is common to state that Constantine's translation, the *Pantegni* (*PA*),[25] added to the Arabic original an element of moral censorship against lepers because the translator chose the word *lepra* to render *al-ǧuḏām*.[26] According to this view, Constantine's lexical choice would mark a continuity with the Early Middle Ages, when, although the ecclesiastical and lay legislation tried to both safeguard and isolate lepers, the disease was considered, in literary and hagiographical works, as a distinct mark of divine punishment.[27] Nevertheless, some 'attenuating circumstances' for Constantine's choice shall be mentioned: on one side, the equation *lepra* – *elephas* was well spread and excluded confusion with the Hippocratic *lepra*; on the other side, the use of *elephantiasis* as a translation might have caused confusion with what the Arabs called *dāʾ al-fīl* and we understand as elephantiasis, i.e., a lymphatic disease.[28]

The only way to judge the *PA* is to reconsider its text in detail and to compare it thoroughly with the Arabic original. To this end, chapter I.VIII.15 can be read both in the digitized manuscript of Den Haag, Koninklijke Bibliotheek, 73 J 6, f. 58r and in the transcription made by Outi Kaltio of the codex Helsinki, National Library of Finland, EÖ.II.14, f. 134r–v;[29] for the present study, all known manuscripts dated to the 12th century containing the text

25 On Constantine and his translation see BURNETT, JACQUART 1994; NEWTON, KWAKKEL 2019.

26 DOLS 1979, 326, asserts that this choice connected medical leprosy with the biblical one and brought back the confusion between *elephas* and *lepra* typical of the Hippocratic *corpus*. Nevertheless, the terms *elephantia* and *elephantiasis* had been known to Latin authors since the I century d.C. (see *TLL*, entry *Elephantia*) and were considered synonyms of *lepra* to designate the disease in its lepromatous form. Only Isidorus in his *Etymologiae* (IV.8.11) tries to differentiate them, but his exposition is mainly based on etymological derivation and is useless for a medical exposition. Thus, the previous tradition left CA free to choose between the two terms.

27 See PIAZZA 2007.

28 Such considerations are made by Dols himself: DOLS 1979, 326.

29 CONSTANTINE THE AFRICAN 2011. The same references are valid for the chapter I.VIII.14, concerning smallpox.

have been collated. Firstly, it must be noticed that almost all components of the Arabic text are maintained, albeit with some omissions. The most significant one occurs at the beginning, where Constantine leaves out the definition of the disease as a "cancer affecting the whole body":[30] such choice has the effect to reduce its gravity, and not to emphasize it, as Constantine would have done, had he wanted to convey a sense of terror surrounding lepers.

In the following sentences, the first occurrence of *ʿadā* ('infect') is translated as *invadit* (*filios*). The verb *invado* is used already in archaic Latin as a technical term *de accessu morborum vel affectuum animi*:[31] therefore, Constantine's choice cannot be seen as burdened by moral censure against the sexual conduct of lepers' parents, as the 'invasion' of the body by the disease is considered a biological process based on the interplay of substances, humors, and qualities. Similar considerations can be made about *protendo*, another verb used in its passive form to translate *taʿaddā*. The verb is commonly used in Latin to express an "extension" of limbs, an "increase in size" through an effort:[32] it conveys the "extension" of a part of the father's physical constitution to his progeny. The occurrence of *occupo*, a rendering of *taʿddā* as well, in relation to diseases, is ancient, and this verb is commonly united with the indication of the occupying agent,[33] which is in fact specified in the following sentence – the *fumus*.

Such variety in the translation of *ʿadā*/*taʿaddā* might be partly due to the fact that Constantine perceived different meanings behind these verbs. While *invado* and *protendo* can still be related to the development of the disease in

30 It might be objected that the codex D of the *KM* (see *infra*, n. 69) also omits this sentence, and that Constantine had such a text in front of him, but the following lines in codex D present omissions that are not mirrored in the *PA*: for this reason, it must be inferred that CA purposedly left out these words.
31 *TLL*, vol. VII,2, 108.
32 *TLL*, vol. X,2, 2264–2268.
33 *TLL*, vol. IX,2, 383 sqq.

the frame of humoral pathology, *occupo* is applied to a dynamic where *fumus*, an external morbid 'occupying' entity, is involved. But this plethora of different terms also suggests that the translator could not find in the previous tradition an adapt solution to convey the idea of contagion and strived to coin Latin equivalents.[34] Anyway, he does not use here Biblical words such as *contamino* or *immundus*, and the following symptomatologic section is not influenced by the Biblical description of leprosy at *Lev*. 13: the Latin words adhere to the Arabic original, and this is all the more significant if we consider that Constantine feels free to depart from the *KM* whenever it is necessary to adapt the text to his new audience.[35]

In conclusion, Constantine uses the word *lepra* as an old surface to cover innovative contents: as a monk talking to monks, he recurs to a familiar lexicon and attaches to it a new technical meaning to make the new, Arabic

34 The authors that Constantine might have read in collections circulating in the Early Middle Ages – Priscianus, the Latin Oribasius, Pliny, Quintus Serenus Sammonicus – do not dedicate much space to leprosy and do not seem to mention its transmissibility. Even if the passage of Caelius Aurelianus, *Chron*. IV.13 (CAELIUS AURELIANUS 1990, *Celerum passionum libri III, Tardarum passionum libri V*, 774–782) concerning leprosy and contagion was read by him, there is no resemblance in lexicon. It is more significant that Gariopontus, in his *Passionarius*, chapter V.5 (Berlin, Staatsbibliothek, Preußischer Kulturbesitz, lat. qu. 335, ff. 89r–90r (ca. 1200) not only uses *elepantia* instead of *lepra* but also describes the disease otherwise: the lexicon is different, contagion is not mentioned and there is no etiology. Even if the choice of *lepra* might induce to think of the *PA* as more 'old-fashioned' or influenced by religious conceptions, it is just the contrary: an old designation is used for a substantial innovation.

35 For example, when rendering chapter II.I.26 (Appendix III), Constantine writes: "Oportet etiam intelligi quod quidam morbi ab uno ad alium mutantur, sicut lepra, scabies, ptisis, frenesis, variole, obtalmia et similia, unde sani sunt prohibendi ne cum eis in una mansione maneant neque cum eis comedant vel bibant, ne, ex eorum spiritu contaminate, ad easdem passiones deveniant" (the text is based on manuscripts Paris, Bibliothèque nationale de France, lat. 6887, f. 104r and London, BL, Add. 22719, f. 183r). The Arabic *al-muʿdiyya* is translated by a periphrasis newly coined by Constantine, *ab uno ad alium mutari*, where the verb *mutari* defines a generic kind of metamorphosis; he adds to the original both the element of prohibition and the idea of contamination through breath. Thus, when giving a prescription, the terminology becomes stronger and religiously connotated, even if the advice is for healthy people to avoid living with lepers, not for them to be separated from the community.

science acceptable and understandable. By connecting the word *lepra* to this description taken from *KM* he separates leprosy from the Biblical heritage and connects it with one of the most up-to-date and clear medical doctrines, characterized by a scientific and laical approach. This fits well with the recent research about the formation of lepers' communities between the end of the 11th century and the beginning of the 12th century, which has shown that various social changes contributed to this phenomenon much more than the fear of contagion.[36] In this context, Touati acknowledges that the sentence of the *PA* dedicated to *fumus* remained a scientifical speculation, and did not trigger any discrimination against lepers.

For what concerns the *Liber Regalis*, the translation made by Stephen of Antioch, the text of chapter I.VIII.15 can be read in two digitized codex: (L) Leipzig, Universitätsbibliothek, MS 1131, f. 127r; and (G) Brugge, Grootseminarie, Ms. 98/134, f. 98r.[37] The translator choses the term *elephantia* to render *al-ǧuḏām* and all occurrences of *ʿadā/taʿaddā* correspond to the Latin *transeo*.[38] This verb, as can be gleaned from the *Lexikon Forcellini*,[39] is employed in classical Latin to define the stages of the development of a disease, that is, a biological mechanic, and there are some examples of its use together with terms referring to a pestilence, such as *lues* or *contagio*, both in a metaphorical and a technical meaning. Such sources might have driven Stephen of Antioch to a different choice from Constantine's one and to the use of one and the same

36 See TOUATI 1998, 139–151; TOUATI 2001; DEMAITRE 2007.

37 The same references are valid for the chapter I.VIII.14, concerning smallpox. About the author see BURNETT 2000 and 2006.

38 The third occurrence of *transeo* results from a correction of the transmitted text: in the sentence "hinc igitur est quod passio hec a patribus ad filios transit. ‹Transit› etiam morbus hic in cohabitantes patientibus eum," a verb for the subject *morbus* is clearly missing. The easiest way to make sense out of it is to suppose that one of two consecutive *transit* was omitted by copyists; they should translate the two occurrences of *yataʿaddā* in the Arabic text.

39 FORCELLINI, FURLANETTO, CORRADINI, PERIN 1940, entry *Transeo* (online: *Database of Latin Dictionaries*).

verb in a univocal correspondence with the Arabic original. Anyway, the translation employs a rather neutral lexicon: the disease can generally 'transfer itself' from a sick to a healthy body and the process remains unrelated to fear or moral censure. Thus, both the *PA* and the *LR* reveal themselves faithful to the sense of the Arabic original by keeping the discussion at a scientific level.

2. The pathology of smallpox (*al-ǧudarī*)

Unlike leprosy, a disease whose history can be traced back to Greek sources, smallpox was first described by Arabic authors.[40] In the *KM* it is classified as a skin disease and described in chapter I.VIII.14, preceding leprosy (Appendix II). Smallpox is named *al-ǧudarī*, a collective noun, and is accordingly identified with a plurality of pustules (*buṯūr*) affecting the whole body or its majority;[41] al-Maǧūsī adds that pustules concerning only some limbs are called either 'burning coal' (*ǧamr*) – by the ancients – or 'daughters of fire' (*banāt al-nār*) – by the Syrians.[42] Both *al-ǧudarī*, a word preexisting in Arabic, and *al-ǧamr*, a semantic loan, are used in Arabic translations to render the Greek ἄνθραξ (usually in the plural form), 'carbuncle';[43] this disease, already men-

40 RICHTER 1911(2); LEVEN 1993.

41 RICHTER 1911(2), 317 explains that its root refers to the act of "building a wall": *al-ǧudarī* thus means an "elevation," a "cutaneous eruption."

42 The text in Appendix II indicates that most manuscripts have the reading *al-suryānūna*, while DEH have *al-yūnāniyyūna*; Constantine translates *siri*, Stephen *greci*. This fact is important as it demonstrates that the two did not use the same Arabic codex; as explained in the following, lexical research shows that the correct reading is *al-suryānūna*.

43 For this reason, the correct reading of the Arabic text is *ǧamr* and not *ḥumr*, "erysipelas," as maintained RICHTER 1911(2), 317: this hypothesis is also supported by the diacritical points of the Arabic manuscripts. In ULLMANN 2007, 112 and 2006, 126 there is proof of the use of *al-ǧamr*/*al-ǧamra*, *al-ǧudarī* and *al-nār al-fārisī* to translate the same ἄνθραξ. It is worth noting that in a recently discovered Greek translation of the *KM*, dated to the 14th century (MIGUET 2022) *al-ǧamr* is translated precisely with ἄνθραξ (the transcription of Paris, Bibliothèque nationale de France, Suppl. gr. 638, f. 70v has been shared with me by Thibault Miguet, whom I sincerely thank). The distinction between *al-ḥumra* and

tioned in Hippocratic and Galenic works, is described in Paulus Aegineta's *Pragmateia* in a way that presents significant similarities with this chapter of the *KM*.[44] It is therefore probable that Arabic authors have found some similarities between this skin affection as described in Greek texts and what they called *al-ǧudarī*, so as to connect them. The same ἄνθραξ was translated in Syriac as *bnāt nurā*, corresponding literally to the Arabic "daughters of fire" (*banāt al-nār*).[45] Al-Maǧūsī is thus trying, in this chapter, to collect and at the same time distinguish the complex and varied vocabulary related to smallpox.

The disease is typical of children, as its remotest cause lies in the bad quality or substance of the mother's body, which is transmitted to the child during either pregnancy or breastfeeding:[46] while the best part of the menstrual blood or of the mother's milk is used by nature for the child's growth, the remaining part dwells in his body as a superfluity and can thus be driven

al-ǧamra is also explained by al-Maǧūsī in I.VIII.9 describing the tumor (*waram*) known as phlegmon: *ḥumra* is a kind of tumor generated by unbalanced, warm and thin blood, while *al-ǧamra* – or *al-ǧudarī* or *banāt al-nār* – is a tumor generated by blood of thick substance. This implies that smallpox was considered as a kind of tumor but appearing on the surface of the body and thus integrated in the chapters concerning skin diseases. A more comprehensive analysis of the whole book VIII might shed better light on the classification of these conditions.

44 See PAULUS AEGINETA 1921, *Epitomae medicae libri septem*, c. IV.25, 346: although the etiology is not the same, the disease is identified with scab-like ulcers, stinging, as big as mill grains, similar to fire burns and prone to breakage and suppuration; sometimes it has an epidemic origin. On the contrary, no similarities between ἐρυσίπελας in the *Pragmateia* and in the *KM* can be found.

45 BROCKELMANN 1928, 94; PAYNE SMITH 1879, 592. I sincerely thank Marianna Zarantonello for her help with the Syriac lexicon.

46 Concerning the nourishment of the fetus by menstrual blood, see *KM*, I.I.XXV ("On the science of the four humors") and I.III.34 ("On the uterus in which there is the fetus"). With the purpose to demonstrate that the four humors in the human body are always mixed with blood, it is recalled that the menstrual blood is not pure but composed by a mixture of blood and humors necessary to nourish the fetus. It is an action proper to the *virtus naturalis* to generate blood in the woman's liver, to push it to the womb and then to make the fetus grow through its nourishment. About breastfeeding, see I.III.35 ("On the breasts"), where the similarity between breast milk and menstrual blood is explained.

to the surface of his body. Such development into a skin disease is caused by different agents, either external, such as the pestilential air or the proximity to people affected by smallpox, or internal, such as a bad regimen. This etiological section is followed by a 'guide' to achieve a differential diagnosis between different forms of smallpox according to the nature of the blood it is caused by. Some of these forms have a specific nomenclature: the 'Persian fire' (*al-nār al-fārisī*) is that originated by black bile;[47] within the category of 'burning coal' (*ǧamr*) there is a specific kind, the measles (*ḥaṣba*), caused by warm but thin blood and recognizable, in its full development, by the aspect of the pustules, red, like a seed of grain, not purulent, but covered by a scab. The final sentences are dedicated to symptomatology.

This chapter is interesting, in the first place, as it proves how complex the etiology of a disease can be: smallpox is hereditary, but its appearance can be triggered by pestilential air, by contagion via proximity and by a bad regimen. While in the case of leprosy the inter-generational transmission is due to the father's sperm and seems to be only one of the possible causes, here the mother's menstrual blood plays a primary role;[48] this difference notwithstanding, the tone of the chapter is similarly neutral, devoid of any censorship against the mother: it is an act of nature (*ṭabīʿa*) – a physiological process – that provokes such passage of superfluities, and the mother's sexual conduct or personal regimen is not considered responsible.

Moreover, the text confirms that pestilential air (*al-hawaʾ al-wabāʾī*) is not the same of the infectious one, as the two are considered different external factors; in this case, the root *ʿadā* does not occur, but the physical proximity to

47 See *supra*, n. 43: this term had been used to render the Greek ἄνθραξ as well.

48 This chapter about smallpox is not discussed in Van der Lugt 2008 and it appears that in later authors smallpox is not listed among hereditary diseases. Anyway, this passage proves significant as heredity is not conceived of as a cause 'parallel' to other ones, but as the primary one, because the interplay with other factors plays a role only after birth.

the affected people is expressed by the same verbs used in the chapter about leprosy (*ʾawā*, 'dwell'; *ǧālasa*, 'seat'), as well as the act of breathing (*ʾistanšaqa)* and the presence of vapor (*buḫār*) in the air. The provenance of the vapor is in this case specified: it dissolves (again *inḥalla)* from the ulcers present on the sick body. The external action of the vapor as a 'morbid agent' is recognized but embedded within the framework of the humoral pathology, as the infected body already has a superfluity prone to develop into a skin affection and the vapor originates from the bad complexion of the pustules.

Even in the case of smallpox, it appears, through a comparison with other Arabic texts, that the description of such a dynamic is an innovative element introduced by Al-Maǧūsī.[49] In the *Firdaws al-ḥikma* (*Paradise of Wisdom*)[50] there is only a general symptomology of the disease, but no etiology or differential diagnosis; a short hint at different kinds of smallpox can be found in *al-ḏaḫīra fī ʿilm al-ṭibb* (*The Treasure about the Medical Science*), but without any etiological explanation.[51] The monograph by al-Rāzī, *Kitāb fī-l-ǧudarī wa-l-ḥaṣba* (*Book about Smallpox and Measles*) offers a more interesting comparison.[52] According to this physician, the cause of smallpox lies in the heat and humidity of the blood, which naturally tend to diminish during growth through a pro-

49 An overview of Arabic medical works dealing with smallpox is given in ULLMAN 1970, 134.

50 ʿALĪ IBN SAHL RABBĀN AL-ṬABARĪ 1996, *Firdaws al-ḥikmat fī al-Ṭibb*, 307; German translation in SPIES 1966, 189–190. I wonder if the Arabic title (*fī al-ǧudarī wa-l-ḥumra*) is a misreading for *wa-l-ǧamra*, for the reasons explained above (*supra*, n. 43).

51 SPIES 1966, 190–191. On the work, whose attribution to Ṯābit ibn Qurra is now refused, see ULLMAN 1970, 136.

52 The transcription of the Arabic text from manuscript Leiden, Bibliotheek der Rijksuniversiteit, Or. 585/5, ff. 79v–94r, together with a Latin translation, can be found in RHAZES 1746, *De variolis et morbillis, Arabice et Latine, cum aliis nonnullis eiusdem argumenti*; it has been translated in German in ABŪ BAKR MUḤAMMAD IBN ZAKARIYYĀʾ AL-RĀZĪ 1911, *Uber die Pocken und die Masern (ca. 909 n. Chr.)*. The Latin print is useful as it also presents the passages about smallpox contained in al-Rāzī's major works, the *K. al-Ḥāwī*, the *Taqsīm al-ʿilal*, and the *K. al-Manṣūr*, whose modern Arabic editions are difficult to consult. As they mostly agree with the monograph, I will refer only to it. For a modern analysis of the work, see KATOUZIAN-SAFADI 2017.

cess of ebullition and evaporation: smallpox is a violent form of such expulsion affecting mostly children; in the case of elderly people, it might be triggered either by a hot and humid environment, or by a bad regimen. The differentiation between smallpox and measles is not exposed in a distinct section, but is scattered throughout the work: for example, bodies might be more disposed to be affected by one or the other,[53] the symptoms are different,[54] some therapies might be more effective,[55] the signs indicating the degree of lethality differ;[56] this is since measles arises from a blood dominated by bile.

From this sketch we can infer that the *KM* presents only general similarities with the earlier tradition, as it suggested also by a comparison with the various sources collected in al-Rāzī's *Kitāb al-Ḥāwī*. The most relevant innovation concerns etiology, with its interplay of various factors on the inherited bodily substance. The attempt to systematize the diverse nomenclature connected to the Greek ἄνθραξ in a system of types of smallpox, generated by a different blood composition, is also peculiar. Within this framework, the classification of measles is different from that proposed by al-Rāzī, and the symptomatology, while sharing some elements with the other ones, does not correspond entirely with any of them – for example, it does not refer to any psychological sign of the diseases. The fact that the etiology of the smallpox proposed by al-Mağūsī could be perceived as modern by Arabic physicians is

53 RHAZES 1746, *De variolis et morbillis,* 32–33.

54 RHAZES 1746, *De variolis et morbillis,* 38–39.

55 RHAZES 1746, *De variolis et morbillis,* 164–173; 178–181. In 166–167 it is stated that "morbilli autem, quoniam ex vehementi ebullitione bilis in sanguine gignantur, res illae his magis sunt salutares, quae cum vi earum refrigeratoria, humectant etiam: ut per has temperetur sanguis corruptus." It must be noted, anyway, that the corresponding Arabic word for *ebullitio* is a conjecture by the editor, but *ġalyya* is not attested in Arabic; the direct reading of the manuscript shows that it reads *ġalaba*: "And as measles originates from a strong domination of bile on the blood." This implies that the remotest cause of the disease – the ebullition of blood during growth – is the same of smallpox, but measles arises when this blood is also dominated by bile.

56 RHAZES 1746, *De variolis et morbillis,* 194–195.

suggested by *al-Muʿālağāt al-Buqrāṭīyya*, book VII, chapter 9.[57] The author refers explicitly to different opinons among the physicians of later generations about the origin of smallpox and contrasts al-Rāzī's view with the one proper to others "deviating from the way of the best ones," who maintain that it arises because of a corruption of the mother's milk unaccepted by the child's body and thus counteracted. Al-Mağūsī is not explicitly mentioned as the addressee of such criticism, but this is a proof that an etiology of smallpox similar to his own circulated among Arabic authors and was not widely accepted because it strayed away from the classical idea that the blood ebullition is mainly responsible for the disease. Finally, although al-Ṭabarī views *al-ğudarī as* epidemic (*wāfid),* being influenced by bad air, no mention of interpersonal contagion is made, thus confirming the innovative aspect of the KM.

Constantine the African translates *al-ğudarī* with *variola*: attentive research by Ernest Wickersheimer[58] has showed that this word has been used since the 9th century in a technical sense as designation of a transmissible skin disease whose cutaneous expression is like a burn.[59] The innovation by Constantine consists in associating it with the Arabic *al-ğudarī* and, subsequently, with a completely innovative pathological framework, as previous works did not offer a description of *variola*; in the *Passionarius*, for example, it is not even mentioned. Subsequently, *ğamr i*s translated with the Biblical expression *carbones ignis,*[60] to which a totally new medical meaning is attached; the following *banāt al-nār* corresponds literally to *filiae ignis.* The sentence in which the dynamic of contagion is described is remarkable: "motio eius aut de causa ex-

57 The relevant text is translated in RIHAB 1927, 142–149; for the Arabic text, see Leiden, Bibliotheek der Rijksuniversiteit, Or. 585/5, f. 206v.

58 WICKERSHEIMER 1963.

59 It must be noted that, as testified WICKERSHEIMER 1963, 179, the first occurrence of *variolatus* in Cassius Felix, *De medicina*, c. 22, refers to "carbunculi quos Graeci anthraces vocant": i.e., to the same diseases that Syriacs and Arabs linked with smallpox.

60 *TLL*, vol. III, 430–431.

teriori, sicut aere pestilentiali, vel etiam de sedili in quo prius hanc habens pestem sederit et in sedili remanentis odorem morbi residens postea odoraverit." The periphrasis "hanc habens pestem" as translation of *al-muǧaddirūna* ("those affected with smallpox") is relevant, as it uses the term *pestis*, negatively connotated, instead of the neutral *morbus*.[61] The Arabic vapor is not rendered here with *fumus* or *aer* – as in the case of leprosy – but with *odor*, a recurrent, almost technical term in the Latin tradition to designate the morbid and contagious nature of air, but suggesting anyway the idea that the affected bodies, because of their bad smell, are repulsive.[62] Finally, the origin of the vapor given in the *KM* is totally omitted and substituted by the 'remaining disease' (*remanens morbus*), considered as a separate entity detachable from the sick body. Therefore, the impression is that the contagious potentiality of smallpox is described in a less scientific way than the one proper to leprosy, modifying in a sensible way the Arabic original.

At the beginning of the section about differential diagnosis, *ǧamr* is translated differently, as *ignite prune*, making it difficult for the Latin reader to identify them with the previous *carbones ignis*. The following description of the pustules is meaningful insofar as it is based on a specific interpretation of the diacritical points of the Arabic text: the verb *camerari*, 'take the shape of a vault', must render the Arabic *tataqabbaba*, while *aperiuntur* corresponds to *tatafattaḥa*. An interesting point is also the translation of 'the Persian fire' (*al-nār al-fārisī*) by *ignis sacer*, which can be explained in two ways: on one side, the Arabic *al-fārisī* can be easily confused with a word stemming from the root *qds*, designating 'holiness'; on the other side, *ignis sacer* as a skin disease was surely familiar to Constantine from the previous Latin tradition and this

61 On the use of this term in relation with epidemics, see STOK 2000, 61–62.
62 STOK 2000, 81–84.

might have prompted him to interpret the Arabic text accordingly.[63] The Arabic *al-ḥaṣba* is omitted in the following sentence ("est item variola de sanguine calido et subtili"); this might explain why the title of the chapter is simply *de variola*. Another word that Constantine does not render with a Latin equivalent, but rather with several expressions, is *ḫaškarīša*, 'scab': "(pustule) habentes pruriginem atque duritiem; habent putredinem et ardorem"; "(variola) dilatatur et evanescit"; such variety might be explained either by the fact that the technical meaning of the Arabic word was not clear to him, or that he purposedly tried to describe the final stage of the development of the pustules in a different way for every kind of *variola*.

In the *LR*, the title of the chapter mentions both *variola* and *rubeola*: this second term, translation of *al-ḥaṣba*, is not attested before and has probably been coined by Stephen, not based on the Arabic semantic – as the root *ḥṣb* refers to 'pebbles', 'gravel' – but on the external appearance of the disease, causing a redness of the skin. Here, *ǧamr* corresponds to *carbones adustos*, while the following *filiae ignis* translates literally *banāt al-nār*, as in the *PA*. The dynamics of contagion is rendered in a more faithful and neutral way than in the *PA*: the disease might be caused by "in locis sessione que habitacula sunt variolam patientium, in quibus qui sedent aera respirant quem vapores miscent ab ulceribus variolarum dissoluti."[64] Subsequently, *ǧamr* is rendered with the same expression, *carbones ignis*, which Constantine had used, thus creating a certain incoherence. The same difficulty in understanding *ḫaškarīša* occurs. The term is translated by Stephen, in its first appearance, as *prurigo et*

63 On the history of the disease see WICKERSHEIMER 1960, 167–168; FOSCATI 2013.

64 A remarkable feature of this sentence is the use of the verb *misceo*. Clearly, the vapors do not 'mix the air', but 'mix themselves with the air': Stephen ascribed to the Latin verb the same reciprocal meaning that the Arabic *ḫālaṭa* (third derived stem) has, as well as its grammatical construction subject + verb + accusative = 'someone mixes with something'.

duricies, clearly on the basis of *PA*; later, he chooses the periphrasis *vesice et scalpores*, whose second word is not attested before and might derive from the verb *scalpo*, 'carve', 'scratch', and mean 'scratches of skin' like those caused by *adustio*.[65] Another word that has caused some struggle for both translators is *ṣadīd*, 'pus (of a wound)': Constantine uses *acuta putredo*, Stephen *rubigo*, which, designating a 'reddish deposit', might be considered as an effective choice. Lexical difficulties also arise in the recognition of *nafṭ*, 'blister' (especially those arising on a hand because of hard work): while Constantine does not translate it,[66] Stephen does not read the Arabic text with the correct diacritical points and interprets the word as *nuqaṭ*, occurring also in the precedent lines, whose translation is *gutta* – obviously, for the Latin reader, the expression "guttis que ex adustione fiunt ignis" could not be totally clear.

The 'Persian fire' (*al-nār al-fārisī*) is here *ignis (s)acer*:[67] evidently, Stephen was influenced by Constantine in reading in the Arabic *al-fārisī* the root *qds*. In correspondence to the third occurrence of *ḫaškarīša* there is probably a textual corruption: in the text "nec aperiuntur pustule sed fiunt/fient,"[68] translating the Arabic "laysa tatafattaḥu bal taṣīru ḫaškarīša," a final noun is missing. An omission by the scribes can be supposed, or the difficulty of the

65 The model for this noun formation should be the one described in LEUMANN 1977, 377–379: a masculine deverbal noun formed with the suffix *-or, oris*; although such formation usually gives origin to abstract nouns, *scalpor* as 'scratch' refers to an 'external', perceivable property of the skin, and for this reason it might have been coined this way by Stephen.

66 His translation is: "fit vesica sicut igni incensa," where *vesica* corresponds to both *naffāḫa* and *nafṭ*.

67 The most ancient manuscripts read *ignis acer*, but this might be due to a copyist's error; as both *ignis acer* and *ignis sacer* are used in Latin to refer to the disease, only an extensive edition of the *LR* could suggest which one was the translation chosen by SA.

68 I interpret as *fiunt* the text of codex G, whereas L has the verb *fient*; in a rather uncommon way, these verbs are not abbreviated in manuscripts, and this might be a sign of the difficulty of the scribe to make sense of the sentence. The printed edition of *LR* (*editio princeps*, Venezia, Bernardinus Ricij da Novara, 1492) has *fluunt*, probably an attempt to make sense of the text.

term might have prevented Stephen from rendering *ḫaškarīša*, maybe in view of a later completion (never achieved); this second hypothesis could be confirmed only if such a phenomenon was observed in other parts of the work. The final paragraph, dedicated to symptomatology, does not present significant peculiarities: evidently, this lexicon was more familiar to both translators. Both Constantine and Stephen have had a hard time at finding Latin equivalents for the complex Arabic vocabulary describing cutaneous lesions, and their translations of this chapter shows what kind of challenge they were facing: clothing in expressions familiar to their readers an innovative and complex medical theory.

Conclusion

The analysis of leprosy and smallpox in the *KM* has shown that the etiology of a disease, for medieval physicians, often involved an interplay of different factors, not excluding one another but variously combined, and that a certain dynamic of contagion certainly was not unknown to them. Since the body is a complex organism, contagion was considered as a cause among others; there was also an effort to grasp its mechanics, at least in theoretical treatises. These texts prove that no contradiction was perceived in the co-existence of different harmful causes, as they are all integrated in the general humoral theory and coexist with other changes in the bodily complexion.

Secondly, the necessity to set the *KM* in a precise historical context has been highlighted: only a thorough comparison of these chapters both with the Greek sources and with other Arabic treatises has allowed to observe its originality in the field of pathology as well as its attempt to arrange in a coherent picture the traditional doctrines. The comparison with the two Latin

translations demonstrates that, while Stephen of Antioch completely adheres to the scientific approach of the Arabic original, Constantine the African manages to use a totally neutral language only in the description of leprosy. Anyway, the overall impression is that the Latin readers were provided with an innovative and laical pathology of these diseases. Finally, the challenge to create a new lexicon as a vehicle for new ideas has been underlined, thus suggesting that the field of cutaneous diseases is one of the best 'case studies' for comparative readings of medical treatises.[69]

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69 I have dealt with the relationship between the powers of the rational soul and bodily complexion elsewhere: ZUCCOLIN 2019.

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APPENDIX I

Leprosy (*al-ǧuḏām*)[70]

في صفة الجذام وأسبابه وعلاماته

فأمّا الجذام فهو مرض يجفّف سائر أعضاء البدن ويفسّدها باليبس وهو بمنزلة سرطان حادث في جميع البدن وحدوثه يكون من ضعف القوّة المغيّرة التي في اللحم إذا كان ذلك من سوء مزاج بارد يابس ومن غلبة الخلط السوداوي على الدم وإفساده إياه فيصير إلى سائر الأعضاء ليغذوها فيجفّفها ويفسّدها باليبس ويفسّد مع ذلك أخلاط البدن ويفسّد المنى إذا كانت الأخلاط والمنى إنّما حدوثهما عن الدم حتّى أنّ هذه العلّة تعدو[71] إلى النسل فتحدث بالأولاد وذلك أنّ جوهر المنى ممّن هذه حاله يكون مختلطاً بالأخلاط الرديئة المحدثة لهذا المرض والولد المتكوّن من هذا المنى تكون أخلاط بدنه مشاكلةً لهذه الأخلاط وأعضاؤه الأصلية متكوّنة من جوهرها فلهذا ما تتعدّى هذه العلّة من الإباء إلى الأولاد وقد يتعدّى هذا المرض أيضًا إلى من يجالس أصحابه ويأوي معهم لمّا يتحلّل من أبدانهم من البخار الرديء ويستنشقه من يحضرهم

70 A list of all preserved manuscripts of the *KM* is edited in Troupeau 2018; an Arabic edition of the whole work has been published as ʿAlī ibn al-ʿAbbās al-Maǧūsī 2018 [*Kāmil al-ṣināʿa al-ṭibbyyia*], based on the collation of three manuscripts. The texts I will quote in Appendix I and II rely on the collation of the following manuscripts: (D) Dublin, Chester Beatty Library, Ar. 3996 [13th c.], ff. 135v–136r; (G) Princeton, University Library, Garrett Suppl. 1S [1190], ff. 105r–106v; (H) London, British Library, Or. 6591 [1153], ff. 82r–83r; (I) Paris, Bibliothèque nationale de France, ar. 2791 [1261], ff. 165rv; (E) Madrid, Biblioteca Nacional de España, Ar. 129 [15th c.], ff. 149rv; (Bi) Birmingham, Selly Oak Colleges Library, Mingana Ar. 1284 [14th c.], ff. 93r–94r; (Par) Paris, Bibliothèque nationale de France, ar. 2874 [1151], ff. 81r–82v; (Par1) Paris, Bibliothèque nationale de France, ar. 2875 [13th c.], ff. 26r–27r; (L) Leiden, Bibliotheek der Rijksuniversiteit, Or. 450/1 [1279], ff. 108v–109r.

71 All manuscripts have the reading *tuʿdī* / *tuʿdā*, depending on the diacritical points: so written, the verb should be the fourth derived stem from *ʿadā* (*ʾaʿadā*). This verb has the usual meaning of 'infect', but, as it is common for causative verbs of the fourth derived stem, it is always constructed with the accusative, and not with the preposition *ʾilā* (see the corresponding entry in Lane 1863–1893). For this reason, I am inclined to read *taʿduwa*, subjunctive of the first stem *ʿadā*, which means 'infect' with the preposition *ʾilā* introducing the infected person; the script of the manuscripts might be due to the fact that the final *waw* of the subjunctive is vocalized with *fatḥa*.

والجذام نوعان فمنه ما حدوثه من الخلط السوداوي الذي هو عكر الدم وثفله وهذا الجذام لا يكون منه تساقط الأعضاء وربّما أنجب[72] فيه العلاج وبرئ منه صاحبه برءًا تامًّا إذا تلوحق في أوّل حدوثه والنوع الثاني يكون حدوثه عن المرّة السوداء الحادثة عن احتراق الصفراء وهذا النوع معه يكون تأكّل الأعضاء وتساقطها ولا يكاد يبرأ صاحبه

وعلامات الجذام في أوّل حدوثه أن تكون في بياض العين كمودة وتراها كأنّها مستدرة الشكل ولذلك سُمِيتُ هذه العلّة داء الأسد وإذا استحكمت كان معها تساقط الأعضاء وانتثار شعر الأجفان والحاجبين وتحدث في الحلق بحوحة ويصير الوجه منتفخًا متعجرًا مائلاً إلى الحمرة وتشقّق الأنامل وتبس الخياشيم وتغلظ عروق اللسان وربّما سقط الأنف فهذه صفة أسباب الجذام ودلائله

On leprosy, its causes, and symptoms.

Leprosy is a disease that desiccates all the organs in the body and corrupts them through dryness: it is like a cancer affecting the whole body. Its appearance is originated by the weakness of the mutative faculty which is in the flesh, since this (disease) originates from the harmfulness of a cold and dry complexion, and from the black bile dominating and corrupting the blood; as a consequence, it (the blood) reaches the other limbs to nourish them, but then it desiccates them, corrupts them through dryness – and consequently corrupts the humors of the body. It (also) corrupts the sperm because both humors and sperm generate from blood, so this disease also propagates to the progeny and appears in the children. This happens because the substance of the sperm of men affected by this condition consists of bad humors, which originate this disease, and the humors of the body of the child generated by this sperm are similar to these humors and his main limbs are generated by

72 This reading is shared by all manuscripts, but its sense is not clear: *ʾanǧaba* means "to beget a noble child" (see the corresponding entry in LANE 1863–1893). The Latin translations use the verb *prosum*, therefore they probably read in the Arabic text *ʾanǧada*, 'help'. A confusion between the letters *bāʾ* and *dāl* is possible, but only a more thorough knowledge of the *KM* will help establish the correct reading; for now, the translation will be based on the verb *ʾanǧada*.

their (of the humors) substance. And it is because of this that such illness is propagated from fathers to children. Moreover, this illness may infect also who sits next to the sick and dwells with them, as their bodies give off a bad vapor and those who visit them inhale it.

There are two kinds of leprosy: one which is generated by the black humor, which is a turbidity and a sediment of the blood; there is no limb loss and sometimes its treatment is successful, and the patient recovers perfectly, if it (the treatment) is applied directly after its initial stages. The second kind is generated by the black matter formed by the burning of the bile: this kind causes corruption and loss of the limbs, so that the patient hardly recovers.

Concerning the symptoms of leprosy, at the first stage of development they consist of dullness in the white of the eye, and (the eye) appears to you as if it were of a round shape: that is why this disease is called 'leontiasis'. Moreover, when it acquires strength, it is accompanied by the loss of the limbs and the fall of the eyelid and eyebrow hair; raucousness affects the throat; the face becomes swollen and wrinkled and tends to be reddish; the fingers crack; the nostrils desiccate; the veins of the tongue thicken; sometimes, the nose flattens. These are the causes and signs of leprosy.

APPENDIX II

Smallpox (al-ǧudarī)

في صفة الجدري والحصبة وأسبابهما

فأمّا الجدري فهو بثور[73] صغارة تنفرش في جميع البدن أو في أكثره وربّما حدثت في بعض الأعضاء دون بعض وهو الذي يسمّيه القدماء الجمر ويسمّيه السريانيون[74] بنات النار وهذه البثور تحدث بأكثار الناس في زمان النشوء وذلك لأنّ الجنين في الرحم يغتذي من دم الطمث الذي هو فضل من فضول بدن المرأة تدفعه الطبيعة من الكبد في العروق إلى الرحم كالذي ذكرنا في غير هذا الموضع

وهذا الدم مخطفة في جوهره وكيفيته أمّا في جوهره فربّما كان الغالب عليه جوهر الدم وربّما كان الغالب عليه جوهر الصفراء والسوداء أو ربّما كان الغالب عليه البلغم وأمّا في كيفيته فيكون إمّا دمًا محمودًا وإمّا دمًا مذمومًا والجنين يغتذي بأجود ما فيه وتتربّى به أعضاؤه ويبقى الباقي في أعضائه وعروقه فإذا خرج الجنين أيضًا من بطن أمه فغذاؤه من اللبن واللبن كونه من دم الطمث والأعضاء تغتذي بأجوده ويبقى البقي فضلاً في بدنه إلى أن يحرّكه سبب ما إلى الظهور فيظهر

وتحرّكه يكون إمّا عن سبب من خارج بمنزلة الهواء الوبائي أو الجلوس في المواضع التي يأويها المجدّرون فيستنشقون الهواء الذي قد خالطه البخار المنحلّ من قروح المجدّرين وإمّا من داخل فبمنزلة تدبير الصبي بالأغدية الحارّة الرطبة الغليظة الجوهر بمنزلة الأكثار من أكل اللحمان والحلواء والتمور وغير ذلك من الأغذية الملائمة للفضل الرديء المجتمع في البدن فيزيد في كميّته فيحدث له غليان فتقوى عليه الطبيعة فتدفعه إلى ظاهر البدن فتحدث عنه البثور المعروفة بالجمر فتكون في قوّة الرداءة وضعفها بحسب كيفية الفضل الرديء وجوهره

فإن كان الدم المحدث له حارّ المزاج غليظ الجوهر وليس يردؤ الكيفية كان منه النوع من الجدري الذي أوّل حدوثه بثور صغار حمر وتتزيّد في العظم حتّى تنتهي إلى قدر العدسة الكبيرة وتستدير وتنثقب[75] ويصير لها بريق وتتقيّح[76] سريعًا وإذا تقيّحت كان لونها أبيض برّاقًا شبيهًا باللؤلؤ وتحدث لها مع التقيّح

73 كثيرة: *post add.* GEHLPar1Bi
74 اليونانيون : DEH
75 وتتقبب : GLBiPar1] وتتفتح .: H] وتثقب : E
76 وتتفتح : EH (such difference in vocalization recurs in all occurrences of the verb تقيّح)

خشكريشة صلبة وهذا الصنف منها أسلم ما يكون

وإن كان حدوث الجدري من دم غليظ سوداوي رديء الكيفية فإنّ ابتدأ حدوثه يكون بثورًا كمدة اللون في وسطها نقط سود وإذا عظمت تفرطحت وانبسطت واتّصل بعضها ببعض ولم تستدر بل يصير شكلها مختلف الجوانب ولونها شديد الكمودة إمّا في لون الرصاص وإمّا مائلاً إلى السواد كلون الرماد وإمّا مائلاً إلى الصفرة أو الباذنجانية وإذا انفجرت تصير لها خشكريشة سوداء شبيهة بحرق النار وربّما لم تتقيّح وما كان منها كذلك فهو رديء مهلك وإذا خالط الدم صديد حدث فيها بين هذه القروح نفّاخات فيها صديد شبيهة بالنفط الذي يحدث عن حرق النار ويُقَالُ لذلك النار الفارسي وهذا أيضًا رديء جدًّا

وفي الجمر نوع يُقَالُ له الحصبة وحدوثه عن دم حارّن رقيق ليس بالقوى الرداءة وهذا النوع إذا انتهى منتهاه كان شبيهًا بحبّ الجاورس أو أكبر منه قليلاً وكان لونه أحمر وليس يتقيّح بل تصير خشكريشة

والدلائل العامّية في ابتدأ حدوث الجدري هي الحمّى وانتفاخ الوجه والأصداغ والأوداج وحكّة في الأنف وتلهّب وحمرة في الوجه وفي العضو الذي يحدث فيه ذلك وثقل في الرأس وخشونة في الحلق فإذا رأيت هذه العلامات مع الحمّى اللازمة فلعلم أنّها تدلّ على حدوث الجدري

On smallpox and measles.

Smallpox consists of small pustules which spread over the whole body or most of it. Sometimes, they appear in some limbs and not in others, and this is the (smallpox) that the ancients used to call ‘burning coal’ and the Syrians used to call ‘daughters of fire’. These pustules appear, in most people, during the age of growth, since the fetus in the womb feeds on the menstrual blood, one of the superfluities of the female body, which nature drives away from the liver, through the veins, to the womb, as we have said in other places.

This blood is various in its substance and quality. For what concerns (the variedness) in its substance, sometimes the substance of blood dominates it, sometimes the substance of bile or of black bile, or sometimes the substance of phlegm dominates it; for what concerns (the variedness) in its quality, sometimes it is praiseworthy blood, sometimes it is blameworthy blood. The

fetus feeds on the best which is in it and his limbs grow because of it, while the rest remains in its limbs and vessels. Also, when the embryo goes out from the mother's womb, his nourishment is from the milk, and the essence of the milk is from the menstrual blood, and the limbs feed on its best part, and the rest remains as a superfluity in his body, as long as some cause moves it towards the outside, so that it comes out.

And its movement is due either to an external cause, such as pestilential air, or to sitting in places where those affected by smallpox dwell, so that they (the healthy people) breath the air with which the vapor given off by the ulcers of those affected by smallpox is mixed, or to an internal one, such as a regimen of the boy based on warm, humid foods and of thick substance, such as most meats, the sweet foods, the dates, and other foods in accordance with the bad superfluity collected in the body, the consequence of which is that it (the superfluity) increases in its quantity, ferments, nature acts on it and pushes it to the surface of the body, so that on it (the surface) appear the pustules known as 'burning coal'. These are in the intensity of their harmfulness and weakness according to the quality and the substance of the bad superfluity.

If the blood which produces it is of hot complexion, thick of substance and not of bad quality, from it we have the kind of smallpox whose first appearance consists of small, red pustules that increase in dimension until they reach the measure of a big lentil, become round and are perforated, on them comes a glitter and become quickly purulent; if they become purulent, their color is white, shining, similar to a pearl; when becoming purulent, on them appears a hard scab. And this kind of theirs is the healthiest.

If the appearance of smallpox originates from thick, melancholic blood of bad quality, the beginning of its appearance will consist of pustules of livid color,

with black dots in their middle, and when they increase, they broaden, expand and unite with one another, and they do not become round, but their shape becomes irregular on the sides and their color of strong dullness, either in the color of lead, or inclining towards blackness, as the color of ashes, or inclining towards yellowness or (towards the color) of eggplants. If they erupt, a black scab appears on them, like a burn caused by fire, and sometimes they do not become purulent. And what comes from them, if they are in this state, is harmful and destructive; and if the blood mixes with pus, bladders appear between these ulcers, like the vesicles that appear because of a fire burn and (this kind) is called 'the Persian fire', and it is also very harmful.

In 'burning coal', there is another kind which is called 'measles', whose appearance is caused by warm, thin blood, and in the intensity, there is no harmfulness. When it reaches its acme, it is like a seed of grain or something bigger, and its color is red, and it does not become purulent, but a scab appears.

The general signs of the beginning of the appearance of smallpox, are the fever, the swelling of the face, of the temples, and of the jugular veins, itching in the nose, inflammation and reddening in the face and in the limb where this (disease) appears, heaviness in the head, coarseness in the throat. When you see these symptoms together with fever inherent to them, know that they indicate the appearance of smallpox.

APPENDIX III

Transmissible diseases[77]

فأمّا التحرّز من الأمراض المعدية كالجذام والجرب والسلّ والبرسام والجدري والرمد والسبل فإنّ هذه أمراض تتعدى[78] إلى من يجلس أصحابه فليس ينبغي أن يجالس الإنسان أمثال هؤلاء ولا يأوي مع من هذه حاله في بيت واحد وأن يتباعد عنهم إلى مواضع تكون فوق الريح الهابّة بهم فهذه جملة من التدبير ينتفع بها من أراد التخلّص من الأمراض الوبائي والمعدية

As for the prevention from transmissible diseases, such as leprosy, scabies, phthisis, pleurisy, smallpox, *sabal*,[79] these are diseases that infect who sits together with people affected by them, so that people should not sit with them and should not dwell in the same house of those whose condition is this, and they should move away from them to places above the wind that blows by them. This all about the regimen that benefits who wants to be free from pestilential and transmissible diseases.

77 This text is based on the collation of the following manuscripts: (Ch) Dublin, Chester Beatty Library, Ar. 5437 [XIV], f. 95v; (P) Dublin, Chester Beatty Library, Ar. 3995 [1145], f. 23r; (R) Paris, Bibliothèque nationale de France, Arabe 2877 [XI], ff. 80v–81r; (S) Paris, Bibliothèque nationale de France, Arabe 2878 [XI]; (G), f. 92r.

78 In this passage, codex Ch, P and G read *tuʿdī ʾilā*, thus presenting the same problem described above (*supra*, n. 71); the accepted text is that of codex R, while S has *tuʿdī man*, without *ʾilā*, which would be correct as well.

79 *Sabal* is an eye disease (see the corresponding entry in LANE 1863–1893: "A certain disease in the eye, resembling a film, as though it were the web of a spider, with red veins").

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Healing the Soul by Transforming the Body: A New Way of Framing Avicenna's Science of the Soul

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Abstract: Although scholars acknowledged that Avicenna's science of the soul stands at the crossroads between natural philosophy and metaphysics, thus combining an overall physical investigation of all sublunary souls with a *trans*-physical (or *proto*-metaphysical) inquiry into the human rational soul, this paper aims to show a further disciplinary entanglement within Avicenna's science of the soul, which features in the aforementioned physical investigation and helps to frame it, that is, the interaction between natural philosophy and medicine. Despite the strict division between these two disciplines in Avicenna's system of science, medicine seems to decisively contribute to accounting for the bodily functions of living beings. For this reason, Avicenna refers to medicine several times in his exposition on the soul. This paper approaches the disciplinary entanglement between natural philosophy and medicine in psychology by focusing on the medical concept of *pneuma* (*rūḥ*), which prominently features in the exposition of three main issues in psychology, i.e., body ensoulment, powers differentiation, and emotions.

Keywords: Avicenna; Galen; Aristotle; soul; body; pneuma; temperament.

1. Introduction

The *Kitāb al-Nafs* (*Liber de Anima seu Sextus de naturalibus* in Latin, *Book of the Soul* in English, henceforth *Nafs*) offers Avicenna's most exhaustive account of the soul. The soul (Ar. *nafs*, Lat. *anima*) is the immaterial principle of sublunary life which, together with the body, constitutes the organic, living composite, be it a plant or an animal (either non-human or human).[1] This account

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1 Avicenna 1959, *Nafs* I, 1, 5.3–6.1 [16,87–18,10]. All quotations from and the translations

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of the soul, however, is not unproblematic. On the one hand, it aims at providing the most general explanation of how the embodied soul is responsible for the activities that sublunary living beings exhibit: the soul is the form (Ar. *ṣūra*, Lat. *forma*) of the organic body, always considered (and known) in connection with it and inseparable (Ar. *ġayr mufāriqa*, Lat. *non separata*) from it. I labelled this investigation of the soul *psychologia generalis*. On the other hand, however, this account also acknowledges the specificity of the human, rational soul, which, unlike other sublunary souls, enjoys a higher status: by coinciding with the theoretical intellect (Ar. *ʿaql* or *ʿaql naẓarī*, Lat. *intellectus* or *intellectus contemplativus*), it acts independently of any bodily organ and, consequently, survives the corruption of the body, although the condition of actual separation from it and identification with the theoretical intellect is experienced only in the hereafter (Ar. *maʿād*, Lat. *post mortem*).[2] I labelled this investigation of the human, rational soul *psychologia specialis*.[3]

Avicenna's science of the soul (or psychology) thus combines a more general, overall *physical* approach to the immanent principle of all instances of organic life with a specific, *trans*-physical (or *proto*-metaphysical) orientation towards the human, rational soul as a separable entity. Consequently, though placed within the boundaries of natural philosophy, the science of the soul stands at the intersection between physics and metaphysics, making it hard to compartmentalize psychology into a single branch of theoretical

of Avicenna's *Kitāb al-Nafs* are based on AVICENNA 1959. The quotation from Avicenna's *Nafs* is usually followed by the reference to the page and the line number of the corresponding passage in the Latin translation in square brackets. See AVICENNA 1968 and AVICENNA 1972. All quotations from and the translations of Avicenna's *Kitāb al-Qānūn fī l-ṭibb* are based on AVICENNA 1981–1996. All quotations from and the translations of Avicenna's *Maqāla fī l-adwiya al-qalbiyya* are based on AVICENNA 1984.

2 See AVICENNA 1959, *Nafs* V, 5, 238,1–9 [132,14–23]. See also AVICENNA 1959, *Nafs* I, 1, 11,1–3 [27,32–4].

3 See ALPINA 2021, esp. 58–95.

philosophy (e.g. natural philosophy or metaphysics).[4] Though acknowledging its amphibious status between physics and metaphysics is crucial to correctly frame Avicenna's science of the soul, this aspect does not exhaust all its essential features. Within the above-mentioned general approach to the soul (*psychologia generalis*), another crucial disciplinary entanglement is detectable, namely that between natural philosophy and medicine. Avicenna was not only a renowned philosopher, but also a prominent physician, who read Greek medical texts translated into Arabic, and considered Galen as the chief authority in this field. Consequently, it is no surprise that, in explaining the biological processes for which the soul is responsible, Avicenna is also interested in tackling their physiological counterpart, which in turn can explain their pathological conditions (e.g. malfunction, impairment, etc.). In fact, this is what direct observation, on which medical practice is grounded, suggests to him.

To this end, in his psychology, he extensively makes use of the medical concept of *pneuma* (or *spirit*, Ar. *rūḥ*, Lat. *spiritus*), both in his account of (external and internal) perception (and related topics), and in his more general exposition on the instruments (or organs, Ar. *āla*, Lat. *instrumentum*) of the soul. By both relying on Galenic teachings (for instances, his exposition in *Quod animi mores corporis temperamenta sequantur* and *De placitis Hippocratis et*

4 As I have shown in the second chapter of my book (see *supra* n. 3), the epistemological status of the science of the soul troubled all the exegetes of Aristotle's *De anima*, where a comprehensive investigation of the soul as the principle of sublunary life is carried out for the first time. Concerning the place of psychology within the theoretical sciences, it is worth mentioning the position held by al-Kindī. In his *Treatise on the Quantity of Aristotle's Books and What is Required for the Attainment of Philosophy* (*Risāla fī kammiyya kutub Arisṭāṭālīs wa-mā yuḥtāǧu ilayhi fī taḥṣīl al-falsafa*), al-Kindī assigns to psychology a middle rank between natural philosophy and metaphysics, similar to that of mathematics, because its subject has no need for nature, subsists in itself, and does not require bodies, even though it exists together with bodies to which it is connected in some way. See AL-KINDĪ 1940, 364,15–365,1.

Platonis, both available in some form in Arabic)[5] and adjusting them to his own claims, Avicenna identifies in the pneuma that originates in the heart at the moment of conception the vehicle of the soul and its powers: it is the first anchor of the soul to the body, and helps to understand how the soul concretely performs those activities which require a bodily organ (that is, all but intellection).

Being a body in every respect, pneuma results from the interactions between four homogenous components, i.e., the four humours (blood, phlegm, yellow bile, black bile), which in turn derive from food digestion. Avicenna even adds that pneuma comes from the quintessence of humours, because it is a *sui generis* body, bordering on incorporeality.[6] Like other bodies or body parts, pneuma exhibits a *temperament* (or *complexion*, Ar. *mizāǧ*, Lat. *complexio*) or a temperamental form (Ar. *ṣūra mizāǧiyya*, Lat. *forma complexionalis*), that is, a uniform quality that makes it suitable to receive its specific form, i.e., the soul and, consequently, its powers and their objects. In fact, pneuma guarantees the soul a first, unitary attachment to the body through the heart, and then transfers the powers from it to their primary location (e.g., the brain for perception and locomotion, the liver for nutrition, testicles for reproduction) and, from there, eventually to the organ on which the exercise of a specific activity depends (e.g., the crystalline lens and the optic nerve in the case of sight). In addition to that, pneuma also transports the objects perceived by the powers it carries, and transmits them to other powers (e.g., the forms perceived by the five external senses to the internal senses located in the cavities – or ventricles – of the brain). This physiological aspect of Avicenna's theory of the soul entails that any alteration of the physical char-

5 See GAROFALO 2011.

6 See AVICENNA 1959, *Nafs* V, 8, 263,13–15 [175,56–58] (see *infra* n. 15); AVICENNA 1981–1996, *Qānūn* I, I, vi, 4, 126,22–24; and AVICENNA 1984, *Adwiya qalbiyya* 1, 222,5–10.

acteristics of the pneuma or any impairment of its movements results in the alteration or impairment of the relevant soul powers as well as the altered reception (or transfer) of their objects. The same holds true for the impairment or corruption of the specific organs of those powers. Finally, the pneuma in the heart is the regulator of animal heat and, most importantly, the seat of emotions. Its temperament accounts for the individual's disposition towards some emotions and not others, and a change in its temperament can result in the corruption of a previous disposition towards some emotion, and the subsequent emergence of a new disposition towards another.

Although pneuma is a medical concept, the fact that its investigation falls within the prerogative of the natural philosopher who inquires into the soul, is attested by the several references to this concept in the *Nafs*, whose last chapter, i.e., V, 8, is specifically devoted to its examination. Furthermore, at the beginning of the *Kitāb al-Qānūn fī l-ṭibb* (*Liber canonis* in Latin, *Canon of Medicine* in English, henceforth *Qānūn*), a five-book manual of Galenic medicine, Avicenna explicitly recommends that the natural philosopher, not the physician, inquires into the nature and features of the pneuma. Being one of the theoretical principles of medicine along with elements, primary qualities, humours, and soul powers, the existence of pneuma as well as that of the other principles, must be assumed from, not investigated by, the physician, who, of course, must know its quiddity, what that is. Their investigation pertains to the natural philosopher. All this has to do with Avicenna's idea of science subordination, which ultimately derives from Aristotle's *Posterior Analytics*: natural philosophy provides medicine with its theoretical underpinnings because medicine is a practical discipline (or art, Ar. *ṣināʿa*, Lat. *ars*) subordinate to natural philosophy.[7]

7 AVICENNA 1981–1996, *Qānūn* I, 1, i, 2, 36,10–14: "The things whose quiddity [*bi-l-māhiyya*] the physician has to conceive, whereas he has to assume that they are, though their ex-

The interplay between natural philosophy and medicine on the epistemological level is crucial to explain the mutual influence of body and soul on the ontological level, and, in particular, how the former (notably in the case of the pneuma, which has an intermediate status between body and soul) bears on the physiological and pathological states of the powers (and activities) of the latter. The importance of this interplay in shaping Avicenna's science of the soul still awaits to be fully brought to the fore in the scholarship. In the effort to fill this gap, this paper will examine the three contexts of his philosophical psychology in which Avicenna makes use of pneuma, that is, 1) body ensoulment; 2) powers differentiation; 3) emotions. This examination aims to show that, according to Avicenna, not only the soul accounts for the activities observable in bodies, as he announced at the beginning of the work in line with Aristotle's position, but also the body plays an essential, active role in favoring (or hindering) the activities of the soul, thus making some concessions to Galen's understanding of the body-soul relationship.

2. Focusing on the Soul Without Forgetting the Body

As Avicenna makes it clear at the outset of his investigation, psychology deals primarily with the soul, that is, the constituent of the composite living substance in virtue of which it is what it is in actuality, whose investigation

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istence is not evident, are the following: elements, whether they are and how many they are; the temperaments, whether they are and how many they are; likewise, humors, whether they are, how many they are and how they are; powers [*al-quwà*], whether they are, how many they are, and where they are; pneumata [or spirits, *al-arwāḥ*], whether they are, how many they are, where they are; and if the state of each [of them] changes or remains stable due to some cause, and, if there are [many] causes, how many they are." More on the subordination of medicine to natural philosophy, and the role of zoology in this subordination in ALPINA FORTHCOMING(1) and the bibliography quoted therein.

has priority over that of the body, that is, the other constituent of the composite living substance in virtue of which it is what it is in potentiality. The investigation of this latter pertains to other disciplines (in all likelihood, to botany and zoology) and is possibly conducted with a different method, as is stated in the prologue to the *Nafs*.[8]

However, the fact that the soul performs most of the activities in and with the help of the body leads psychology to take also the body into consideration as the receptacle and instrument of the soul. The inclusion of physiological aspects in the account of soul powers is a clue to Avicenna's combination of both a top-down and a bottom-up approach to this subject. For, if the soul has always remained above and beyond the physician's purview, the soul powers and their activities (except for intellection) are a topic to which both the philosophical and the medical perspective can contribute. An indication of this fact is detectable once again in Avicenna's list of philosophical principles at the beginning of the *Qānūn* as well as in his references to medicine in the *Nafs*.[9] In particular, in the *Qānūn*, Avicenna refers exclus-

8 AVICENNA 1959, *Nafs*, prologue, 2,18–3,8 [12,44–13,56]. See ALPINA FORTHCOMING(1) and ALPINA 2022(2).

9 The explicit references to medicine in the *Nafs* are the following: 1) AVICENNA 1959, *Nafs* II, 4, 76,20 [146,21], where Avicenna refers to the explanation provided in medical books (Ar.: "wa-ʿalà hāḏā l-qiyās mā qad šuriḥa fī l-kutub al-ṭibbiyya," Lat.: "Similiter est in aliis quae exposita sunt in libris physicis") concerning the fact that flavours result from different ratios between elementary qualities. Here Avicenna might be referring to the extensive discussion about the classification of flavors in *Qānūn* II, i, 3 (it is worth mentioning that in *Qānūn* III, vi, I, 2, the list of flavours occurs in connection with the exposition of the diseases of the tongue and how they can alter their perception); 2) AVICENNA 1959, *Nafs* III, 8, 156,14–15 [275,60], where Avicenna detects one of the causes for seeing one thing as two in a disordered movement of the visual pneuma in the eye. This case is said to be similar to vertigo: one of its causes is the movement of the pneuma in the concavity of the brain as has been discussed in medical books (Ar.: "min al-asbāb al-maktūba fī kutub al-ṭibb," Lat.: "[…] aliqua causarum quae scriptae sunt in libris Physicae"). There reference might be therefore to the exposition of the causes of vertigo in *Qānūn* III, i, i, v, 1 (a reference to the movement of the pneuma in the brain as a cause for vertigo is also found in *Nafs* IV, 1); 3) AVICENNA 1959, *Nafs* IV, 4, 201,13 [67,70], where Avicenna connects the temperament of the cardiac pneuma with the

ively to powers (Ar. *quwà*, Lat. *virtutes*), not soul (Ar. *nafs*, Lat. *anima*) because the physician may detect the malfunctioning of a certain organ (or body part) usually associated with a specific power when the latter cannot perform its usual activity, regardless of whether a single essence called *soul* exists or not.[10] Avicenna shares this view with Galen.[11]

As said, in what follows, I will focus primarily on Avicenna's account of a peculiar body, that is, pneuma and, in particular, on how this medical concept is used to tackle (and solve) three fundamental issues at the core of his psychology, that is, body ensoulment, powers differentiation, and emotions. On a more general level, Avicenna's account of the pneuma as a *sui generis* body at the end of the *Nafs* serves also to mark the transition from the inquiry into the soul to that into the body, which will be carried out in the *Ḥayawān* (more on this work in the following section). As I have shown elsewhere, this investigation is complementary to that of the soul, and is a clue to the global project Avicenna envisages for the *Šifāʾ-Qānūn* ensemble.

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cause of individual dispositions towards different emotions, that are the accidents of the two branches of the desiderative power, as it is explained in medical books (Ar.: "fī kutubinā l-ṭibbiyya," Lat.: "in nostris libris physicis"). As I have shown elsewhere (see *infra* n. 34), here Avicenna might be referring to his own tract *Maqāla fī l-adwiya al-qalbiyya* (*On Cardiac Remedies*). Moreover, there is also a more generic reference to anatomy in AVICENNA 1959, *Nafs* III, 8, 151,18–19 [268,44], where Avicenna explains why our eyes see only one image and not two; it is because vision occurs at the intersection of the two optic nerves. Avicenna then explicitly defers the discussion of their nature to the anatomical investigation (Ar.: "ḥīna natakallamu fī l-tašrīḥ," Lat.: "cum loquemur de chirurgia"). In all likelihood, the reference is to *Qānūn* III, iii, I, 1, where Avicenna deals with the physiology of the eye.

10 See AVICENNA 1981–1996, *Qānūn* I, 1, vi, 1, 123,7–11: "However, the physician insofar as he is a physician should not explore the truth of these two matters [*sc.* those concerning the heart and the brain]. This is incumbent upon the philosopher or, to be precise, the natural philosopher. When the physician is made to admit that these aforementioned organs are some sort of principles [*mabādiʾ mā*] for these powers, then [ascertaining] whether these [powers] are acquired from a principle prior to them [*sc.* the soul] or not, is not incumbent upon him while engaging with medicine. Rather, he should disregard those issues that the philosopher should, however, not overlook." See also the passage quoted *supra* n. 7.

11 See VAN DER EIJK 2020, esp. 74.

2.1 Body Ensoulment: All You Need is One Single Attachment

Avicenna's most exhaustive account of pneuma is contained in *Nafs* V, 8, which is devoted to the body instruments of the soul and, notably, to the pneuma as its primary vehicle.

Grafting the exposition of a medical concept such as pneuma onto a philosophical framework grounded on Aristotelian natural philosophy is not a straightforward operation.[12] For, on the one hand, Avicenna *qua* physician cannot overlook the advancement of medical science on anatomy and physiology. On the other hand, however, he cannot uphold medical positions that might undermine philosophical tenets, which are in principle non-negotiable. In this specific context, Avicenna has to secure the soul's oneness, one of the main conclusions of his philosophical psychology (ultimately proved in *Nafs* V, 7),[13] against an anatomical model that does not comply with this unitary principle. In particular, Galen and his followers claimed that there are multiple chief organs in the body (brain, heart, liver), all on equal footing, with three different pneumata (psychic, vital, natural) and three sets of powers (perception and locomotion; animation, pulsation, respiration, and emotions; nutrition, respectively), a position that might lead to a partition of the soul, which would be divided according to these three main bodily substrata.

Despite considering Galen as his main medical authority, Avicenna has to uphold a position which reconciles both medicine and philosophy.[14] For

12 It is worth mentioning that Aristotle himself makes use of the concept of pneuma. See, for instance, *De generatione animalium* II, 3. On the concept of pneuma in Aristotle, see FREUDENTHAL 1995.

13 On *Nafs* V, 7, see RASHED 2018.

14 AVICENNA 1959, *Nafs* V, 8, 262,19–263,8 [174,37–175,48]: "It is appropriate that now we deal with the instruments belonging to the soul. We say: concerning the matter of the organs to which the chief powers of the soul are attached, people have much exaggerated on both sides in stubbornness, and leaned towards great arbitrariness and vehe-

this reason, while taking the Galenic notion of pneuma as an intermediary entity between body and soul, following Aristotle's teachings, he grants primacy to the heart over all other organs, thus upholding a cardiocentric anatomical model. As a consequence, at the time of body ensoulment, the soul attaches to the body firstly through one single organ, that is, the heart (and the cardiac pneuma in it), which thus guarantees the soul's unity, and only after that first attachment it flows into the rest of the body:

> Firstly, we say: the primary vehicle of the body powers of the soul is a subtle body, which passes through the outlets, spiritual, and this body is the pneuma [Ar. *rūḥ*, Lat. *spiritus*].
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> […] If the soul is one, it is then necessary that it has a first attachment to the body, from which it governs and nurtures it, that this [first attachment] is by the mediation of this pneuma, and the first thing that the soul enacts is enacting the organ through whose mediation its [*sc.* of the soul] powers are emitted to the rest of the organs through the mediation of this pneuma, and that this organ is the first to be formed among the organs, and the first source for the generation of the pneuma, this being the heart [Ar. *al-qalb*, Lat. *cor*]. This is indicated by what accurate dissection has verified. We shall supply an explanation of what is meant [by that] in the section on animals [see *Ḥayawān* XIII, 3]. It is, therefore, necessary that the first attachment of the soul is to the heart.[15]

By referring to the cardiac pneuma as the primary vehicle of the soul powers, which thus guarantees the unity of the soul, in *Nafs* V, 8, Avicenna explicitly connects this investigation with that of the organic body in the *Kitāb al-Ḥayawān* (*Liber de animalibus* in Latin, *Book of Animals* in English, henceforth *Ḥay-*

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ment partisan spirit, to which inclined each one of the two parties, departing thereby from the truth. The one among them who made the soul one in essence and nonetheless affirmed that the chief organs are many, committed the biggest mistake. For, when he opposed the philosophers on this [issue], upholding that there are many parts of the soul, but agreed with those upholding the soul's oneness, he did not realize that it necessarily follows from that that the chief organ to which the soul is firstly attached is made one. As for those multiplying the parts of the soul, it is not against them [*sc.* in contradiction with their view] to ascribe to each part of it a specific source and a single centre." For a thorough analysis of this text and its context, see ALPINA 2022(1).

15 AVICENNA 1959, *Nafs*, V, 8, 263,9–10; 263,20–264,6 [175,49–51; 176,64–72].

awān). Moreover, in this context, Avicenna also speaks of the material constituents of pneuma: like the whole body and its parts, pneuma is made of humors, and must exhibit a temperament suitable for life, that is, for carrying the soul and its powers.[16] This aspect is particularly relevant for the other function Avicenna assigns to the pneuma, that is, powers differentiation. Since the pneuma is the vehicle of the soul powers that perform their activities through a bodily organ, its temperament cannot remain always the same. Rather, it must undergo some qualitative change when the pneuma reaches the bodily seat of a specific soul power; otherwise, this latter cannot turn into first actuality (in the Aristotelian fashion, the second actuality, that is, the exercise of a capacity, coincides with the reception of its proper object).[17] The temperament of pneuma has to exhibit the appropriate disposition (*istiʿdād*) to receive a certain power, but not another. In this respect, the temperament of the pneuma can be considered as the principle of individuation of the different powers of the soul in the very same way in which the whole body is the principle of individuation of the soul, which in itself is only one in notion:

> Its temperament [*sc.* the temperament of the pneuma] also undergoes changes in virtue of the difference which must occur to it in order for it to become capable of carrying different powers. The temperament with which the pneuma is angry [*sc.* carries the irascible power] is not suitable for the temperament with which it desires and senses [*sc.* carries the desiderative and the sensing power]; nor the temperament that is suitable for the visual pneuma [*sc.* the pneuma that carries the power of sight] is in itself [the same temperament] that is suitable for the moving pneuma [*sc.* the pneuma that carries the power of locomotion]. If the temperament were one, the [soul] powers settled in the pneuma and their activities would be one.[18]

16 AVICENNA 1959, *Nafs* V, 8, 263,13–15 [175,56–58]: "The relation of this body [*sc.* of pneuma] to the subtlety of humors and their vaporous nature is [like] the relation of the organs to the density of humors, and it has a specific temperament."

17 This idea has been already put forward by FANCY 2021, esp. 209.

18 AVICENNA 1959, *Nafs* V, 8, 263,15–19 [175,58–176,63].

As it will become evident shortly, the role of pneuma as vehicle of the soul powers and their differentiation bears on the functioning of those powers: any pathological alteration in physical (or chemical) composition of the pneuma which carries a specific power results in an alteration or even impairment of its specific activity. Conversely, the preservation of the pneuma in its healthy state (or its restoration through medical practice) entails the recovery of the correct functioning of that power.

2.2 *Powers Differentiation: Changing to Stay the Same*

After devoting *Nafs* III, 1–7 to the presentation and refutation of the predecessors' opinions about vision, and the exposition of his own account of visual perception, in *Nafs* III, 8, Avicenna attempts to determine the causes for seeing one thing as two. As we shall see, these causes might be related to the visual pneuma, that is, the pneuma which is responsible for carrying not only the visual power but also its object, that is, an apparition (*šabaḥ*) of the external visible object. However, before embarking in this discussion, Avicenna provides what he believes are the fundamental (philosophical) principles (*uṣūl*, literally *roots*) for his subsequent discussion. These principles are nothing but the most comprehensive exposition about pneuma as the continuous bodily vehicle of the soul's perceptive power I am aware of, which is thus worth quoting (almost) in full:

> Just as from the external form in estimation there stretches a cone which becomes thin until its angle drops behind the surface of the crystalline [humor], likewise the apparition [Ar. *šabaḥ*, Lat. *simulacrum*] [of the visible thing] on the crystalline [humor] is conveyed through the mediation of the pneuma in the two [optical] nerves, which conveys [it] to their intersection in the shape of a cone. Then, the two cones meet and intersect there. From them one single form related to the apparition [Ar. *ṣūra šabaḥiyya*, Lat. *forma similitudinaria*] [of the visible thing] is combined in the part of the pneuma that bears the seeing power.

> Behind that, there is another [part of the] pneuma conveying the [form of the] object of sight, which does not perceive [that form] another time […]. This conveying [pneuma] is of the substance of what sees, and penetrates into the pneuma poured into the frontal space of the brain. The visual form is then impressed another time in that pneuma bearing the power of the common sense. The common sense thus receives that form, and that is the perfection of sight. The seeing power is different from common sense, even though it flows from it, and common sense directs it because the power that sees does not hear, smell, touch, or taste. On the contrary, the common sensing power sees, hears, smells, touches, and tastes, as you will learn [*sc. Nafs* IV, 1]. Then, the power, which is the common sense, conveys the form to the part of the pneuma which is connected with the part of the pneuma carrying it [*sc.* the power, that is, common sense]. Then, that form is imprinted on it, and there the common sense stores it in the form-bearing power, which is imagery, as you will learn [*sc. Nafs* IV, 2]. This power [*sc.* imagery] then receives that form and retains it. The common sense receives the form, but does not retain it, whereas the power of imagery retains [that form] after receiving it. The cause for that is that the pneuma in which there is the common sense holds in itself the form taken from outside, which is imprinted, only as long as the perceived relation between it and the visible thing [of which it is the form] is retained or has been acquired recently. So, when the visible thing disappears, the form is wiped out from it [*sc.* common sense], and does not remain stable for any significant period of time. On the contrary, the form remains in the pneuma in which there is imagery, even after a long time, as it will become evident for you shortly [*sc. Nafs* IV, 2]. When the form is in the common sense, it is in reality sensed in it […].
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> Then, that form which is in imagery penetrates into the rear cavity [of the brain], when the estimative power wishes, and thus opens the vermiform substance by removing what is between the two body parts called the two lobes of the vermiform substance. Thus, the form is connected with the pneuma carrying the estimative power through the mediation of the pneuma which carries the imaginative power, which in human beings is called cogitative [power]. The form which is in imagery is therefore imprinted in the pneuma of the estimative power. The imaginative power, which serves the estimative power, brings to the latter what is in imagery, except that the form does not remain in actuality in the estimative power, but rather [it is there] as long as the way is open, and the two pneumata come together, and the two powers face each other. […] These are fundamental principles [Ar. *uṣūl*, Lat. *fundamenta*] with which you must be accustomed.[19]

Combining Aristotle with Galen, Avicenna distinguishes the heart as the first attachment of the soul and the primary seat for emotions (as we shall see in § 2.3) from the brain as the primary seat for the set of powers physicians refer

19 AVICENNA 1959, *Nafs* III, 8, 151,19–154,2; 154,11 [268,45–271,87; 272,00].

to as *nafsāniyya (*Lat. *animales*, i.e., *animal* or *psychic*, that is, proper to the soul, where *soul* is used in a restricted sense).[20] These powers are the perceptive and motive powers observable in non-human and human animals, which perform their specific activities in the suitable bodily organs (e.g. the eye, the hear, tendons and muscles, etc.). In the quoted passage, Avicenna focuses specifically on the power of sight, which is the topic of the third treatise of the *Nafs*, and describes how this power (and its object) is connected with the higher perceptive powers located in the cerebral cavities (or ventricles), which are Avicenna's well-known internal senses. The continuity between all perceptive powers – with the exclusion of the intellect, which does not act by means of a bodily organ – is guaranteed by the pneuma, a unitary, continuous bodily vehicle of powers (and their contents), which changes the qualities of its temperament to actualize different powers in different bodily organs as a result of its physical displacement throughout the body.[21] The qualitative

20 On Avicenna's terminological shift concerning the names of soul powers between the medical and the philosophical context, see ALPINA 2020.

21 See AVICENNA 1959, *Nafs* V, 8, 263,15–19 [175,58–176,63] quoted above. See also AVICENNA 1984, *Adwiya qalbiyya* 1, 222,18–223,16: "Just as the generated organs are many in number, whereas the first organ to be generated is one in number, while the generation of the rest of the organs depends on its generation in accordance with the different opinions concerning that one ‹which is generated first›, likewise the pneumata in us are many in number, whereas the pneuma that is the first among the generated pneumata – according to the opinion of the most eminent philosopher [*sc.* Aristotle] – is one and is generated in the heart. Then, it spreads, flows, and penetrates in the rest of the chief organs. Thus, when it is established in each of them, there it acquires a specific temperament. The brain acquires the temperament through which it is prepared to receive the powers of sensation and locomotion. The liver acquires the temperament through which it is prepared to receive the powers of nutrition and growth. Testicles acquire the temperament through which they are prepared to receive the powers of reproduction. That being said, the principles of ‹all› these powers are – according to this philosopher [*sc.* Aristotle] – in the heart, just as the principles of the power of sight, of hearing, of taste, etc. are – according to his opponents [*sc.* physicians and some philosophers like the Platonists] – in the brain, but – according to them – the pneuma is only prepared to receive these powers by essence and perfection in another organ: as for sight, by means of the temperament of crystalline moistness when it blends with the temperament of the pneuma; as for hearing, by means of the temperament of the nerve spread on the surface of the auditory meatus; as for taste, by means of the temperament of the moistness

change of pneuma, however, entails only the first actualization of powers. Following Aristotle's teaching in the *De anima*, the second actualization of powers occurs when they receive their specific object and actually perceive it (or perform their activity on it). The specificity of these objects depends on the different degrees of abstraction from their material attributes they enjoy, starting from the abstraction performed by the five external senses up to the intellect.[22] The fact that the pneuma is the continuous material vehicle and substratum of soul powers allows us also to understand how the very same perceptible object can move from a perceptive power to another and consequently undergo qualitatively different processes of abstraction. This approach succeeds in keeping together the distinction between objects and powers with the existence of a continuous material vehicle, i.e., the pneuma, which qualitatively changes while staying the same in substance. As Avicenna himself states in *Nafs* V, 8, medical experience provides further evidence of that:

> Moreover, [we say:] if the powers of the soul, which are attached to the body, did not pass through carried in a body, the congestion of the [bodily] passageways would not obstruct the penetration of the locomotive, and sensitive, and also imaginative powers [into the body]. However, it [*sc.* the congestion of the passageways] causes an obstruction evident to those who have undertaken medical experiments [Ar. *ʿinda man ǧarraba l-taǧārib l-ṭibbiyya*, Lat. *secundum eum qui cognovit experimenta physica*].[23]

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that the soft flesh under the tongue produces." See also AVICENNA 1981–1996, *Qānūn* I, 1, vi, 4, 127,13–18: "When a portion of pneuma arrives at the cavity of the brain, it receives a temperament appropriate to derive from it and by means of it the activities of the power existing in it like a body. The same happens in the liver and the testicles. According to physicians, as long as the pneuma that is in the brain does not change into another temperament, it is not prepared to receive the soul, that is, the principle of sensation and motion. The same happens in the liver, even though the first mingling helped the reception of the first vital power."

22 See AVICENNA 1959, *Nafs* II, 2.

23 AVICENNA 1959, *Nafs* V, 8, 263,10–13 [175,51–55].

The same point, expressed in a more detailed manner, is made in the *Qānūn*.[24]

What is more, in *Nafs* III, 8, after introducing the so-called fundamental principles of the exposition of the causes for seeing one thing as two, Avicenna singles out in the pathological conditions of pneuma the possible causes for the malfunctioning of sight:

> The second cause [*sc.* for seeing one thing as two] is the movement of the seeing pneuma and its undulation on the right and the left so that the perceptive part [of the pneuma] precedes its center, which is assigned to it by nature, leading towards the direction of the two crystalline humors in an undulatory and disarrayed manner. Then the apparition and the imagining are impressed in it before the intersection of the two cones. Thus, one sees two apparitions. This is similar to the apparition impressed by the Sun once in stagnant and still water and that impressed by it in undulatory water repeatedly. […]
>
> The third cause comes from the disarrayed movement, forward and backward, of the internal pneuma which is behind the intersection [of the two seeing nerves] so that there the pneuma has two movements in two opposite directions, that is, a movement towards the common sense, and a movement towards the intersection of the two nerves, so that the form of a sensible thing is conveyed to it another time before what the pneuma conveys to the common sense is wiped out. It is as if, just as the pneuma conveys the form to the common sense, a part of it returns to receive what the seeing power conveys to it. That happens due to the speed of the movement.[25]

2.3 Potentiality vs Disposition: Don't Get Emotional

Avicenna's exposition on emotions in *Nafs* IV, 4 is probably the context in which the reference to pneuma is conspicuous by its absence. There, after

24 AVICENNA 1981–1996, *Qānūn* I, 1, vi, 4, 126,27–127,1: "The psychic [*nafsāniyya*] powers do not come into being in the pneuma and in the body parts, except after the coming into being of this power [*sc.* the vital power]. Even if a body part is deprived of the psychic [*nafsāniyya*] powers, but it is not deprived of this power [*sc.* the vital power], it [remains] alive. Have you ever seen that the paralyzed limb or the semiparalysed limb, when it is immediately deprived of sensation and motion because of a temperament which impedes that [that limb] receives them [*sc.* the locomotive powers], or because of an obstruction which occurs between the brain and that limb in the sinews projecting towards it, is nonetheless alive? On the contrary, the limb to which death occurs loses sensation and motion, and there occurs to it to decay and corrupt."

25 AVICENNA 1959, *Nafs* III, 8, 155,1–15 [273,15–274,35].

saying that emotions are affections of the two branches of the desiderative power of the soul, that is, of the irascible and the concupiscible power, as a consequence of a perceptive act, Avicenna adds the following remark:

> We now say: these activities and accidents [*sc.* fear, sadness, sorrow, and the like] are among the accidents that occur to the soul while it is in the body, and do not occur without the participation of the body. For this reason, together with them the temperaments of bodies change. They also come about together with the temperaments of bodies coming about. For the disposition to anger follows some temperaments, the disposition to appetite follows some other temperaments, and [the disposition to] cowardice and fear follow some other temperaments.[26]

In this short passage, Avicenna mentions emotions among the activities and accidents which belong to the soul because it exists in a body, thus affecting both components of the animate, composite substance. He immediately goes on to explain why this is so. First, their occurrence in the soul affects the body temperament, which undergoes some change. As we shall see, this is the standard Aristotelian account of emotions, which also involve a body alteration, thus proving that soul is not separated from the body.[27] Second, in a less Aristotelian but more Galenic fashion, the occurrence of emotions is determined by the body temperament, which is disposed towards some emotion and not another.[28]

Despite this twofold explanation for the involvement of soul and body in the occurrence of emotions, Avicenna seems to focus only on the first one. After suggesting a threefold classification of the states occurring in the body-soul composite,[29] Avicenna maintains that emotions are states belonging

26 AVICENNA 1959, *Nafs* IV, 4, 197,3–8 [59,49–60,55].
27 See *De anima* I, 1.
28 See, for instance Galen's *Quod animi mores corporis temperamenta sequantur*. On Avicenna's view on emotions, see ALPINA FORTHCOMING(2).
29 AVICENNA 1959, *Nafs* IV, 4, 197,10–13 [60,58–62]: "These states come to be only due to the

primarily to the soul, whose occurrence may derivatively cause some affection in the body, thus complying with the Aristotelian account:

> Fear, anger, and sadness generate an affection occurring primarily to the soul. Anger or sadness insofar as it is anger or sadness is not an affection which causes pain to the body, even though it is followed by a corporeal affection which causes pain to the body, like the ignition of heat or its remission, and the like. That is not anger or sadness itself, but something following anger or sadness. We ourselves do not deny that the most appropriate thing for it is [to say] that it belongs to the soul insofar as it is in a body, then it [*sc.* this affection] is followed in the body by affections proper to the body.[30]

The body seems thus to be affected and altered by some emotion, which is a state occurring primarily in the soul, without being capable of determining (or concurring to determine) its occurrence, contrary to what Avicenna seems to have suggested in the first passage quoted above. Shortly afterwards, he makes this point clearer:

> In short, we say: the soul is such that from all that there comes to be in the bodily element a transformation of the temperament without there coming to be a corporeal activity or affection. Thus, heat comes to be not from something hot, nor coldness from something cold. Rather, when the soul imagines an imaginative content, which becomes strong in the soul, it does not take long before the corporeal element receives a form connected with it or a quality. This happens because the soul shares the same substance of some principles clothing the matters […].[31]

The discourse about the capacity of the states of the soul to alter the body flows into a longer discussion about the soul's capacity to affect the body at

participation of the body. The states which belong to the soul due to the participation of the body fall under different classes: [(i)] those [states] belonging primarily to the body, but because it [*sc.* the body] has a soul; [(ii)] those belonging primarily to the soul, but because it [*sc.* the soul] is in the body; (iii) those equally distributed between the two [*sc.* body and soul]."

30 AVICENNA 1959, *Nafs* IV, 4, 198,8–14 [61,80–62,88].

31 AVICENNA 1959, *Nafs* IV, 4, 199,1–6 [62,97–4].

distance, which is, in turn, part of the exposition of the 'operative' type of prophecy connected with the locomotive powers of the soul. However, at the very end of *Nafs* IV, 4, Avicenna refers the reader to his not further specified medical books to understand the cause of the individual dispositions towards some emotion and not another:

> We have already dealt in our medical books [Ar. *fī kutubinā l-ṭibbiyya*, Lat. *in nostris libris physicis*] with the cause of the dispositions of individuals, who differ in their temper and according to the difference of their states, towards happiness, sadness, anger, forbearance, rancor, blamelessness, etc., in a way that is not found in the predecessors in similar detail and [degree of] validation. So, let it be read there.[32]

As it stands, this passage does not allow us to connect it with the issue of the role of body temperament in determining individual dispositions towards emotions, let alone the role of pneuma in this context, although here Avicenna does refer to individual temper (Ar. *gibilla*, Lat. *natura*). However, if the reconstruction I proposed elsewhere is correct,[33] the writing Avicenna is alluding to here is his *Maqāla fī l-adwiya al-qalbiyya* (*De viribus cordis* or *De medicinis cordialibus* in Latin, *On Cardiac Remedies* in English, henceforth *Adwiya qalbiyya*), a *sui generis* medical treatise which combines medicine with philosophy. This treatise deals with the question of how one can act upon the temperament of the cardiac pneuma of human beings – which, among other things, is the bodily seat of the emotions – in order to strengthen or weaken its disposition towards a particular emotion. It is, therefore, particularly relevant to the topic Avicenna is discussing in *Nafs* IV, 4, especially for the philosophical distinction between potentiality (Ar. *quwwa*, Lat. *potentia*) and disposition (Ar. *istiʿdād*, Lat. *aptitudo*) it suggests with respect to emotions:

32 AVICENNA 1959, *Nafs* IV, 4, 201,13–16 [67,70–75].
33 See ALPINA 2017.

> It seems that philosophers and their followers among physicians agree on the fact that happiness, sadness, fear, and anger are among the affections proper to the pneuma that is in the heart. Every affection becomes strong or weak not due to an agent. In its intensification and weakening, it only follows the intensification and the weakening of the disposition of the substance that receives the affection. Some philosophers have subtly distinguished between potentiality and disposition: potentiality exists for both contraries equally, whereas disposition does not exist for both contraries equally. […] The fact that the pneuma is potentially happy or sad is different from its being disposed to one of them but not to the other. It seems that the disposition is the perfection of the potentiality in connection with one of the two opposites. From this it is evident that, although the pneuma, inasmuch as it is in potentiality, is able to be both happy and distressed, inasmuch as the very disposition is concerned, it has ‹the capacity only for› one of them. It is therefore evident that potentiality for both these things necessarily follows it [*sc.* the pneuma] […], whereas the determined disposition toward one of them does not necessarily follow it and only occurs to it according to a reason and a cause.[34]

If, at the end of *Nafs* IV, 4, through the reference to his medical books, Avicenna was hinting at the physiological counterpart, provided in the *Adwiya qalbiyya*, of the account of emotions contained in the *Nafs*, the role played by the cardiac pneuma in his account becomes evident. The specific temperament of the cardiac pneuma is capable of turning the pure potentiality towards whatever emotion into a determined disposition towards one emotion to the exclusion of the others. In the *Adwiya qalbiyya*, Avicenna focuses especially on the quantitative and qualitative characteristics of the cardiac pneuma, which determine its disposition to experience a certain affection and the intensity of such an affection.

Moreover, since this treatise has a practical purpose, that is, the medical treatment of ailments of the cardiac pneuma by operating on its tempera-

34 AVICENNA 1984, *Adwiya qalbiyya* 3, 226,10–227,9. This passage is contained in the excerpt of the *Adwiya qalbiyya* which al-Ǧūzǧānī, Avicenna's disciple and secretary, inserted between the fourth and the fifth treatise of the *Nafs* and which was translated in Latin together with the rest of the work. For the first Latin translation of this passage, see AVICENNA 1968, 191,53–66. On the occasion and vicissitudes of this excerpt, see ALPINA 2017.

ment, in the *Adwiya qalbiyya*, Avicenna suggests medicaments to change the chemical constitution of the cardiac pneuma in order to alter its natural disposition:

> The cause of disposition to pleasure is the fact that the one who is delighted is in his most excellent state concerning quantity and quality [of his pneuma] so that there is neither decrease in its substance nor an unnatural state of what is in it. As for quantity, the pneuma that experiences pleasure must be great in magnitude, so that its power is stronger: for, the increase of substance in quantity entails the increase of power in strength, as became clear in the natural principles. Also, due to its abundance, a great amount of the pneuma remains in the principle [*sc.* the heart], whereas another great amount of it expands, as it happens in happiness and pleasure. […] As for quality, if its temperament is excellent, its constitution is the most excellent, and its luminosity is very abundant, it is very much similar to the substance of the heaven. These are the causes of the disposition to pleasure and happiness, whereas their contraries are the causes of the disposition to pain and grief.[35]

3. Conclusion

This paper aimed to bring to the fore the entanglement between natural philosophy and medicine as a crucial element to frame Avicenna's general, overall physical investigation of the soul, which I have labelled *psychologia generalis*. For, besides the combination of natural philosophy and metaphysics, Avicenna's psychology features a close connection between natural philosophy and medicine to account for those powers of the soul which perform their activities by means of a bodily instrument (all but intellection). In accounting for their functioning, Avicenna combines a top-down and a bottom-up approach. On the one hand, he acknowledges the existence of a higher principle, that is, the soul, which is the ultimate subject and the source of those powers (and their activities).

35 AVICENNA 1984, *Adwiya qalbiyya* 4, 229,4–14. For the first Latin translation of this passage, see AVICENNA 1968, 193,99–194,13.

On the other hand, however, he appeals to medical knowledge to explain the physiological and pathological conditions of these powers (and their activities). In particular, in this paper, Avicenna's use of the medical concept of *pneuma*, which was also known to and used by philosophers, has been scrutinized. The concept of pneuma proves to be an essential feature of Avicenna's explanation of three fundamental problems at the core of his philosophical psychology, that is, 1) body ensoulment; 2) powers differentiation; 3) emotions. Avicenna's use of the concept of pneuma, however, does not only contribute to understanding the functioning of the whole body-soul compound (and its parts), but also makes it clear that, in Avicenna's model, the body does bear on the soul. This fact has a twofold implication: on the one hand, any pathological condition of the body (or of one of its parts) can directly interfere with and even impair the activities of the soul powers, and, on the other hand, a restoration of the healthy state of the body (or of one of its parts) can directly result in the full recovery of the correct functioning of that power. Acknowledging the active role of the body in Avicenna's philosophical psychology is pivotal to correctly frame his science of the soul, where Galen's medical knowledge is grafted onto Aristotle's philosophical teachings.

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A Divine Punishment? Leprosy in the Reflections of Moses Maimonides

Marienza Benedetto

Abstract: The article aims to examine Maimonides' investigation of leprosy. Re-reading the passages in *Leviticus* in which the issue is dealt with, Maimonides insists in his *Mišneh Torah* on the punitive scope of leprosy: it is simply the punishment that, following a series of warnings, God inflicts on those who have been guilty of the sin of turpitude. The strictly moral dimension is complemented by something else, however, in the *Guide of the Perplexed*, in which Maimonides attempts to explain the epidemic phenomenon of leprosy in scientific terms, moving beyond the categories of impurity and recovery of purity that had guided him in his analyses up to that point.

Keywords: Maimonides; leprosy; impurity; punishment; miracle.

In 2020, Il Mulino publishers sent to print one of the last, captivating works by the late Chiara Frugoni – *Paure medievali. Epidemie, prodigi, fine del tempo*.[1] The book, conceived in 2019, tells of a past that, as Frugoni herself writes in the prologue, has become surprisingly, and overwhelmingly, close: with dismay we continue to find ourselves facing (brutal) realities that were thought to have been averted centuries ago, such as a pandemic caused by a virus, and all that is sadly connected to it. In this intriguing journey through the fears that beset the Middle Ages, enriched in Frugoni's unique style with precious images and stories, there appears one which, for more than one reason of interest, I would like to take as my starting point: and that is fear of the Jews.[2]

1 Frugoni 2020.
2 Frugoni 2020, 16–252.

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The reference is not so much to the common perception of Jews as pseudo-humans, or beasts lacking in reason, capable of recognising only their own laws, and therefore deserving to be portrayed differently from men in the strict sense of the word (thus with the physiognomic traits that would accompany them for a long time: the hooked nose, the beard, the thick hair, and even, adding racial prejudice to racial prejudice, the black skin).

Rather than such generalised anti-Semitism, the reference is to a specific event that swiftly ended up making Jews the enemies next door. According to the chronicles of the time, in 1321 the people of central France accused the lepers of trying to make the healthy get sick, if not die, by poisoning rivers, fountains and wells, with the complicity of the Jews, who were trying to destroy the Christian population. The conspiracy (obsession) once again exploded in all its drama on the occasion of the plague of 1348: searching for a culprit for the epidemic, it was the Jews who were blamed for spreading it, thus confirming themselves as a serious threat, as the instrument through which the Devil was once again working to subvert the Christian order.[3]

It mattered little that Pope Clement VI himself intervened against the conspiracy theory, pointing out that Jews were also dying of the plague, and that the epidemic had spread to regions where they were absent:[4] the wave of violence did not subside and collective hysteria ferociously tortured, even to the point of burning at the stake, thousands of Jews (including women and children), in the hope of stopping the contagion.

This long preamble is simply to state in what relation Jews, leprosy and epidemics stood for those on the outside looking for answers to the emergence of something frighteningly new. Seeking to reverse the perspective,

3 For a reconstruction of the events involving the Jews at the outbreak of the plague in 1348, see also GINZBURG 2017, esp. 41–61.

4 FRUGONI 2020, 283–285, 335–339.

however, what would be the result? What, in other words, was the Jewish idea of leprosy?

The mention of leprosy in Jewish philosophical literature almost exclusively occurs as part of a broader project – that of the meticulous discussion of the causes of impurity. In addition to the better-known causes, of contact with a dead body (whether human or animal), menstrual flow and the blood of women about to give birth, leprosy is, indeed, a cause of impurity.[5]

This is made explicit in chapters 13 and 14 of *Leviticus* (King James Version):

> When the plague of leprosy [צרעת *ṣāraʿat*] is in a man, then he shall be brought unto the priest; And the priest shall see him: and, behold, if the rising be white in the skin, and it have turned the hair white, and there be quick raw flesh in the rising; It is an old leprosy in the skin of his flesh, and the priest shall pronounce him unclean, and shall not shut him up: for he is unclean. And if a leprosy break out abroad in the skin, and the leprosy cover all the skin of him that hath the plague from his head even to his foot, wheresoever the priest looketh; Then the priest shall consider: and, behold, if the leprosy have covered all his flesh, he shall pronounce him clean that hath the plague: it is all turned white: he is clean.[6] But when raw flesh appeareth in him, he shall be unclean. And the priest shall see the raw flesh, and pronounce him to be unclean: for the raw flesh is unclean: it is a leprosy. Or if the raw flesh turn again, and be changed unto white, he shall come unto the priest; and the priest shall see him: and, behold, if the plague be turned into white; then the priest shall pronounce him clean that hath the plague: he is clean.

Leaving aside, for the moment, some observations, or perplexities, of a terminological nature, related to the traditional (and perhaps now dated) rendering of the original Hebrew *ṣāraʿat* as 'leprosy',[7] one thing is certain. Not

5 On the seven causes of impurity, see at least SACCHI 2007; FEDER 2013; and now, by the same author, also FEDER 2021.

6 If it is declared to be pure, it is because in all likelihood one is speaking of a freckle, which in itself is not dangerous, since it is not contagious. This confirms the improper translation of *ṣāraʿat* with leprosy, as will be explained in the next footnote.

7 According to Wilkinson, translating *ṣāraʿat* as leprosy is unacceptable: WILKINSON 1977;

even one of the principal representatives – indeed, we might say without any rhetorical amplification, the principal representative – of the history of medieval Jewish thought, namely the Jewish philosopher, jurist and physician, Moses Maimonides (1135–1205), avoids the use of *Leviticus* to discuss the leper and his uncleanness.

In respect of chronological order, but not only (as we shall explain), we shall begin with what Maimonides states in the *Mišneh Torah* (*Repetition of the Torah*), written between 1170 and 1178, with the aim of summarising and organising the precepts of the Torah in the 14 books of which it consists, as well as showing how each of them is rationally founded.[8] The work, which earned Maimonides the title of rabbinic authority of his time, includes an entire treatise – Treatise 3 of Book 10 (*The Book of Ritual Purity*) – on leprosy (*The Laws of the Impurity Imparted by* Ṣāraʻat).

"When there is a *ṣāraʻat* affliction of human skin, the skin turns white, becoming as white as the membrane of an egg or whiter."[9] Maimonides' treatise on leprosy begins in these terms, and from this point onward it continues

and mainly, WILKINSON 1978, esp. 153: "In recent years, doubt has arisen about the correctness of the traditional interpretation of this chapter [= the thirteenth chapter of *Leviticus*]. Closer study of the text and closer comparison of its descriptions with what is known of leprosy today have suggested some hesitation before we identify the disease whose features are set out in this passage as leprosy." The term *ṣāraʻat* would instead indicate all of the "skin diseases affecting human beings"; as a loan word, it would then come to be applied to everything that "present appearances analogous to those described in human skin disease" (157). In order not to run into any problems, or absurd anachronisms, one could avoid the conventional rendering of *ṣāraʻat* as leprosy by resorting either to a simple transliteration of the Hebrew term or to the expression "an unclean skin disease" (163–164). On the topic, now see also BADEN, MOSS 2011; and FEDER 2012, esp. 55–56.

8 Indeed, a first, albeit less complete, or more basic, treatment of leprosy already appeared in the *Book of the Lamp* (*Kitāb al-sirāǧ*), a commentary to the *Mišnah*, which Maimonides had written in Judeo-Arabic between 1158 and 1168 with the aim, in some way already implicit in the title itself, of illuminating, or making accessible to the Jewish people, the normative code of the post-biblical Jewish tradition (ZONTA 2011, 56–58): the treatise *Negaʻim* (*On diseases*) is wholly a commentary on *Leviticus* chapters 13 and 14.

9 MAIMONIDES 2000, *Mišneh Torah*, X, 3, chapter 1.

for no less than 16 chapters in a detailed examination, sometimes bordering on pedantry, of the various stages of the disease and what follows. The degrees of intensity of whiteness with which leprosy manifests itself (more or less white spots, up to the case of the snow-white spot, which appears dark on the skin of an albino)[10] imply the rigidity or, on the contrary, the leniency of the rules that must be observed so that one can finally recover the purity that has been lost.

With a certain frequency, as if to remind us of its importance, it is repeated here that one remains impure, without the possibility of freeing oneself from the seal of impurity, when, after an isolation of two weeks and the process of inspection that follows, white spots continue to appear in the hair and on the skin, or when the first spots, instead of shrinking until they disappear, grow in size.[11] Nor do things change if the body is covered in spots, with the sole exception of a freckle of healthy skin: the subject who has become almost all white must continue to be considered impure. To decree the cure, and the definitive egress from impurity, is the priest, about whom Mai-

10 To be more precise, there are four shades of white, each one of which has a name, so that the affliction can be recognised and adequately evaluated: see MAIMONIDES 2000, *Mišneh Torah*, X, 3, chapter 1: "There are four shades of white that appear on human skin that cause a person to be deemed afflicted by *ṣāra'at*: a) very intense white that resembles snow on human skin; it is called *baheret*. b) a white that is slightly darker than that; it resembles the cleaned wool of a newborn sheep; it is called *si'ait*; c) a white that is slightly darker than *si'ait*; it resembles the lime of the Temple building; it is a derivative of the *baheret* and is called *sapachat*; d) a white that is slightly darker than the lime of the Temple building and which resembles the membrane of an egg; it is a derivative of the *si'ait* and is also called *sapachat*. […] A *baheret* that is very intense white, like snow, appears dark on the flesh of an albino. And one that is dark appears intensely white on a black man. Therefore, we consider the shade as it would appear on a person of average complexion, neither an albino or a black man."

11 Here, too, Maimonides delves into a series of minute annotations: first, he specifies (perhaps rather unnecessarily) that white hairs in themselves are not a sign of impurity, but become so if preceded by white patches on the skin; and then he insists on what is the minimum number and length of white hairs useful in deciding impurity: see MAIMONIDES 2000, *Mišneh Torah*, X, 3, chapter 2.

monides is again anything but scant on information.[12] The priest, Maimonides explains, is not authorised to judge a person as imure until he has analysed the spots by comparing them with the skin around them (which is why the sick person – whether male or female – is required to present him or herself naked before him).[13] To be even more precise, and thereby to follow Maimonides' indications: it is the same priest who inspects the spot at the moment of its appearance who must inspect it at the end of the two weeks of isolation because, being aware of the course of the disease, he will be able to release the leper finally from the process of inspection, or keep him in a condition of impurity. Should he, unfortunately, die or fall ill, the priest called to replace him would have to inspect the spot in question without considering its increase in size, since he had no knowledge of its original size.

The consequences of the priest's deliberations are immediately stated: in a subdivision of genders that purports to be exhaustive and clear-cut, the man stricken with leprosy, in addition to warning anyone who passes by him of his uncleanness, is obliged to cover his head for as long as he is unclean, even to the point of covering his lips, as if in mourning; he must also tear his clothes as a further sign of recognition; and he is forbidden to cut his hair and wash his clothes during the period of his uncleanness.

The prescriptions (which, as we have just seen, are as positive as they are negative) extend to contemplating the leper's movement outside his city; and this is, together with the need to inform others, the only prescription the

12 MAIMONIDES 2000, *Mišneh Torah*, X, 3, chapter 9.

13 The only thing that changes between the two genders is their position: see MAIMONIDES 2000, *Mišneh Torah*, X, 3, chapter 9: "How should a person with a blemish stand before a priest to be inspected? If male, he is inspected while naked, standing like one who is hoeing and like one who is harvesting olives. If female, she is inspected while naked, sitting on the ground like one who is kneading dough, like one who nurses her child, or like one who weaves with a standing loom, in which instance she raises her right hand until she reveals her underarm."

man shares with the woman, in recognition of the dangerousness and pervasiveness of the contagion.[14]

The case of the *tumtum* (i.e., the person whose genitals are covered by a layer of skin, making their sex indecipherable), on the one hand, and the androgyne, who possesses both male and female sexual organs, on the other, is different: since their status is doubtful, they must follow the rules that apply to both sexes, and they must abide by the rule of covering their heads and tearing their garments.

Three gestures are envisaged for the leper's purification: shaving all visible body hair, including eyebrows, armpits and pubic hair; immersion in 'living' (i.e., sanctified) water; and lastly, sprinkling on the back of his hand the blood of a slaughtered bird.

It comes as no surprise, therefore, that Maimonides, continuing on the basis of *Leviticus*, adds to the already intricate rearrangement of the topic the fact that *ṣāra'at* does not only affect human beings (Jews, even a new-born baby, or servants, "but not Gentiles or resident foreigners": אֲבָל לֹא עַכּוּ"ם וְלֹא גֵּר תּוֹשָׁב):[15] clothing and houses are also affected by the stains, and not because they are contaminated, as we might expect, by the person with *ṣāra'at*. Rather, the process of contamination is the exact opposite.

Starting with the case of garments, whether they are originally white, or both white and coloured, and whether they are made of wool (more precisely, sheep's wool spun with camel's wool), linen, or leather,[16] and do not belong to a Gentile: it may be that dark green stains appear on them, like the

14 A woman afflicted by *ṣāra'at* does not cover her head, rend her garments, or cloak her face: see MAIMONIDES 2000, *Mišneh Torah*, X, 3, chapter 10.

15 MAIMONIDES 2000, *Mišneh Torah*, X, 3, chapter 9: "It is exclusively endemic to the people of Israel in order to ward them off slander."

16 The reference, in actual fact, is not only to garments in leather, but also to utensils in leather.

wings of a peacock or the leaves of a date palm, or deep red, like fine scarlet thread.[17] In such cases, the garment is considered impure and, since it can transmit the impurity, it is put in isolation, or even burnt, if in the following two weeks the stain persists, or increases in size. It is instead said to be pure, and therefore can be washed, if the stain fades, becomes another colour or, at best, disappears.

Dark green and deep red are, once again, the stains that can appear on houses (of Jews – it is repeated as if it were still necessary – and not of Gentiles). The procedure envisaged in this case forces one to isolate the building, and to plaster it again, scraping off the stain and purifying the wall on which it had appeared with poultry; or even demolishing the whole building itself, if the stain persists.[18]

Dramatically pulling the strings of the discourse is Maimonides, with an explicit reference to the polysemy of the term *ṣāraʿat*:[19]

> *Ṣāraʿat* is a collective term including many afflictions that do not resemble each other. For the whitening of a person's skin is called *ṣāraʿat*, as is the falling out of some of the hair of his head or beard, and the change of the colour of clothes or houses. This change that affects clothes and houses, which the Torah described with the general term of *ṣāraʿat*, is not a natural occurrence of the

17 See MAIMONIDES 2000, *Mišneh Torah*, X, 3, chapter 12. The same chapter then deals with the hypothesis of garments that not only are white with dark green or bright red stains, but that are wholly one of those colours.

18 The chapters on the impurity of a house (the last ones in the treatise) are those in which Maimonides arranges laws passed down mainly through oral tradition. He himself makes that clear in chapter 15 when, among other things, he refers to the prolonged isolation of a house. MAIMONIDES 2000, *Mišneh Torah*, X, 3, chapter 15: "The isolation of a house for three weeks is not explicitly mentioned in the Torah. Similarly, most of the laws applying to blemishes on houses were conveyed by the Oral Tradition."

19 On the polysemy, or equivocal nature of the term, Maimonides had already expressed himself in the Commentary on the *Mišnah*: "these [clothing, houses] are not natural and reason does not account for them at all for material and buildings are inanimate and changes that occur in them are not *ṣāraʿat* except that the Torah called them such" (*Negaʿim* 12:5: our translation from Hebrew).

> word.[20] Instead it is a sign and a wonder prevalent among the Jewish people to warn them against *lašōn ha-rāʿ*, 'undesirable speech'. When a person speaks *lašōn ha-rāʿ*, the walls of his house change colour. If he repents, the house will be purified. If, however, he persists in his wickedness until the house is destroyed, the leather implements in his house upon which he sits and lies change colour. If he repents, they will be purified. If he persists in his wickedness until they are burnt, the clothes he wears change colour. If he repents, they will be purified. If he persists in his wickedness until they are burnt, his skin undergoes changes and he develops *ṣāraʿat*. This causes him to be isolated and for it to be made known that he must remain alone so that he will not be involved in the talk of the wicked which is folly and *lašōn ha-rāʿ*.[21]

This is an unequivocal, and equally unequivocally bizarre, explanation of leprosy. It appears here as a direct consequence of a sin – that of slander –, which is equal in gravity to the sins that cause man to forfeit the coming world (i.e., idolatry, unlawful sexual intercourse, murder).[22] According to the passage just quoted, *ṣāraʿat* is indeed the last, the highest, degree on the path of admonition against evil, which from the outside (from the appearance of the stains on the house) gets closer and closer, touching first the clothes and then that which is even more intimate in each individual, the skin. There is nothing scientific in all this, which cannot be explained in any other way, since

20 In a literal sense, "a custom of the world" מִמִּנְהָגוֹ שֶׁל עוֹלָם. Diamond – perhaps going way beyond Maimonides' intentions – interprets the extraordinary nature of the event in terms of rarity: see DIAMOND 2007, esp. 37–38.

21 MAIMONIDES 2000, *Mišneh Torah*, X, 3, chapter 16.

22 The discourse on speaking evil covers some of the most impious pages of the Treatise *Hilḥot deot* (*The Laws of Personal Development*) contained in Book I (*Sefer ha-maddaʿ* or *The Book of Knowledge*) of the *Mišneh Torah*. See for example, MAIMONIDES 2000, *Mišneh Torah*, I, 2, chapter 7: "There is a much more serious sin than [gossip], which is also included in this prohibition: *lašōn ha-rāʿ*, i.e., relating deprecating facts about a colleague, even if they are true. […] one who speaks *lašōn ha-rāʿ* is someone who sits and relates: 'This is what so and so has done'; 'His parents were such and such'; 'This is what I have heard about him', telling uncomplimentary things. Concerning this [transgression], the verse [*Psalms* 12:4] states: 'May God cut off all guileful lips, the tongues which speak proud things…' Our Sages said: 'There are three sins for which retribution is exacted from a person in this world and, [for which] he is [nonetheless] denied a portion in the world to come: idol worship, forbidden sexual relations, and murder. *Lašōn ha-rāʿ* is equivalent to all of them'. […]. In addition, they said: '*lašōn ha-rāʿ* kills three [people], the one who speaks it, the one who listens to it, and the one about whom it is spoken. The one who listens to it [suffers] more than the one who speaks it'."

ṣāraʿat is not one of the "things of the world," but rather a moral event. The principle that underlies it is, therefore, self-referential, held within the Jewish religious tradition, which Maimonides is taking upon himself to explain here, even ending the treatise with a list of biblical references:

> The Torah warns about this, quoting *Deuteronomy* 24:8–9: 'Take care with regard to a *ṣāraʿat* blemish […] Remember what God your Lord did to Miriam'. Now, this is what the Torah is implying: Contemplate what happened to the prophetess Miriam. She spoke against her brother. She was older than he was; she had raised him; and she had endangered herself to save him from the sea. She did not speak badly of him; she merely erred in equating him with the other prophets. Moses did not object to any of this, as *Numbers* 12:3 relates: 'And the man Moses was exceedingly humble'. Nevertheless, she was immediately punished with *ṣāraʿat*.[23] Certainly, an inference can be made with regard to the wicked and foolish men who speak extensively about great and wondrous matters. Therefore, a person who seeks to structure his course of conduct should distance himself from their gatherings and from speaking to them so that he will not become caught up in the web of their wickedness and foolishness.
>
> This is the path followed by the gathering of wicked fools. In the beginning, they speak excessively about empty matters, as *Ecclesiastes* 5:2 states: 'The talk of a fool is characterised by a multitude of words'. As a result of this, they come to speak negatively of the righteous, as reflected by the verse in *Psalms* 31:19: 'May the lying lips be silenced; those which speak falsehood about a righteous man'. As a consequence, they will become accustomed to speaking against the prophets and casting aspersions on their words, as reflected by the verse *2 Chronicles* 36:16: 'They would abuse the messengers of God, scorn His words, and mock His prophets'. And this would lead them to deny God's existence entirely, as reflected in the verse *2 Kings* 17:9: 'And the children of Israel spoke in secret things that were not true against God, their Lord'.
>
> In this vein, *Psalm* 73:9 states: 'They set their mouths against Heaven and their tongues strut on earth'. What caused them to 'set their mouths against Heaven'? Their tongues which previously were given free reign on earth. This is the speech of the wicked that is caused by loitering on the street corners, frequenting the assemblies of commoners, and spending time at the parties of drunkards.
>
> In contrast, the speech of proper Jewish people only concerns words of the Torah and wisdom. Therefore, the Holy One, blessed be He, assists them and grants them merit because of it […].[24]

23 On Miriam's case (and Maimonides' explanation of it), see GRAETZ 1994, and DIAMOND 2007, 39–45.

24 MAIMONIDES 2000, *Mišneh Torah*, X, 3, chapter 16.

The quotation, intentionally given in its entirety, exhaustively restores the sense of Maimonides' position: the biblical characters and episodes become exemplary of what could, or does, happen to the Jew (and only to the Jew) who, setting out on the road of wickedness and foolishness, remains indifferent to what would have saved him, if only he had paid proper attention. The result is, in such cases, another dramatic kind of indifference – the indifference of God –, who completely removes from his providential gaze those who have decided to make themselves unworthy of it.[25]

Outside the strictly juridical context, however, things no longer seem to be only (or simply) in these terms: that which in the *Mišneh Torah* receives the – 100% Jewish – mark of deep and widespread impurity, impressed from above, first for corrective purposes, and later for punitive ones, finds a different, 'worldly', we might say, collocation in the *Guide of the Perplexed*. Composed between 1180 and 1190 in Judeo-Arabic under the title of *Dālalat al-ḥā'irīn*, the work sets out to interpret the texts of the Jewish religious tradition through the resources made available by Aristotelianism, so that the perplexed evoked by the title (Jews who, firm in their observance of the Law, have come across knowledge that now paralyses them), discover the substantial convergence between Jerusalem and Athens.[26] Within this complicated project of rationalising Judaism, appear rhapsodic, yet no less significant, references to leprosy. To be precise, there are three places in the *Guide* where Maimonides, almost accidentally, introduces the topic.

One is where we would expect to find it, so to speak. We are in the last of the three parts of which the work is composed – the part devoted to the

25 It is no coincidence that, in reference to progressive warnings and the providential question, Diamond evokes the figure of Job, abandoned to his fate for failing to achieve intellectual perfection: DIAMOND 2007, 38–39.

26 We will confine ourselves here to mentioning only some of the most important introductory studies of the *Guide*: STRAUSS 1963; ZAMBRANO 1996, 53–78; ZONTA 2003.

purposes of the main biblical precepts. And here, in Chapter 47, on the precepts that establish what the conditions of purity must be in order to have access to the temple "with a feeling of awe and of fear," we find – in the most classic of collocations – the mention of leprosy.[27] There are – Maimonides explains at once – many kinds of impurity, to such an extent that it becomes almost impossible to come across a pure person. Among those who touch a carcass, and those who touch crawling animals, among menstruating women, and women and men who have a venereal disease, there is also the leper. For him, as for the others, it is prescribed to keep away from the Sanctuary at all times (both day and night) until purity is redeemed. Now, it is precisely at this level, at the level of liberation from impurity, that a distinction can be made between the various kinds of impurity and purity.

The statistical-frequency criterion used by Maimonides is clear: "To the extent that a certain kind of uncleanness was more frequent, purification from it was more difficult and was achieved at a later moment."[28] What remains unclear, however, is why in Maimonides' grid (between impurities that are more frequent than others, which are considered rarer), the leper is strikingly excluded, appearing only in the list of what is contaminating and unclean:

27 As Maimonides himself explains, as an introduction to the chapter, these are the precepts already enumerated in the *Sefer ṭohorah* (*Book of Purity*) of the *Mišneh Torah*, of which the cause is now discussed in order "to facilitate the actions of worship and to lighten the burden." See MAIMONIDES 1963, *The Guide of the Perplexed*, II, 2, 593: "We have already explained that the whole intention with regard to the Sanctuary was to affect those that came to it with a feeling of awe and of fear […]. Now if one is continually in contact with a venerable object, the impression received from it in the soul diminishes and the feeling it provokes becomes slight. The Sages […] have already drawn attention to this notion, saying that it is not desirable that the Sanctuary should be entered at every moment, and in support quoted its dictum: Let thy foot be seldom in thy neighbour's house, lest he be sated with thee, and hate thee."

28 MAIMONIDES 1963, *The Guide of the Perplexed*, II, 2, 594.

> Being under the same roof as dead bodies, more especially those of relatives and neighbours, is more frequent than any other kind of uncleanness. Accordingly, one is purified from it only by means of the ashes of a [red] heifer, though these are very rare, and after seven days. Running sores and menstruation are more frequent than contact with an unclean individual; hence these require seven days for purification, and whoever approached someone who was unclean requires one day. The purification of a man or a woman having running sores, and of a woman after childbirth was only completed by means of a sacrifice, for such cases are rarer than menstruation. Also, all these things are disgusting – I mean a menstruating woman, a man or a woman having a running sore, a leper, a corpse, a carcass of a beast, a creeping animal, and spilling of semen.[29]

Similarly unclear – this time by Maimonides' own admission – is the ultimate reason for the method used for deliverance from leprosy: understanding what actually lies behind the choice of using cedar wood, hyssop, scarlet thread, and two birds for the purification to take place – which is the main purpose of this part of the *Guide* – eludes Maimonides.[30]

What remains throughout is that, according to an explanation already given in the pages of the *Mišneh Torah*, *ṣāra'at* is a 'miracle' that is renewed among the Jewish people, since it is a punishment for turpitude, which from the walls, unless there is immediate repentance, spreads to the beds and furniture of the house, as well as to the clothes, until it afflicts the Jew's body, should he persist in disobedience. It is clear that the argument provided in this chapter of the *Guide* again places leprosy beyond the world, in a space with a hint of the miraculous, implying on the one hand divine punishment,

29 MAIMONIDES 1963, *The Guide of the Perplexed*, II, 2, 594.

30 MAIMONIDES 1963, *The Guide of the Perplexed*, II, 2, 597: "The utility of this belief is manifest, there being also the fact that leprosy is contagious and that, almost by nature, all men find it disgusting. The reason why purification from it was effected by means of cedar wood, hyssop, scarlet thread, and two birds, is given in the *Midrashim*; but it does not fit in with our purpose, and up to now I do not know the reason for any of these things; nor why cedar wood, hyssop, and scarlet thread were used in the ceremony of the red heifer nor why a bunch of hyssop was used for the sprinkling of the blood of the paschal lamb. I cannot find any reason whereby I could account for these species having been singled out."

and on the other the impurity of the Jew or, in the hypothesis of repentance, his purification, which will be both purification from *ṣāra'at* and, even deeper, purification from an obscene tongue. Incidentally, we might perhaps add that the mention of 'speaking evil' confirms for Maimonides a subject which is anything but irrelevant, or accessory. Still in Part III of the *Guide*, to be precise in Chapter 8, which focuses on the ethical status of matter, Maimonides draws up a list that leaves little room for the imagination about the evils that follow from it (the excesses of eating, drinking, copulating), and ends by admonishing the improper, or foul, use of speech. The grace of language has been given to man to learn and teach; certainly not to be wasted, as do the ignorant and depraved among the Gentiles, extolling in their songs and tales what is traditionally the lowest sense of all, the sense of touch.[31]

From the legal sphere, obscene language thus filters into the highly intellectual context of the *Guide* to remind us of the nobility of speech, and the impurity, or corruption, into which Jews and Gentiles, respectively, fall by violating it.

Though important, the reference to obscene language does not, however, exhaust the explanation of leprosy within the *Guide*. Leprosy is indeed a

31 MAIMONIDES 1963, *The Guide of the Perplexed*, II, 2, 435: "You know the severe prohibition that obtains among us against obscene language. This also is necessary. For speaking with the tongue is one of the properties of a human being and a benefit that is granted to him and by which he is distinguished. As it says: Who hath made man's mouth? And the prophet says: The Lord God hath given me the tongue of them that are taught. Now this benefit granted us with a view to perfection in order that we learn and teach should not be used with a view to the greatest deficiency and utter disgrace, so that one says what the ignorant and sinful Gentiles say in their songs and their stories, suitable for them, but not for those to whom it has been said: And ye shall be unto Me a kingdom of priests, and a holy nation. And whoever has applied his thought or his speech to some of the stories concerning that sense which is a disgrace to us, so that he thought more about drink or copulation than is needful or recited songs about these matters, has made use of the benefit granted to him, applying and utilising it to commit an act of disobedience with regard to Him who has granted the benefit and to transgress His orders."

punishment for slander and obscene speech, but there is not only this. There is also something else, which is stated in Chapter 72 of Part I, devoted as a whole to a discussion of the unity and incorporeality of God, as well as to the controversial question of the origin of the world (whether it is eternal, as in Aristotle, or created, as Genesis teaches). In these pages, Maimonides has the constitution of the heavens and the sublunar world correspond to the constitution of the human body, according to the well-known model of man-microcosm,[32] and ends by clarifying the corruption of natural things and the corruption of the human body through a parallelism so stringent as to have a scientific character. Indeed, we read:

> And just as the forces of man that necessitate his generation and continued existence for the time in which he continues to exist are identical with those necessitating his corruption and passing-away, so are the causes of generation in the whole world of generation and corruption identical with those of corruption. To take an example: if it were possible that the four faculties that are to be found in the body of every being that nourishes itself – namely, the attractive faculty, the retentive faculty, the digestive faculty, and the repellent faculty – be like the intellectual faculties and not act except as is proper, in the time in which it is proper, and in the measure in which it is proper, man would be preserved from many very great afflictions and from a number of diseases. However, as this is impossible and these faculties carry out natural activities without reflection and discernment and do not apprehend in any respect the activities they carry out, it follows necessarily that grave disease and affliction occur because of them, even though these faculties are at the same time the instrument through which living beings are produced and have a continued existence during the time in which they have it. This can be made clear as follows. If, to take an example, the attractive faculty would draw to the human body only things that are suitable in every respect and only to the extent needed, man would be preserved from many diseases and afflictions. But, as this is not so, and it draws to the body any matter that happens to belong to the genus it attracts, even if that matter diverges slightly from the norm in its quantity and quality, it follows necessarily that it draws to the body matter that is warmer or colder, coarser or finer, than is needed, or more of it than is needed. Consequently, the veins are plugged up with this matter, sclerosis and putrefaction occur, the quality of the humours is corrupted and their quantity changed; whereupon diseases appear such as

32 In actual fact, it is a model that is widely shared in medieval Jewish philosophical literature (and before that in Arabic) see on the topic, at least ALTMANN 1963 and KRINIS 2016.

> scabs, itches, and warts, or great afflictions such as cancerous growths, leprosy,[33] and cankers, so that the form of one or several parts of the body is corrupted. This is the case also with regard to the other four faculties in question. And this is also the case with regard to all that exists as a whole.[34]

Maimonides' words are incontrovertible. Diseases now find a different explanation – far from the moral order in which they had previously been placed: it is rather the nature of the faculties, or their instinctiveness (the fact that the four elementary faculties are devoid of thought) that determines afflictions of various kinds – from scabs and warts, to leprosy, and cankers. On the basis of Galen's teaching, what is, in short, being said here is that the mixing of elements according to qualities and quantities that should not be mixed together is at the origin of a series of phenomena harmful to the microcosm.

It matters little (or nothing) that the same discourse is made to apply to the macrocosm, which is its model, and that therefore the heavenly forces can move and mix the elements determining the formation of damaging causes – such as torrents, impetuous rains, snow, hail, tempestuous winds, thunder, lightning, and the putrefaction of the air – or of causes so destructive that entire geographical areas disappear – the sinking of land, earthquakes, hurricanes, and water overflowing from the seas and the depths.[35]

Rather, what counts is the fact that none of the concepts repeated so far, and taken up again in the *Guide* itself, enters into this chapter, in which leprosy is relegated to an entirely natural, human, elementary horizon.

33 In the translation used here – by Pines – the term *ṣāraʿat*, which we find in the Hebrew version of the *Guide of the Perplexed* translated in 1204 by Samuel ibn Tibbon, is not rendered as leprosy, as I have chosen to do, adhering to a principle of linguistic consistency. The term is instead translated as elephantiasis (which also appeared in the older commentaries: see WILKINSON 1977, 153); and this is how Gerrit Bos translates it in Maimonides' *Medical Aphorisms*, about which we will have more to say shortly (see the recent MAIMONIDES 2021).

34 MAIMONIDES 1963, *The Guide of the Perplexed*, I, 1, 190.

35 MAIMONIDES 1963, *The Guide of the Perplexed*, I, 1, 190.

Along the same horizon, another place in the *Guide* – Chapter 12 of Part III – seems to fit perfectly. The context is that of making evil relative, not absolute, and Maimonides is careful to define it through a detailed list of the species (three in all) in which it occurs. Here, then, the initial recognition of a very common error – imagining that evils in the world are more numerous than good things – provides an opportunity to discuss the insignificance of evil in relation to the fullness and absoluteness of good from the genuinely 'quantitative' perspective of the frequency with which types of evil occur. In the classification proposed by Maimonides, very rare are evils resulting from matter, i.e., chronic illnesses of a congenital nature, or illnesses caused by alterations in the elements (such as corruption of the air, lightning, or lunar eclipses) – on the whole, not even 'a hundredth or a thousandth part' of perfect births.[36] In Maimonides' reconstruction, this is both a clear and an inevitable departure from a Galenic principle that is explicitly referred to: "Everything that is capable of being generated from any matter whatsoever, is generated in the most perfect way in which it is possible to be generated out of that specific matter; the deficiency attaining to the individuals of the species corresponds to the deficiency of the particular matter of the individual."[37] The species, therefore, brings deficiency along with it as a necessary, but insignificant, concomitant of individual matter, with the implication – obvious at this point – that chronic illnesses do not compromise at all, and indeed make possible, in the general economy of grace and emanation of good, wisely passed on from above, the perpetuation of a specific perfect generation. More fre-

36 MAIMONIDES 1963, *The Guide of the Perplexed*, II, 2, 444: "Withal you will find that the evils of this kind that befall men are very few and occur only seldom. For you will find cities, existing for thousands of years, that have never been flooded or burned. Also thousands of people are born in perfect health, whereas the birth of an infirm human being is an anomaly, or at least – if someone objects to the word anomaly and does not use it – such an individual is very rare."

37 MAIMONIDES 1963, *The Guide of the Perplexed*, II, 2, 444.

quent are the evils that men inflict on one another, for instance "when one individual surprises another, and kills him or robs him by night,"[38] or again, extending the discourse to the most catastrophic consequences, when great wars break out: not even in this case, Maimonides concludes, are we dealing with evils that are given in a major measure.[39]

Compared to these first two species, one of which is statistically rarer than the other, the majority are evils belonging to the species that interests us most – the evils that man inflicts on himself, both on a psychic level (habituating his soul to desire what is not necessary either for his own survival or for the survival of the human species),[40] and on a physical level (over-eating, drinking, or copulating). The problem is that, compared to the few who have never allowed themselves to be trapped by bad habits, the others foolishly and stupidly complain, even to the point of blaming God for what they have brought upon themselves:

> If someone has eaten bad food and consequently was stricken with leprosy, they [the ignorant] are astonished how this great ill has befallen them and how this great evil exists. They are also astonished when one who frequently copulates is stricken blind, and they think it a marvellous thing the calamity of blindness that has befallen such a man and other such calamities. Now the true way of considering this is that all the existing individuals of the human species and, all the more, those of the other species of animals are things of no value at

38 MAIMONIDES 1963, *The Guide of the Perplexed*, II, 2, 444.

39 וזה גם כן אינו ברב מה שבישוב – we read in the Hebrew ("and such events too do not form the majority of occurrences upon the earth taken as a whole": MAIMONIDES 1963, *The Guide of the Perplexed*, II, 2, 444). The proposition makes clear that this kind of evil shares with the first the fact that 'most' is not necessary, but only 'in a minority of cases'.

40 Perhaps we should specify, along with MAIMONIDES 1963, *The Guide of the Perplexed*, II, 2, 445–446, that the desire for what is unnecessary is an evil because it "is something infinite. For whereas all necessary things are restricted and limited, that which is superfluous is unlimited […]. The error of the multitude has arrived at the point where they impute to the Creator deficiency of power because of His having produced that which exists and endowed it with a nature entailing, according to their imagination, these great evils […]."

> all in comparison with the whole that exists and endures. This has been made clear in the sayings: 'Man is like unto vanity, and so on'; 'Man, that is a worm, and the son of man, that is a maggot'; 'How much less in them that dwell in houses of clay, and so on'; 'Behold, the nations are as a drop of a bucket, and so on'.[41]

Leprosy results here from having eaten bad food. The reference is certainly curious, but it allows us to return to the insignificance of evil and, more generally, to the insignificance of the existence of the individual: evil, at least in the higher percentage in which it manifests itself (of which leprosy represents one of the most eloquent expressions), does not affect the specific constitution, which is the direct and immediate object of the wisdom of divine intention; rather, it affects the particular level, on which the unimportant weight of individual choices bears down.

One last area remains to be investigated, and that is the field of medicine, in which the treatment of leprosy, though not systematic, becomes – as is easy to guess – somewhat more analytical and technical. According to our (limited) knowledge of Maimonides' medical production, it appears that he speaks of leprosy in a series of aphorisms, scattered throughout the twenty-five treatises of the *Medical Aphorisms* (in Arabic *Kitāb al fuṣūl Mūsā fī al-ṭibb*), which he wrote for didactic purposes in a still undefined period of time, essentially collecting material from Galenic (and pseudo–Galenic) works.[42]

Rather than attempting to review these places individually, we shall limit ourselves to noting two elements. The first – of a strictly lexical nature – is that, in the two known medieval Hebrew translations of the aphorisms by

41 MAIMONIDES 1963, *The Guide of the Perplexed*, II, 2, 442.

42 ZONTA 2011, 38, points out that "according to an account in a manuscript note, possibly in the hand of Maimonides' nephew, David, the work would have been composed over at least ten years, either from 1188 onwards or by 1185; however, the last treatise would have been circulated only after the death of the author, who would have written it in the last years of his life and not had time fully to integrate it into the rest of the work."

Nathan ha-Meʾati and Zeraḥyah ben Isaac ben Šeʾaltiel Ḥen, both dating to the last decades of the thirteenth century,[43] the original Arabic جذام is rendered as *ṣāraʿat*, consistently translated by Gerrit Bos (who curated the invaluable edition of Maimonides' aphorisms) as *elephantiasis*, indicating a skin disease, or to be more precise, a disease of the most superficial layer of the skin.[44] The second, more radical element concerns the causes and possible remedies of this disease. Elephantiasis (like cancer, mange, the peeling of the skin, quartan fever, delusion, and thickness of the spleen) originates from an excess of black bile,[45] which, spreading in the blood, implies that the sufferer has a foul odour, that ulcers appear, and the complexion changes[46]. A strict dietary regime, which produces good blood, is all that is needed so that the melancholic humour can finally be expelled.[47] It is no coincidence – adds Maimonides – that "in the land of the Scyths, who feed themselves with milk, we

43 The edition of these versions in Hebrew of the aphorisms was also edited by Gerrit Bos in 2020: MAIMONIDES 2020(1), *Medical Aphorisms* and MAIMONIDES 2020(2), *Medical Aphorisms*.

44 MAIMONIDES 2004, *Medical Aphorisms*, III, 94, 56: "It is, above all, the outer layer of the skin in which humours arriving at it are retained and become stuck – namely, those humours which are thick and earth-like. This results in mange, the disease in which the skin peels off, and elephantiasis."

45 On the relation between black bile and elephantiasis, see MAIMONIDES 2004, *Medical Aphorisms*, II, 16, 31. As well as MAIMONIDES 2017, *Medical Aphorisms*, XXIII, 47, 8 (in which Maimonides explains: "All cancerous tumours especially develop from a melancholic superfluity. If that superfluity tends to the lower part of the body and the expulsive faculty in the vessels expels it from the openings [of the vessels] in the anus or vagina, then [the parts from which] this evacuation [takes place] are called haemorrhoids, and blood flows from them. Sometimes those superfluities are forced to the legs and cause varicose veins, and sometimes they are forced to the skin of the entire body, and from this elephantiasis develops").

46 MAIMONIDES 2007, *Medical Aphorisms*, IX, 98, 80.

47 The diet to follow is suggested in more than one aphorism. MAIMONIDES 2007, *Medical Aphorisms*, IX, 108, 82: "The nutrition of patients with elephantiasis or cancer should consist of barley gruel and whey, both of which should be consumed in abundance." MAIMONIDES 2015, *Medical Aphorisms*, XX, (68) 138, 87: "Boiled chicken soup balances the temperament. It is the best medicine and foodstuff for the beginning of elephantiasis." MAIMONIDES 2017, *Medical Aphorisms*, XXII, 59, 17: "Hedgehog meat, if dried and imbibed in oxymel, is beneficial for pains in the kidneys, elephantiasis, and dropsy of the flesh."

have never seen anyone afflicted by this disease," while many people in Alexandria "are stricken by elephantiasis because of their bad diet and the heat of their place."[48]

Nevertheless, still in the medical field, there are explanations of leprosy bordering on the fanciful, which Maimonides uses, even though he recognizes their scant scientific value. In the treatise *On Poisons and the Protection against Lethal Drugs* (83–84), Maimonides turns to senior physicians to understand why in every city he passed through some men suffer from suppurating elephantiasis, which results in the limbs falling off. The answer, which puzzles Maimonides, calls into play their adulterous wives: these men had been poisoned by their adulterous wives by means of menstrual blood, which they took at the beginning of the menses and put into the food, causing the observed afflictions.[49]

Trying, then, to hold together the different spheres covered by Maimonides (juridical, philosophical, and medical), and concluding, it seems we can say without any inconvenience that leprosy is for the most part systematically treated as a moral issue: it is all too evident, almost to the point of nausea, the insistence with which certain concepts pertaining to the sphere of morality are taken up in order to redefine, in a Jewish sense, the leper's space. Nevertheless, an explanation of leprosy that goes beyond morality insinuates itself here – at least for those who are prepared (i.e., for those who have the instruments to understand it) –, becoming physiological, or pseudo-scientific, to the point of being of interest to Gentiles as well as Jews.

In spite of this, there is one point at which several areas considered so far intersect, generating the impression that the circle can be squared; and

48 MAIMONIDES 2007, *Medical Aphorisms*, IX, 107, 82.
49 MAIMONIDES 2022, *On Poisons*, 102.

that is the statistical frequency with which *ṣāraʿat* occurs: if it ranks among the most common things (or evils), it is because it is difficult to find a perfect man, who has never deviated in word or deed.

One last point remains to be made, which has little (if anything) to do with Maimonides, but takes us right back to what we were saying at the beginning in our modest homage to Chiara Frugoni.

Even today, there is no shortage of those who, when the epidemic was spreading, thought it was God who had sent it by way of punishment; nor is there any shortage of those who have spoken of conspiracies. In one case, as in the other, once again it was the Jews who were called into question: Florida pastor Rick Wiles attracted a great deal of attention when he proclaimed that Jews were struck down by Covid for opposing Christ;[50] and a number of conspiracy theories have traced the origins of the epidemic back to the Jewish people, who allegedly sought the collapse of the global economy for financial gain.[51] The *longue durée* of a sad story.

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50 Chiara Frugoni concludes her book on medieval fears with pastor Rick Wiles; FRUGONI 2020, 340.

51 To cite but a few examples: EDMUNDS, TERCATIN 2020; GERSTENFELD 2020; COLAROSSI 2021.

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Medicina e "medicina spirituale": alcuni casi (secoli XII-XV)

Chiara Crisciani

Abstract: In this essay I examine some instances of the relations between body and soul and between health and salvation in the development of the 'medicine of the soul', that is 'spiritual medicine' (12th–15th centuries). In particular, I examine texts by theologians and men of Church – Hugo de Fouilloy, Alanus de Insulis, Humbert de Romans, Nicola of Occam, Giovanni da S. Gimignano, Bartolomeo da Ferrara and Jean Gerson – in which aspects of secular medicine are used for ethical and spiritual aims. I also touch upon some physicians – Gilles de Corbeil, Arnaldo da Villanova, Galvano da Levanto, Michele Savonarola – who are, in their medical writings, very attentive to the health of the soul and its salvation.

Keywords: medicine; spiritual medicine; Middle Ages.

English title: *Medicine and 'Spiritual Medicine': Some Cases (12th–15th Centuries)*

1.

Dopo la vistosa impennata di studi di storia della medicina medievale, a partire da un libro ancora fondamentale di Nancy Siraisi pubblicato negli anni Ottanta del '900[1], negli ultimi venti anni si sono sviluppate anche ricerche importanti sui rapporti tra medicina e religiosità[2]. Questi rapporti hanno alla

1 Mi riferisco a Siraisi 1981; si vedano anche Beaujouan 1992; Schmitt 1984; Agrimi, Crisciani 1994 (per una rassegna dei risultati di quel decennio).

2 Ormai sono molti lavori su questo tema; senza pretesa di esaustività, tra i più rilevanti segnalo: Ziegler 2012; Moulinier-Brogi 2019; Robert 2015; Langum 2016; Biller, Ziegler 2001; Cova 2002; Reynolds 1999; Gubbini 2020; Zecher 2022; Agrimi, Crisciani 1978; Agrimi, Crisciani 1993; Crisciani 2001; Crisciani 2009; Crisciani 2021; Crisciani 2022; Montford 2004; Donato et al. 2013; Robert 2011; Crisciani, Ferrari 2010; una rassegna ragionata dei più recenti risultati sul tema (per lo più però anglofoni) è in Gürbüzel, Wallis 2021.

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base alcune condizioni. Innanzitutto va tenuta in conto la surdeterminazione religiosa che in generale caratterizza teorie e pratiche sia nell'alto medioevo che, sia pure con minore incisività, nel periodo successivo, dove surdeterminazione segnala come ogni processo, nel sociale e nel pensiero, sia primariamente declinato in termini religiosi: anche la medicina dunque risente di questa forma condizionante. Anzi, a maggior ragione la medicina, visto il carattere soteriologico della religione e religiosità cristiana: infatti alla legge del patto ebraico si è sostituita quella dell'amore e del riscatto propria del cristianesimo. Questo significa la proposta, garantita dal sacrificio del figlio di Dio, di un percorso che da degrado-peccato punta e porta a restauro-salvezza, per il singolo e per l'umanità intera. Si presenta dunque immediata un'analogia stretta e intuitiva – sulla base del rapporto tra anima e corpo – tra le rispettive guarigioni, cioè tra salvezza e salute, il che suscita ovviamente pronte metaforizzazioni tra le due forme di salute. Ma soprattutto va ricordato che, per larga parte del pensiero patristico e monastico, asceticamente, la stessa *infirmitas*/debolezza del corpo, oltre ad essere un effetto del Peccato originale e dunque la vera natura dell'uomo *viator* dopo la caduta e nella storia, è, proprio in quanto tale, anche un rimedio contro il peccato.

Tale convinzione dà luogo ad una insistita "pedagogia della sofferenza"[3], che valorizza cioè direttamente il dolore e la malattia del corpo – se sopportati con pazienza e riconoscenza – per la guarigione dell'anima. È quanto propone ad esempio Gregorio Magno nella *Regula pastoralis* quando elenca le *Admonitiones ad aegros*[4]; o che sostiene ancora Bernardo di Chiaravalle in varie epistole[5]; in questi contesti risuonano anche domande tese a sminuire il ruolo della medicina profana a favore di cure spirituali e della salute

3 AGRIMI, CRISCIANI 1978; AGRIMI, CRISCIANI 1980; AGRIMI, CRISCIANI 1993.
4 Si veda la traduzione italiana in AGRIMI, CRISCIANI, 1980, 85-88.
5 Per una traduzione italiana si veda AGRIMI, CRISCIANI, 1980, 90-91.

dell'anima rispetto alla sanità del corpo. Perché infatti volgersi al medico se Cristo, vero medico, ha sostituito Asclepio? Perché usare pozioni quando bisogna curarsi della salute dell'anima, «quia vana est salus corporis»? Perché lenire, e non invece implorare le sofferenze, visto che si sa «quanta salus cordis sit molestia corporalis»? Perché aderire alla *schola Hippocratis* invece che alla *schola Salvatoris*, ben più salutare? A questo proposito sottolineo quanto Cristo sia il vertice in cui – nell'unità del simbolo e non più solo analogicamente – confluiscono molte metafore mediche, e fin da Agostino[6]: egli infatti è il malato per antonomasia, che misero, avendo assunto la nostra carne mortale e sofferente, vaga bisognoso di cure, di compassione e di misericordia, e va riconosciuto in ogni malato; è però anche "sommo medico" dell'umanità caduta perché l'ha restaurata, e la sua passione, così fisica fino alla morte del corpo, è il vero "farmaco" della "guarigione".

Questi rapporti – tra medicina e religiosità – che si sviluppano dall'intreccio di tali caratteristiche e condizioni, appaiono poi orientati in direzioni e utilizzi vari, e cioè: 1) innanzitutto un uso costante di nozioni mediche per l'esegesi scritturale, onde chiarire passi in cui di fenomeni corporei si tratta (ad esempio i miracoli "medicali" di Cristo, o alcune piaghe d'Egitto): è questo un sussidio del sapere profano a fini interpretativi, sussidio previsto e promosso come corretto da Agostino nel *De doctrina christiana*, e che non verrà mai meno. 2) Si attiva un'attenzione (che integra e supera le riflessioni al riguardo pur ben presenti nella medicina classica) sul comportamento del medico (e questo da parte sia di sacerdoti, sia dei medici stessi): attenzione cioè sulla sua peculiare etica[7] e anche sull'"etichetta" di comportamento di un professionista che è cristiano e che ha a che fare con vita e morte, con confini

6 Tra i molti studi si veda il classico ARBESMANN 1954 e il più recente GOLLWITZER-VOLL 2007.

7 Si vedano, tra i molti lavori su questo ampio tema, WEAR ET AL. 1993; GADEBUSCH BONDIO 2014; si vedano anche CRISCIANI 2010; CRISCIANI 1983; CRISCIANI IN CORSO DI STAMPA.

decisivi per il corpo e l'anima, su cui peraltro anche il sacerdote ha il dovere di vigilare e orientare: i due operatori (di salute e di salvezza) – si dice non a caso in un testo salernitano del secolo XII – nella casa dove giace un malato hanno il posto d'onore[8]. 3) Si riscontrano intersezioni in ambito teologico, quando la riflessione di antropologia religiosa, ad esempio sulla *veritas* della natura umana, sulla struttura fisica di Adamo, o sui corpi risorti dei beati, o ancora sulla corporeità di Cristo, così soteriologicamente connotata, fa ricorso a nozioni e teorie mediche più o meno specialistiche e più o meno comprese (con la formula «ut dicunt medici»[9]). 4) Si sviluppa la cosiddetta "medicina spirituale", che – spesso anche accorpando in varia proporzione le funzioni ora elencate – consiste nell'adozione di vari aspetti della medicina profana volta alla cura del corpo (termini, concetti, teorie, comportamenti) per la costruzione di una "medicina dell'anima".

Al riguardo va ricordato il chiasmo che il medico Giovanni Alessandrino[10] del secolo VII, nel commento al *De sectis* di Galeno, attribuisce falsamente ad Aristotele per poter dichiarare che medicina e filosofia *sunt sorores*: come infatti la filosofia è medicina dell'anima, così la medicina è la filosofia dei corpi. Pur assai diffuso (lo riprende, e dunque lo fa circolare, anche Isidoro di Siviglia nelle *Etimologie*[11]) per segnalare la filosoficità della medicina – qualifica che ai medici molto interessa anche in epoca più tarda –, questo chiasmo nel pensiero medievale non porta alla valorizzazione della filosofia come medicina/medico, nonostante che nel *De consolatione Philosophiae* di Boezio (testo quanto mai amato e influente) Donna Filosofia si presenti come terapeuta che

8 ANONYMUS SALERNITANUS 1853-1859 (per una trascrizione e traduzione italiana si veda LAURIELLO 1997); si veda anche MORPURGO 1984.

9 Prendo da ZIEGLER 1999.

10 IOANNES ALEXANDRINUS 1982, *Commentaria in Librum De sectis Galeni*; PALMIERI 1989.

11 ISIDORUS HISPALENSIS 1962, *Etymologiarum sive originum Libri XX*, IV, 13. 1-4; si vedano SHARPE 1964; FERRACES RODRIGUEZ 2005.

gradua farmaci e rimedi per sollevare il prostrato Boezio[12]; tuttavia quel chiasmo, diffuso da Isidoro, può aver contribuito a sostenere l'uso della medicina profana per allestire una terapia dell'anima.

2.

Sulla base di questi dati e considerazioni, non stupisce la comparsa precoce e diffusissima di analogie e metafore tratte dalla medicina quando si parla della cura delle anime; fin da Agostino, Gregorio, Girolamo circolano metafore sul Cristo medico, sui peccati come *vulnera*[13], i peccati capitali come lebbra, gli eretici come lebbrosi nelle diverse forme di questa affezione, gli unguenti della preghiera e della penitenza, la Chiesa come *apotheca medicaminum*. Più in genere, sono tutte notazioni medicali che è necessario –afferma Rabano Mauro – «ad usos nostros convertere»[14]. Ivo di Chartres[15], ad esempio, ritiene di poter risolvere tutto il suo *Sermo de septuagesima* con metafore mediche: i peccatori *egrotantes* si affidino a Cristo, medico di salute eterna, gli mostrino i *vulnera* ed egli, «medicus noster, sanabit omnem languorem». Altrettanto pervasiva è la metaforizzazione medica nel *De quinque septenis* (testo teologico sulla definizione dei doni dello Spirito Santo) di Ugo di San Vittore, che qui sviluppa gli apporti salutiferi dei doni dello Spirito, e quest'ultimo assume i ruoli di medico e farmaco[16]: i *languores* dell'anima inferma sono gli effetti di vizi capitali, sono *vulnera interioris hominis*; *medicus* è Dio, *dona Sancti spiritus* sono *antidotum*, *virtutes* sono la *sanitas: vulnera, antidota, sanitas* sono poi am-

12 Phillips 2002; Schmid 1956; Stettler 2022.
13 Year 2014, 109 sgg.
14 Si veda il suo commento all'*Ecclesiaste*, VIII.13, in P.L. 109, col. 1031C; anche col. 1032D: «Ipsa infirmitas juxta dispensationem Dei immittitur ad probationem vel emendationem electorum, ad correptionem vel ad damnationem reproborum».
15 Si vedano i suoi *Sermo XII* e *Sermo XIII*, in P.L. 162, coll. 579-581.
16 Hugo de Sancto Victore 1969, *De quinque septenis* e *De septem donis Spiritus Sancti*, 102, 108, 122-126.

piamente sviluppati in rimandi e intrecci tra i settenari di peccati, doni e virtù.

Come si può notare, se le metafore sono molte, ingegnose e dovunque, sono però anche estremamente generiche: e come tali perdureranno sempre, come pacchetti semantici assestati, fino a Lutero e oltre; in alcuni casi diventano più articolate, solo però a partire dal secolo XII.

Infatti è solo nel momento della cosiddetta "Rinascita del secolo XII" che la medicina occidentale, finora ridotta a ben misera cosa, a pochi testi schematici e compendiati, a modeste, periferiche scuole[17], conosce, come ogni altro ambito culturale e non, una vigorosa crescita[18]. Si pensi alle traduzioni di testi medici dall'arabo a Montecassino; alla scuola medica di Salerno che nel secolo XII è nel suo pieno rigoglio[19]; agli inizi della scuola medica di Montpellier[20]; agli interessi naturalistici della scuola canonicale di Chartres[21]. Si articola inoltre – in una società che si sviluppa e si differenzia – il mercato della salute: accanto a monaci-medici, a guaritori vaganti di fiera in fiera, ai santuari prodighi di miracoli delle reliquie e ai percorsi che vi conducono, con le loro tappe di ospizi soccorrevoli, a vecchiette di villaggio (con i loro modesti e non di rado superstiziosi rimedi, a metà tra gesti religiosi, residui pagani e pratiche magiche) compare, come figura inedita e specifico prodotto medievale, il medico dotto professionista. Costui ha potuto studiare nelle prime scuole mediche occidentali, e si fa forte del sapere dottrinario che testi tradotti veicolano: basti pensare che sono questi testi medici (l'*Articella*[22], prime

17 BECCARIA 1956; BECCARIA 1961, 39 sgg.
18 JACQUART 2019, 203 sgg.
19 KRISTELLER 1986; LAWN 1963; JACQUART, PARAVICINI BAGLIANI 2007.
20 LE BLÉVEC 2004.
21 GREGORY 1952; GREGORY 1955, specie capp. 3 e 4; FALOCI ET AL. 1998; sul significato polivalente di *physica* in questo periodo si veda BYLEBYL 1990.
22 Su questa collezione canonica di testi importanti sono i molti lavori che le ha dedicato Tiziana Pesenti; si veda anche CRISCIANI 2007.

traduzioni di Galeno e di testi arabi) i più precoci tramiti a Chartres di teorie e metodi aristotelici, quando ancora gli scritti di Aristotele non sono tradotti[23]. Su questi il medico fonda e definisce i connotati di sé come professionista cristiano; superfluo dire che con le Università questa professione diventa anche più solida dottrinariamente e socialmente prestigiosa[24].

Contemporaneamente, nel secolo XII anche le cure pastorali conoscono un innovativo sviluppo: in particolare la predicazione e la confessione – che metaforicamente sono da sempre e sempre saranno intese rispettivamente come prevenzione e terapia dell'anima infettata dal peccato – si adeguano ai bisogni di una società divenuta molto più complessa e articolata. Si cominciano a predisporre prediche *ad status*, cioè non dedicate indifferentemente a tutti i cristiani ma specificamente a un determinato gruppo sociale o agli appartenenti a certe professioni; il predicatore dovrà selezionare e analizzare il proprio uditorio e tener conto delle sue caratteristiche, predisposizioni e anche della sua fisiologia per produrre prediche adatte, veramente esortative e convincenti[25]. Ancor più incisivamente, la confessione – dato l'affermarsi di un'etica fondata più sull'intenzione del peccatore che sull'oggettività del peccato (così invece succedeva nei tariffari rigidi dei Penitenziali[26]) – si deve fare attenta alla soggettività e allo stile di vita del singolo penitente e arriva, agli inizi del secolo XIII, ad essere prescritta per ciascun cristiano almeno una volta all'anno dal concilio Lateranense IV. Da qui in poi il confessore è a diretto e

23 BIRKENMEJER 1970, 73-87; JACQUART 1988(1).

24 CHANDELIER 2017; SIRAISI 2001; SIRAISI 1981; AGRIMI, CRISCIANI 1988; JACQUART 1993.

25 HUMBERTUS DE ROMANIS 1677, *De eruditione praedicatorum libri duo*, dove varie schede mostrano interesse per i corpi, cui anche deve dedicare attenzione il predicatore: di contadini, di lebbrosi, di malati.

26 Si vedano ad esempio i *Decretorum libri* (dal significativo sottotitolo *Corrector sive medicus)* di Burcardo di Worms (per la traduzione italiana si veda PICASSO, PIANA, MOTTA 1988), dove, nel l. XIX *De poenitentia*, si danno istruzioni al confessore per meglio graduare le penitenze, cioè quelle *correctiones corporum* che sono vere *animarum medicinae:* AGRIMI, CRISCIANI 1978, 46-47.

periodico contatto col singolo peccatore/*infirmus*[27]. Ed è allora in questo quadro che la metaforizzazione della "medicina spirituale" diventa più puntuale e specifica nelle sue scelte di prestiti dalle dottrine della medicina dei corpi, ora così arricchita di testi e teorie. Esamino qui due autori di rilievo nel secolo XII, testimoni entrambi di questa tendenza, anche se diversi tra loro per gli usi della medicina profana di cui si servono.

Il primo caso è offerto dal *De medicina animae* di Ugo di Folieto[28] della *Regula Sancti Augustini*, testo di notevole diffusione (almeno 60 sono i manoscritti conosciuti), destinato ai superiori per dare loro indicazioni sulle cause e rimedi di deviazioni morali nel chiostro. Si tratta di un ampio trattato in 22 capitoli che, sulla base della polarità fra corpo e anima, analizza la vita claustrale in termini di malattie e cure. E pertanto, come si può prevenire i malanni fisici tenendo conto della costituzione fisica (*complexio)*[29] di una persona, così si possono applicare gli stessi meccanismi di difesa-restauro all'anima tenendo conto della costituzione spirituale: di tali rapporti, per ben reggere la comunità, i priori devono acquisire conoscenza, attingendo ai dati che filosofia naturale e medicina forniscono. Come la vita dell'organismo microcosmo dipende dalle influenze del macrocosmo – sottolinea Ugo –, così il microcosmo-monaco è condizionato dal macrocosmo-monastero: in entrambi i rapporti sono gli elementi e umori e i ritmi delle stagioni (con le loro commistioni e combinazioni) che garantiscono e orientano il loro sviluppo e le reciproche connessioni.

Si tratta allora di adattare le nozioni relative a umori e a *complexio*, a malattie e cure materiali al contesto del chiostro e all'anima del monaco, renden-

27 BERIOU 1986.

28 HUGO DE FOLIETO 1998, *La medicina dell'anima*; MÜLLER 2002, DANNENBERG, MELVILLE 2010.

29 Su questa categorizzazione medica, fondamentale da Galeno in poi, si vedano CHANDELIER, ROBERT 2013; JACQUART 1984; JACQUART 2012; GROEBNER 2004; MURRAY JONES 2013; ZUCCOLIN 2019; OTTOSSON 1984, cap. 3; BENEDUCE 2023.

do così pienamente utilizzabile a fini spirituali un sapere profano. Ciò che in Ugo fa da base all'analogia che costruisce è la medicina teorica, che ora però è più ricca e specifica; ricchezza che Ugo usa con competenza, e – molto analiticamente – anche nella parte farmacologica del trattato, per catalogare con cura malattie e terapie spirituali secondo lo schema *a capite usque ad calcem*, come per lo più avviene nei contemporanei scritti medici nosologici. Da sempre, certo, impegno del priore è prendersi cura dei suoi *subditi*, secondo che prescrive la *Regola* di Benedetto: ora, in quanto *spiritualis medicus*, è suo compito fare diagnosi più precise e propinare cure specifiche alle anime dei suoi sottoposti, forte appunto del sapere medico. Appare chiaro che Ugo padroneggia abbastanza bene le teorie naturalistico-mediche del suo tempo; si riconoscono infatti ampi prestiti precisi da formulazioni teoriche salernitane e compaiono nel suo trattato anche titoli di testi medici, tanto da aver fatto supporre una sua non generica preparazione in questo ambito.

È invece certo che Alano di Lilla – i cui interessi naturalistici sono noti – è stato in contatto con Montpellier e la sua scuola medica[30]. Nel *Liber poenitentialis*[31], dedicato al clero suo contemporaneo – che Alano giudica colpevolmente incapace – perché si renda abile nella confessione, molti elementi fin qui considerati entrano contemporaneamente in gioco: la metaforizzazione insistita da medicina del corpo a cura dell'anima, la nuova etica soggettiva del consenso intimo, i cambiamenti nella cura pastorale. Due sono gli spunti che Alano sviluppa a partire dalla medicina dei corpi: il primo è che il confessore deve sapere quanto e come il corpo con i suoi umori e la *complexio* influenzi l'anima di ciascuno, cosicché un peccato di gola potrà dirsi meno grave in chi è di complessione robusta e sanguigna, più portata a riempirsi di cibo, rispetto a chi, dispeptico, è in grado di digiunare senza fatica; meno gra-

30 Si veda l'introduzione di D'ALVERNY 1965.
31 Edito in LONGÈRE 1965.

ve la golosità anche in chi, per gli ambienti cortigiani che frequenta, è più esposto alle tentazioni; infine, chi ruba per fame pecca meno del ladro ricco[32]. D'altra parte, il confessore deve anche conoscere quali sono le reazioni fisiologiche dell'organismo umano a certi stimoli, e sapere per quali motivi, del tutto neutri e naturali, alcuni peccati – di gola, di lussuria, ad esempio – si installino uno dopo l'altro: sarà più facile insegnare al penitente a guardarsene. Sarà anche più che utile al confessore sapere come certi vizi – sempre gola e lussuria – abbiano anche ricadute fisiche pericolose, siano forieri di malattie nell'organismo oltre che nell'anima, ricordando le quali il penitente, preoccupato, può essere indotto a emendarsi. Il corpo, i suoi umori e le sue vicende qui dunque entrano a far parte delle competenze del confessore, non sono più solo basi di analogie e metafore generiche, ma rientrano in nessi causali precisi tra anima e organismo che il sacerdote deve padroneggiare.

Ma soprattutto Alano, di fronte a un ceto clericale che giudica appunto così incompetente che spesso i sacerdoti – sia quando predicano che quando confessano – «quos debent sanare profundius vulnerant», ricorre al comportamento del medico dotto professionista, e lo propone come modello da imitare, e in questo senso il suo stesso scritto assume la funzione di "farmaco" per il clero: il sacerdote dunque «debet gerere statum materialis fisici vel medici». Tutte le conoscenze di quest'ultimo, i suoi gesti, la sua etica professionale, l'organizzazione delle domande diagnostiche, l'affabilità unita al rigore nella terapia, l'attenzione soprattutto alle particolarità del singolo malato va imitato dal sacerdote. Non più solo legato per analogia ai mali dell'anima, ma proposto anche come ideale regolativo e pedagogico, è qui il complessivo sapere e tutto il comportamento del medico dei corpi. Che Alano può sicuramente aver apprezzato sia quando ha trascorso un periodo come predicatore a

32 LONGÈRE 1965, 193-194.

Montpellier, frequentando presumibilmente studenti e professionisti di medicina, sia per aver avuto forse conoscenza dei trattatelli salernitani circa l'etichetta del medico, che appunto in questa stessa epoca sono dedicati all'educazione e agli atteggiamenti propri del provetto e accorto professionista: celebre e diffuso fra tutti è il manualetto di comportamento *De adventu medici ad egrotum* attribuito ad Arcimatteo da Salerno[33].

3.

Questi due casi mostrano quanto ormai la medicina occidentale non sia più la vana *curiositas* criticata e svilita da Padri e monaci, e come alla *schola Hippocratis* non sia più ingiunto di lasciare tutto lo spazio alla *schola Salvatoris*, dispensatrice della vera salute; anzi, con la *Ierapigra ad purgandos prelatos* di Egidio di Corbeil[34] si assiste alle lezioni salutari, propriamente purgative, che un medico illustre dispensa anch'egli al clero incapace e corrotto: il sacerdote che pretendesse di affrontare ogni malattia spirituale *unico sermone* – sostiene Egidio – sarebbe come un cattivo medico che volesse affrontare ogni malattia con un unico antidoto. È stata dunque conseguita una stabile accettazione della medicina profana, scientifica e laica, e della sua proiezione in "medicina spirituale", che – nelle sue varie accezioni – diventa di uso comune nei secoli successivi.

È dunque nel secolo XIII che troviamo testi di teologi (non sorprendentemente Alberto Magno, ad esempio) attenti a quel che *dicunt medici*[35]: è però impossibile qui analizzare le varie occasioni di utilizzo del sapere medico che

33 Si veda *supra*, n. 8.

34 VEILLARD 1903, 366-367; per l'edizione si vedano AEGIDIUS CORBOLIENSIS 1826; SCHELER 1972.

35 Si vedano ZIEGLER 1999 (e gli altri suoi saggi qui citati); REYNOLDS 1999; CRISCIANI, FERRARI 2010; COVA 2002; si veda *supra*, n. 3.

si trovano nei loro testi. Così come è impossibile dar conto in breve dell'intreccio tra religiosità e medicina che informa buona parte della produzione di un famoso medico – Arnaldo da Villanova – docente e medico di corte di papi e sovrani, ma anche fautore della linea degli Spirituali di Provenza e profeta degli ultimi tempi[36]; o anche di un medico meno famoso ma altrettanto fervente cristiano, come Galvano da Levanto[37], che traduce in forma metaforica medica ampia e puntigliosa momenti e aspetti fondanti della religiosità cristiana. Bastano alcuni titoli dei suoi scritti, quasi del tutto inediti, per segnalare il suo orientamento: *Tyriaca mortis spiritualis gradiens super tyriacam medicorum* (confezione della tiriaca, suoi usi medici, sua analogia con Cristo); *Contemplatio de gracia dei gradiens super corpus humanum et ejus regimen conservativum et curativum; Liber salvatoris contra morbum caducum; Liber doctrine curative languoris leprosi; Salutare carisma ex sacra Scriptura; Chrisma sanativum tremoris cordis*.

In questi testi Galvano tratta il suo tema in due parti: l'analisi medica, ad esempio, dell'epilessia/mal caduco, e in seguito la sua trasvalutazione in termini di "medicina spirituale". Arnaldo e Galvano sono due medici detti non a caso *theologizantes*; ai loro scritti va affiancato il *Liber de exemplis*, della stessa epoca: è un'enciclopedia a fini omiletici del domenicano Giovanni di San Gimignano[38], famoso predicatore, dove, in uno speciale capitolo, si suggerisce di usare *exempla*, cioè analogie fondate su dottrine e casi medici, per rendere la predicazione particolarmente attraente e incisiva: il testo ne offre un ampio repertorio, da poter utilizzare nelle prediche. Mi soffermo invece su due pensatori forse minori nel panorama del secolo XIII ma assai interessanti in questo contesto: Nicola di Occam, francescano, lettore ad Oxford, partecipe

36 ARNALDUS DE VILLANOVA 1993, *Medicationis parabole* e *Commentum in quasdam parabolas* (su cui si veda AGRIMI 1998); ZIEGLER 1998.
37 CALVET 2003 (con edizione parziale da mss. di Galvano, 205-216); GIRALT 2003.
38 ZIEGLER 1995; anche JOHNSON 2012.

della cosiddetta prima scuola francescana; e Umberto da Romans, quinto generale dell'Ordine domenicano. Nicola, nel prologo al suo commento alle *Sentenze*[39], affronta l'usuale domanda su quale sia l'oggetto della teologia: concorde con alcuni predecessori del suo Ordine (Alessandro di Hales, Guglielmo de la Mare e Bonaventura), Nicola vede la teologia come unione di teorica e pratica (e tale appunto – va ricordato – è definita la medicina); il suo *subiectum* non è Dio – come interpreta invece la linea domenicana – ma il *genus humanum reparabile*. A conferma di questa definizione, Nicola ricorre e cita dal *Canone* di Avicenna, dove si definisce quale *subiectum* della medicina l'organismo dell'uomo *ex parte qua sanatur*[40], cioè l'umanità nella sua corporeità con l'aggiunta di una puntuale differenza specifica, in quanto cioè è suscettibile di guarigione.

Ne segue la conclusione di Nicola, secondo cui allora «Est enim theologia supernaturalis medicina». In teologia dunque di Dio si parla *non ut de subiecto*, e di lui si discute non in quanto è Dio, ma in quanto è *reparans*, cioè che cura, il genere umano: sia con gli antichi *mandata* mosaici, sia con la nuova legge d'amore del Vangelo. Se si considera che Nicola anche su altre tematiche teologiche (ad esempio la natura di Adamo nel Paradiso terrestre)[41] fa sfoggio di una competenza e di riferimenti medici inusuali anche per il naturalismo che pervade linee teologiche a metà del secolo, si giustificano il giudizio di Ziegler, che parla di una "medicalizzazione"[42] del discorso teologico specie per la seconda metà del secolo XIII, e l'opinione di Paravicini Bagliani

39 Si veda l'edizione di OLSZEWSKI 2008.

40 OLSZEWSKI 2008; ricordo che Lutero riprenderà questa definizione; il passo citato da Nicola è in AVICENNA 1507, *Liber canonis*, I, 1, f.1ra: «Dico quod medicina est scientia qua humani corporis dispositiones noscuntur ex parte qua sanantur vel ab ea remorentur […]».

41 ZIEGLER 2001.

42 NICOUD 2011 (l'intero numero è dedicato al tema).

sulla consistenza di una "teologia del corpo" per lo stesso periodo[43].

Quanto a Umberto da Romans, rinvio qui a sue due opere, il *De eruditione praedicatorum* (raccolta di schemi di prediche *ad status* che configurano una sorta di sociologia della predicazione[44]), e l'*Expositio regulae sancti Augustini*[45]. In quest'ultima, a conferma che la *schola Hippocratis* non è più esecrata, Umberto critica duramente quei confratelli che, superbi del proprio aspro ascetismo, rifiutano da ammalati le cure mediche, credendosi con ciò più ligi e più santi; ma, ammonisce il Generale, il corpo è l'utile strumento con cui il predicatore può agire, come deve, nel mondo, e il religioso è tenuto ad averne attenta cura: i vanagloriosi asceti si pieghino dunque con umiltà e gratitudine alle cure dei medici[46]. Nel *De eruditione*, vari sono gli schemi di predica che coinvolgono la medicina, gli ammalati, la cura: quella per i lebbrosi nei lebbrosari, quella agli infermieri/assistenti, quella agli ordini ospedalieri, quella agli ammalati, quella infine da destinare ai medici, o meglio agli studenti di medicina. Qui Umberto presenta un compiuto elogio della medicina spirituale[47], che egli ritiene essere una delle migliori conseguenze della medicina profana, uno dei motivi dell'eccellenza che la medicina può vantare. Si esprime così:

> Tre sono infatti i risultati che la scienza della medicina permette di conseguire: innanzitutto la conoscenza della propria natura corporea: è la medicina che insegna quanto misera, quanto fragile sia la natura del corpo umano. Il secondo risultato consiste nell'opera di misericordia: tramite la medicina si possono

43 Si vedano le considerazioni di PARAVICINI BAGLIANI nei suoi molti studi su Ruggero Bacone, specie in PARAVICINI BAGLIANI 1991.

44 CASAGRANDE 1980.

45 HUMBERTUS DE ROMANIS 1602, *Expositio regulae sancti Augustini*, 293-296.

46 Occorre qui ricordare le lodi a "frate corpo" espresse, con le stesse motivazioni, da s. Francesco.

47 HUMBERTUS DE ROMANIS 1677, *De eruditione praedicatorum*, 488-489 nella predica agli studenti di medicina; si vedano anche 475-476 e 502-503 per schemi di prediche agli infermieri/inservienti negli ospedali e ai lebbrosi.

> compiere molti atti caritatevoli verso gli infermi che sono oppressi da grande miseria. Terzo risultato è la medicina spirituale delle anime: dall'arte e dalla scienza mediche infatti si ricava una quantità di direttive circa la medicina spirituale[48].

Se – come si nota – anche i primi apporti di una scienza e arte profana in ambito spirituale appaiono qui orientati in direzione morale-religiosa (senza però nulla togliere al fatto che la medicina sia scienza), questa interpretazione raggiunge il suo obiettivo finale in una vera e propria disciplina della salute dell'anima, ora pienamente riconosciuta per tale.

4.

È quanto più analiticamente conferma il cancelliere dell'Università di Parigi Jean Gerson, all'inizio del secolo XV, nella sua lunga e complessa predica, anch'egli, agli studenti, anzi ai licenziandi in medicina[49]. Passate in rassegna le prerogative di eccellenza della medicina profana, nonché i suoi limiti, Gerson conclude proprio con un elenco dei compiti della medicina spirituale, e degli indispensabili prestiti che questa riceve dalla medicina dei corpi. Ricorda che meglio si comprenderanno con nozioni mediche i «morbos corporales de quibus in Scriptura frequenter mentio est»; sottolinea soprattutto che «utilem esse cogitationem humani corporis et accidentium suorum ut animae natura suorumque actuum et passionum intrinsecarum manifestatio facilius habetur»: quell'indagine sulle passioni – che è vista da Gerson come indispensabile per il predicatore – se ne avvantaggerà; ne è prova *Guillelmus Parisiensis*, tanto perspicace nella disamina dei *mores* proprio perché non ignaro di medicina; e appunto i predicatori e gli *exohortatores virtutum moralium* si servono

48 Traduzione italiana in AGRIMI, CRISCIANI 1980, 205-207.

49 IOANNES GERSON 1962, vol. 5, *Pro licentiandis in medicina* (*Consideranti mihi*), 144-151; CRISCIANI 2022.

continuamente di tali comparazioni per meglio guidare alla guarigione/virtù. Inoltre la scienza medica consente di trasferire alla sfera spirituale, o meglio morale (*ad aedificationem morum*), le cause dei morbi e i modi di cura del corpo adattandoli ai malanni dell'anima: così, appunto e ad esempio, le malattie guarite da Cristo possono anche appropriatamente indicare i sette peccati capitali[50] che il suo verbo (e quello dei suoi successori) può sanare. Preziose similitudini permettono dunque, più in generale, di investire l'intero insieme del *morbus spiritualis* secondo gli effetti dell'*infirmitas corporalis*, ben più evidenti per chi ascolta; di concepire forme di terapia spirituale (*praeparativa, purgativa, preservativa, reparativa*) come esatta ripetizione delle articolazioni della medicina profana. Comunque quest'ultima è un libro «a cuius lectione facilis est transitus ad scribendum librum conscientiae, transferendo naturales res ad morales intellectus».

Segnalo infine un testo interessante recentemente edito, il *Tractatus moralis predicandus in civitate pestilenciata hiis qui de civitate recedere non possunt*[51] (Ferrara, 1424) del domenicano e inquisitore nella città Bartolomeo da Ferrara[52], che spicca nella serie di testi analoghi[53] per la sua ampiezza. Non si tratta infatti di un *sermo* singolo, per quanto articolato (come sono quelli *de peste* di Gabriel Biel[54] e di altri predicatori quattrocenteschi), bensì di un vero e proprio *Tractatus*, dall'indice molto dettagliato, relativo a considerazioni sul da farsi per la salute dell'anima in una "città pestilenziata": risulta qui opportuno non tanto e non solo predicare, ma più in genere tradurre nel discorso spirituale varie situazioni (dalle cause della peste, ai segni per prevenirla, alle processioni da promuovere, ad una opportuna "dieta" dell'anima). Vengono

50 A questo proposito si veda LANGUM 2016.
51 BARTHOLOMAEUS DE FERRARIA 2024, *Tractatus moralis predicandus in civitate pestilentiata*.
52 ALECCI 1964; KAEPPELI 1970, 149-150; CREYTENS 1955.
53 GECSNER 2012 (con ampia bibliografia).
54 GABRIEL BIEL SPIRENSIS 1510, *Sermones medicinales contra pestem*, ff. 144r-152v.

organizzati così quasi i temi di una possibile "predica continua", o, meglio, viene strutturata una sorta di lettura della peste in termini teologico-religiosi, che può diventare un manuale/guida di predicazione *de peste* ad uso di altri potenziali predicatori, in un'epoca in cui la peste è endemica e quasi una "normale" occorrenza nelle città d'Europa e d'Italia.

L'indice del *Tractatus* è paragonabile a quello dei più articolati trattati medici sulla peste, scritti in gran numero tra la metà del secolo XIV e per tutto il secolo XV: la loro struttura è quasi ricalcata; la chiave di lettura della moria e dei suoi rimedi è però, in Bartolomeo, del tutto spirituale e religiosa: il testo ha di mira la salvezza dell'anima e si presenta appunto come *tractatus moralis*, dove però non poco spazio è dato anche a notazioni naturalistiche e mediche. Si è di fronte dunque ad un testo di predicazione ampio e complesso in occasione della peste, un caso sorprendente di "medicina spirituale" – una vera e propria *Pestschrift moralis* – in un momento di grave incertezza e discredito per la medicina profana, che non sa ancora far fronte pienamente al morbo[55], ma di cui però viene comunque copiato lo stile di organizzazione del materiale.

Si potrà mettere utilmente a confronto il *Tractatus* di Bartolomeo con il trattatello in volgare sulla peste che, ancora a Ferrara, scrive il medico di corte Michele Savonarola negli anni '40 del Quattrocento, per sovvenire, quale *medico humano*[56], a tutti i suoi concittadini, *richi, poveri e mezani* che siano[57]. Ed è proprio il medico Michele – cui il ruolo di medico di corte e la profonda e sentita devozione cristiana consentono in più occasioni di fornire consigli morali e anche religiosi, oltre che dietetici e medici – a segnalare sì i rimedi con-

55 MARCHIONNE DI COPPO STEFANI 1776, *Historia fiorentina*, rubrica 634: «[…] e non valeva né medico, né medicina, o che non fossero ancora conosciute quelle malattie, o che li medici non avessero sopra quelle mai studiato, non parea che rimedio vi fosse».
56 CRISCIANI, ZUCCOLIN 2011; ZUCCOLIN 2018.
57 MICHELE SAVONAROLA 1953, 4.

tro la peste, ma anche le precauzioni che il confessore dovrà adottare quando si avvicinerà ai pestilenziati; a sottolineare l'obbligo morale di non infettare il prossimo; a ricordare le caritatevoli attività assistenziali e le preghiere del vescovo nella città appestata e le prediche in piazza che incitano alla penitenza; a consigliare infine preghiere a s. Sebastiano e s. Giorgo[58]: a conferma del ruolo complementare che medico e sacerdote – se preparati e competenti – hanno nei confronti del malato (come già aveva rilevato più di due secoli prima Arcimatteo di Salerno), e dell'intreccio proficuo dei loro saperi ed obiettivi.

5.

Si sarà notato che le accezioni di medicina spirituale viste in questa rassegna troppo sommaria, se si modificano e si sviluppano secondo l'andamento della teologia e della pastorale, sono anche in sintonia e seguono puntualmente gli sviluppi della medicina profana nell'Occidente medievale: dall'entusiasmo per nuove, ricche teorie naturalistiche e per lo stile di una nuova professione nel secolo XII; alla "medicalizzazione" – su cui troppo poco mi sono soffermata e che si nota soprattutto nel secolo XIII con una esuberanza che è impressionante; allo sfruttamento delle dottrine mediche per la conoscenza delle passioni che interessa Gerson e i fautori di una "teologia affettiva", fino alle critiche che ancora Gerson fa ai medici proni a suggestioni magiche: e si constata per altre vie che simili tentazioni erano di fatto presenti nella cultura e professione mediche a inizio del '400[59]; per giungere infine all'analisi e cura dell'anima appestata dai peccati e della città colpita dalla moria interpretate e modellate secondo lo schema dei trattati medici sulla peste, e a una lettura di quest'ultima in termini teologici e scritturali. Parallelamente, in alcuni medici

58 MICHELE SAVONAROLA 1953, 5-6, 10, 24.

59 Si veda ad esempio ANTONIUS GUAINERIUS 1518, *Opus preclarum ad praxim*, su cui JACQUART 1988(2).

(Egidio di Corbeil, Arnaldo da Villanova, Galvano da Levanto, Michele Savonarola, Baverio Bonetti) si notano interessi e preoccupazioni di tipo religioso che in alcuni vanno oltre la normale devozione del medico cristiano.

Si potrebbe quasi delineare una traccia delle dottrine e delle vicende della professione mediche in questi secoli anche solo attraverso testi di teologi e pastori d'anime: operazione certo insensata, visto che possiamo seguire la loro storia negli scritti propri della disciplina medica, molto abbondanti del resto, nonché negli statuti universitari, nei regolamenti comunali e in altre più proprie fonti. Ma non è invece – mi pare – insensato per lo storico del tardo pensiero medievale riconoscere che lo stile di razionalità scolastico è certo programmaticamente molto attento all'accurata distinzione di ambiti disciplinari e livelli epistemologici, i cui confini non vanno superati o confusi; ma – anzi, proprio per questo – è altrettanto disponibile a scambi, intersezioni, prestiti – purché controllati – tra discipline anche assai diverse, ma connesse per l'unità di anima e corpo che caratterizza l'essere uomini.

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Leprosy and Inherited Diseases in 13th-Century Discussions on the Original Sin

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Abstract: This essay explores the theoretical treatment of leprosy in 13th-century theological discussions on the transmission of the original sin. According to scholastic theologians, both the existence of the original sin and its transmission from parents to progeny were factual truths, whose dynamics could be explained by analogy with inherited diseases, such as leprosy. Different uses of natural philosophy and medicine in discussing the transmission of leprosy will be shown in theological and biblical-exegetical works of William of Auvergne, Roland of Cremona, Bonaventure, Thomas Aquinas, and Henry of Ghent.

Keywords: inherited diseases; leprosy; original sin; biblical exegesis; natural philosophy; medicine.

1. Leprosy as *morbus hereditarius*: Theological and Medical Background

In the 13th century, the question of parent-to-child transmission of leprosy was an interdisciplinary issue. In order to explain how Adam's sin can be inherited by birth and transmitted from parents to offspring, some theologians employed the analogy with leprosy as the inherited disease *par excellence*.[1] Augustinian and medical traditions resorted metaphorically to the juridical concept of *hereditas*, explaining the disease and the original sin as a sort of legal obligation passed on from parent to child.[2] Even though theologians

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1 See Van der Lugt 2008, 315.

2 Van der Lugt 2008, 315.

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had no theoretical interest in the physiological dynamics involved in the transmission of leprosy from parent to child, discussions on the transmission of the original sin were loosely modeled on the dynamics of hereditary diseases.

Before the 14th century, the Latin syntagm *morbus hereditarius* was quite rare and sometimes was metaphorically ascribed to diseases conceived as deriving from parents. Nevertheless, in medieval parlance, this syntagm did not convey the contemporary meaning of a genetic model of causality. Rather, it was borrowed from the Roman Civil Law of succession, which was well suited to describe a rule-dictated system of transmissibility from parents to children.[3]

Even though inherited diseases as a subject of discussion are widely attested in 12th- and 13th-century medical texts, there is no consistent technical terminology for describing them. For example, Avicenna's *Canon Medicinae* and Constantine the African's *Pantegni* refer to gout, syphilis, and leprosy as diseases which pass from "person to person" or which are "inherited through the seed." Nevertheless, their discussions on the dynamics of inherited leprosy are not as detailed as the observation of contagion.[4] This mirrors the absence of a well-defined pathological category. Only at the end of the 13th century did physicians begin to devote specific categorizations to inherited diseases, differentiating them from other kinds of pathologies.[5]

The metaphorical use of the juridical concept of *hereditas* is also attested in the theological discussions on the transmission of the original sin.[6] When Augustine discusses the transmission of the original sin from Adam to hu-

3 VAN DER LUGT 2008, 282–283, 290.
4 See DEMAITRE 2007, 155.
5 See VAN DER LUGT 2008, 306–312. See also LOVICONI 2019.
6 See MAROTTA 2020.

mankind, he occasionally resorts to the juridic lexicon. He claims that the original sin is a *peccatum hereditarium*, contracted by birth and descending from father to son through the chain of generations.[7] It is caused by an active principle actually present in the parent's seed. In Augustine's view, the entire human nature contained in Adam's loins (*lumbi*) was spoiled and corrupted by the fall. Accordingly, human seminal nature (*ratio seminalis*) is transmitted from generation to generation in this corrupt condition.[8]

Luciano Cova suggests that Augustine, rather than sketching a biological model of transmission, employs the juridic metaphor of *hereditas* exclusively for rhetorical purposes.[9] However, in the following centuries, the Augustinian metaphorical explanation of the transmission of the original sin as a *peccatum hereditarium* was interpreted as a biological and physical continuity between Adam and the whole of humankind. Even though the original sin belongs in the soul, it is the material substrate that corrupts the body which in turn corrupts the soul of the child. Only by admitting that Adam's corporeal substance somehow persists throughout the chain of generations, can one justify the bodily transmission of the original sin, preventing any possible explanation based on the traducianism of the human soul.[10]

The physical shift of this model is due to Peter Lombard's *Liber Sententiarum* (12th century). In line with Augustine, Peter claims that the original sin does not derive from the parent's soul but from the flesh produced by concupiscence that infects and corrupts the body. It is the concupiscence of the reproductive act that causes the transmission of the sin. It is by the mere contact with the flesh produced by sexual desire that the soul becomes, in turn, infec-

7 See Cova 2014, 60–61; in the entire Augustianian *corpus* Cova individuates no more than ten references to the syntagm *peccatum hereditarium,* see 111.
8 Cova 2014, 101–114.
9 Cova 2014, 110–111.
10 See Boureau 2008, 72–74.

ted itself.[11] Peter Lombard's physiological explanation became predominant in 13th-century discussions and was further corroborated by the availability of new medical and natural philosophical sources. According to scholastic theologians, both the existence of the original sin and its transmission from parents to progeny were matters of fact whose dynamics could be explained by analogy with inherited diseases, such as leprosy.

In medieval biblical exegesis, leprosy symbolizes both moral and carnal sin.[12] The analogy between leprosy and the original sin can be traced back to the biblical narrative of Gehazi, the servant of the prophet Elisha. In II *Kings* 5, Elisha heals Naaman, the Syrian, from his leprosy, but declines his reward. Unwilling to accept his master's decision, Gehazi pretends to speak on behalf of Elisha and persuades Naaman to give him the wealth. Once Elisha finds out about Gehazi's dishonest conduct, he punishes his servant with a curse that transfers Naaman's leprosy to him and his descendants.[13]

The first attested instance linking Gehazi's leprosy and the original sin occurs in the theologian Praepositinus of Cremona (ca. 1150–1210), Peter Lombard's student in Paris. He resorts to the leprosy example to stress the passing on of punishments from fathers to progeny rather than focusing on the physiological dynamics of disease/sin inheritance.[14] However, in the 13th cen-

11 PETRUS LOMBARDUS 1971, vol. I, *Sententiae,* II, dist. 31, c. 3–4, 506, 8–28: "Non igitur secundum animam, sed secundum carnem solam, peccatum originale trahitur a parentibus […] In concupiscentia igitur et libidine concipitur caro formanda in corpus prolis. Unde caro ipsa, quae concipitur in vitiosa concupiscentia, polluitur et corrumpitur; ex cuius contactu anima, cum infunditur, maculam trahit qua polluitur et fit rea, id est vitium concupiscentiae, quod est originale peccatum."

12 See GRIGSBY 2004, 38–49; see also MILLER, NESBITT 2014, 100–101.

13 II *Reg.*, 5, 27: "Sed et lepra Naaman adherebit tibi et semini tuo in sempiternum et egressus est ab eo leprosus quasi nix."

14 See VAN DER LUGT 2008, 316–317. See PRAEPOSITINUS DE CREMONA 1942, vol. IV,1, *Summa theologiae*, 91: "Lepra Giezi causa est quod omnes successores eius leprosi sunt, et tamen quilibet successor eius iam habebit lepram. Ita peccatum Adae causa est quare omnes successores sunt peccatores, et tamen quilibet suam habebit maculam, id est peccatum."

tury, the availability of technical jargons and explicative models coming from Greek and Arabic medicine and philosophy helps to deepen the physiological dynamic of transmissibility. The seed is unanimously deemed as the material vehicle of defects, diseases, and the original sin. Divergent positions arise, though, in identifying the ontological status of what is conveyed. Is the parent's leprosy/original sin of the same nature as that of the child? Does the seed convey leprosy/original sin in potentiality or actuality? Moreover, since the original sin belongs in the soul, how can it be materially caused? In answering these questions, scholastic theologians categorize leprosy within different models of transmissibility.

2. Gehazi's Leprosy: William of Auvergne and Roland of Cremona on the Analogy between Leprosy and the Original Sin

One of the first theologians to engage with the integration of Greek and Arabic sources within the theological framework was William of Auvergne (ca. 1180/1190–1249).[15] In his *De vitiis et peccatis* (ca. 1228), he expands on Peter Lombard's physical argument on the dynamic of transmission of the original sin, linking it to the Aristotelian doctrine of animal generation.[16] The cause of transmission of the original sin is the corrupted flesh (*caro corrupta*) which generates something similar to itself (*sibi similem generat*).[17] This is confirmed by Aristotle, who claims that the power of generating the similar belongs to the paternal seed, which, as a residue of the digestion of food previously as-

15 See TESKE 2006 and SANNINO 2022.

16 GUILELMUS DE ALVERNIA 1674, *De vitiis et peccatis,* V, 256b: "Caput V investigat causas quibus originale peccatum in posteros transfunditur, docetque modum transfusionis."

17 GUILELMUS DE ALVERNIA 1674, *De vitiis et peccatis,* V, 268a: "Verum nos dicimus quia si omne vitium nascendi, et tota concupiscentia etiam tolleretur a parentibus, corrupta tamen caro non nisi corruptam sibi similem generat […]."

similated by the parent's whole body, acquires and conveys the similarity.[18] William gives a personal twist to the Aristotelian doctrine on the origin of the seminal fluid. According to Aristotle, the seminal fluid is a blood-like substance, i.e., a "useful residue," resulting from the digestion of food. Nevertheless, Aristotle rejects the so-called "pangenetic" origin of the seminal fluid, according to which the seed derives from the entire body of the generating party, from which it acquires the resemblance.[19] Reformulated in a "pangenetic tone," the Aristotelian argument offers a solid theoretical foundation for Lombard's doctrine on the bodily transmission of the original sin. The *caro corrupta* of the father generates something similar to itself because the seed stores and conveys in potentiality the resemblance of such corruption.

In the generative process, the seed conveys not only physical features, defects, and diseases, but also Adam's fallen human nature. This is established by the work of nature (*operatio naturae*) which demands that "what generates" and "what is generated" are similar (*similia ex similibus*).[20]

On a physical level, the theory of transmissibility of the bodily resemblance from parent to child demonstrates the natural necessity of the transmission of the corrupted human nature; on a theoretical level, however, it does not explain why the punishment for one individual's sinful action redounds

18 GUILELMUS DE ALVERNIA 1674, *De vitiis et peccatis,* V, 268a: "Quia semen nostrae generationis potentia totum corpus est, quod ex eo generandum est. Et secundum Aristotelem totum corpus, ex quo deducitur sive transfunditur; et hoc est quoniam secundum ipsum superfluitas est tertiae digestionis, quae in omnia membra cum assimilatione assumitur."

19 *De generatione animalium*, I, 17, 721b13–27. For an overview of the debate on the seminal fluid, it is still worth looking at ZIRKLE 1946.

20 GUILELMUS DE ALVERNIA 1674, *De vitiis et peccatis*, V, 270b: "Est quam jam diximus causa propter quam transfunditur in posteros per generationem ista corruptio, videlicet natura ipsa quae generata generantibus assimilat, praesertim in eis quae naturalia, vel quasi naturalia sunt generantibus, interdum autem et in moribus. Unde et naturam diffinierunt aliqui viri, vim rebus infinitam procreandi similia ex similibus, et Aristoteles omnem operationem naturae dicit per similitudinem esse."

to those who are not responsible for it.[21] The biblical narrative of Gehazi's leprosy allows William to go deeper into the dynamics of divine justice:

> The second example is in one who is punished by the Lord with leprosy for his guilt [*pro delicto suo*]. However, it happens, or at least can happen in a natural way [*naturaliter*], that [the leprous] begets a leprous child, albeit completely saint. But it is evident that the child's leprosy is not an ailment consequential to his guilt [*plaga illata pro delicto ipsius*], given that he has committed no sins; neither it is [consequential] to someone else's guilt, since this would be an injustice. Rather, leprosy came to pass in the child in a natural way, i.e., as a natural disposition or infection, which is derived from the parent through the generative process. Therefore, whereas in the father, the ailment was a consequence of a fault, in the child this is a contracted nature [*natura contracta*]. What was acquisition [*acquisitio*] in the father is inheritance [*hereditas*] in the child. If one wonders why the father is leprous, we will say that this was for his guilt, while the child is leprous for that natural right [*ius naturale*] or law of nature [*lex naturae*] by which the flesh generates what is similar to itself […] Thus, it is clear that God does not act unjustly [*non iniuste*] toward Adam's children when he preserves the law of nature and natural right in them.[22]

Both father and child are infected by a disease of the same kind, but the causes of their infection differ. Gehazi acquired his leprosy as a result of his own fault. On the contrary, his child received leprosy in a natural way (*naturaliter*), because the law of nature (*lex naturae*) and the natural right (*ius naturale*) established that "the flesh generates what is similar to itself." On the one side, the pairing of terms *acquisitio/hereditas* aims at distinguishing the

21 For more on this, see Cova 2014, 89–100.

22 Guilelmus de Alvernia 1674, *De vitiis et peccatis*, V, 271a: "Secundum exemplum est in illo qui pro delicto suo lepra percutitur a domino, evenit autem, vel saltem evenire potest naturaliter, ut filium leprosum generet, licet sanctissimum: evidens autem est, quia lepra in filio non est plaga illata pro delicto ipsius, cum non deliquerit, neque pro delicto alterius, quia hoc esset iniquitas, sed magis est in eo lepra huiusmodi naturaliter, id est naturalis dispositio, vel infectio, contracta per generationem ab ipso generante. In patre, igitur, fuit plaga illata pro delicto, in filio natura, ut diximus, contracta. In patre fuit acquisitio, in filio hereditas. Si quaeratur quare leprosus est pater? Dicemus quia pro proprio delicto, filius autem iure, ac lege naturae, quae est, ut caro sibi similem generet […] Apparet ergo Deum non injuste agere in filios Adae, dum legem naturae, et ius naturale servat in illos."

'source' of the punishment (i.e., Adam's/Gehazi's fault) from the 'result' of that punishment (i.e., inheriting the corrupted human nature). On the other side, the use of such terms in a substantive form suggests the reification of the corrupted nature (i.e., by leprosy or original sin), which, much like a legal obligation or wealth, materially passes on from parent to child.

In William's view, leprosy is a natural disposition or infection that, acquired by the father, is passed on to the child much as an inheritance. Therefore, what is conveyed by the seed is not leprosy as a corrupting agent in itself but rather a leprous nature that resembles the parent's.

However, the very fact that children could inherit all sorts of corruptions from their fathers is not a sign of divine injustice but demonstrates the primacy of the *lex naturae* established by God over the uniqueness of Adam's and Gehazi's sins. Subverting the natural order would be an even greater injustice than condemning a child who is not responsible for his/her parent's fault. The generative process is a rule-dictated system, which demands that what is generated inherit its nature (even spoiled by the original sin or leprosy) from that of the agent who generates it. As long as God preserves this natural order, the rightfulness of this dynamic cannot be questioned.

The analogy between leprosy and the original sin is further developed in the *Summa theologiae* (1232–1234) of Roland of Cremona (ca. 1178–1259), the first Dominican master who was entrusted by William of Auvergne himself with the teaching of theology in Paris.[23] Among early-13th century theologians, Roland stands for his extensive knowledge of natural philosophy and medicine. This is mirrored in his theological and exegetical works, which show deep interaction between liberal knowledge and theological issues.[24]

23 On the relationship between Roland of Cremona and William of Auvergne, see SANTI 2005.

24 EVEN-EZRA 2018. It is not clear whether Roland actually taught and practiced medicine

Such interaction is apparent in his discussion on the analogy between leprosy and the original sin. In Roland's view, the biblical account of Gehazi's story established a link between leprosy and the sin of simony,[25] and demonstrates the universal order established by God:

> Human beings have no reason to complain about the punishment inflicted since God has inflicted pain of such kind, i.e., that generates sin, exclusively to the first man who actually committed the sin, and who deserved [*dignus*] to be punished with the harshest punishment. And you contracted that punishment from your father, much like a leper is born from a leper, as in the example of Gehazi, who was infected by Naaman's leprosy as a punishment for his own actions [*merito suo*]; if Gehazi had begotten a son, this son would have been leprous. Thus, Gehazi's son would have had no reason to complain to God, since God would not damage the universal order He established. The order of the universe demands [*exigit*] that he who has leprosy in the flesh begets a leprous child.[26]

In the footsteps of William of Auvergne's exegesis, Roland compares Adam's sin with Gehazi's: both were solely responsible for their sins, however, the consequences of their sinful actions (respectively the original sin and leprosy) are visited upon their descendants. Complaining that God's punishment passes on to progeny would mean questioning the universal order (*ordo universitatis*) established by the divine providence, which demands that those who generate and those who are generated be similar:

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at the University of Bologna before teaching theology in Paris, see FILTHAUT 1935, 10–19.

25 In this work, Roland devotes a chapter to the biblical events of Gehazi and Simon Magus, where he demonstrates that both biblical figures were punished for committing simony, see ROLANDUS CREMONENSIS 2015–2017, vol. III, *Summa theologiae,* III, 416, 1248–1251.

26 ROLANDUS CREMONENSIS 2015–2017, vol. II, *Summa theologiae,* II, 27, 344–345: "Nec habet homo unde conqueratur de Deo, quia non inflixit huiusmodi penam quae generat peccatum nisi primo homini qui peccavit actualiter et dignus fuit huiusmodi pena et maiori. Et tu contraxisti penam illam a patre tuo, sicut leprosus nascitur de leproso, sicut potest poni exemplum de Giezi, qui merito suo percussus fuit lepra Naaman; et, si Giezi generasset filium, leprosus fuisset. Filius Giezi non haberet unde de Deo conqueretur, quia Deus non debet suo ordini universitatis iniuriam facere. Ordo autem universitatis exigit ut de leproso nascatur leprosus in carne."

> The order of nature and of the universe [*ordo naturae et universitatis*] is that from a leprous, a leprous is generated, and from a grapevine wine. Thus, the order of the universe is that from a body rightly [*iuste*] deprived of the harmony of both [i.e., soul and body] a similar body is generated. The first human had rightly a corrupted body, since he had sinned, and it was necessary to observe the natural order of nature and of the universe in his successors.[27]

Roland reformulates William's concept of *lex naturae* as *ordo naturae et universitatis*, aiming at stressing the universality of the dynamic of transmissibility of the resemblance from "what generates" to "what is generated." This is confirmed by the botanical reference to the grapevine: the providential order does not rule exclusively the reproduction of rational beings, but extends over all living beings. Thus, while Adam was rightly (*iuste*) punished with a corrupted body, the dynamic of transmissibility is out of any moral judgment since it is necessitated by the universal natural order.

While the leprosy/original sin analogy is useful to explain the dynamic of transmissibility, it does not fittingly exemplify the model of causality involved in the corruption of the original sin. Resorting to his natural-philosophical and medical knowledge, Roland tacitly questions the physiological premises of William's use of the analogy with leprosy:

> A corruption of this sort [i.e., leprosy] is produced [*creatur*] in the way corruption resulting from putrefaction does. For this reason, it is claimed that the potential cause of the corruption is in the seed, but the actual corrupting cause is in the flesh. In this regard, the leper is not a good example, because the cause producing the infection [*causa faciens infectionem*] is stored in the leper's seed, and only afterward this affects the whole body in actuality […].[28]

27 ROLANDUS CREMONENSIS 2015–2017, vol. II, *Summa theologiae,* II, 27, 357: "Ordo naturae universitatis est ut de leproso nascatur leprosus, et de vite nascatur vinum. Ita ordo universitatis est ut de corpore, cuius iuste fracta est utraque armonia, nascatur corpus tale: primus autem homo iuste corruptum habuit corpus quia peccavit, et in sequentibus oportuit observari ordinem naturae et universitatis."

28 ROLANDUS CREMONENSIS 2015–2017, vol. II, *Summa theologiae,* II, 27, 357: "Et huiusmodi corruptio creatur tamquam a corruptibili et putribili. Unde dicunt quod causa potentia-

In Roland's interpretation, those who hold the leprosy/original sin analogy believed that the model of causality involved in the leprosy infection was similar to that of putrefaction. It followed a distinction between the potential cause of the infection in the father's seed (*in semine*) and the corrupting cause in actuality in the child's flesh (*in carne*). This would imply that leprosy would be latent in the seed and that, exclusively once in contact with the embryo's matter, it would pass from potentiality to actuality. However, in Roland's view, there is one single cause producing leprosy (*causa faciens infectionem*), which is already at work in the seed and is passed on to the child's flesh in this active disposition.

While William described the transmission of leprosy in terms of the passing on of the 'leprous nature' just as a material inheritance from parents to child, Roland's use of the Latin verb *facere* aims at describing leprosy as a corrupting agency already in actuality in the father seed.

3. *Leprosus generat leprosum:* Bonaventure and Thomas Aquinas on the Mode of Existence of Leprosy

In the second half of the 13th century theologians display less interest in the moral aspect of the leprosy/original sin analogy, rather focusing on its theoretical implications. William's argument on the bodily transmission of the original is summarized in the Latin expressions *leprosus generat leprosum* or *leprosus est de leproso,* and is usually recalled in supporting arguments on the transmissibility of accidental characters from parents to children, both in theological and philosophical fields.[29]

lis illius est in semine, sed causa actu corrumpens in carne. Quantum ad hoc non est bonum exemplum de leproso, quia in semine leprosi est causa faciens infectionem, postea in toto corpore est actu […]."

29 For example, while in his theological work Albert the Great does not resort to the *lep-*

Strengthening the tendency already attested in Roland, Thomas Aquinas, and Bonaventure question the physiological foundations of the analogy. Relying on the natural philosophy at their disposal, they differently explain leprosy transmissibility: while they agree in considering the seed as the material vehicle of the disease, divergent positions arise with regards to the mode of existence of what is conveyed by it.

The Franciscan *magister* Bonaventure (1221–1274) discusses the analogy in a question of his *Commentary* on Peter Lombard's *Sentences* (ca. 1250), which focuses on the possibility of removing the cause of transmission of the original sin thanks to the sacrament of baptism. One of the arguments in favor rests on Augustine's theory of the original sin as *morbus hereditarius*:

> If someone cures one who has leprosy, which is a hereditary disease [*morbus hereditarius*], the very healing from leprosy gives the power to generate a healthy child; therefore, by the same reasoning, if the original sin is a hereditary disease, it seems that it cannot be removed, unless the corruption through which the original sin is transfused into another is removed too.[30]

The core of the argumentation is the transmissibility of the original sin: unlike leprosy, it cannot be prevented. When a leper is healed from leprosy, the pos-

rosus generat leprosum argument, in the natural-philosophical framework, he makes use of the leper example in support of the theory of the seminal transmission of accidental genetic contents from parents to offspring. See, e.g., ALBERTUS MAGNUS 1916, *De animalibus,* IX, tract. 1, c. 6, 698,22–28: "Adhuc autem frequentissime accidit, quod occasiones parentum resultant in natis aut aeque fortes aut forte fortiores, sicut quod podagricus generat podagricum et leprosus leprosum et aliquando cancrosus aut melancolicus de melancolia corrupta generat leprosum. Universaliter enim loquendo res innaturales parentum communicantur aliquando toti generationi per generationem succedentem sibi." See CERRITO 2023, 89–93. On Albert's explanation of the transmission of leprosy see PALAZZO 2023, 241–244 and PALAZZO 2024, 69–72.

30 BONAVENTURA DE BALNEOREGIO 1885, *In II Sententiarum*, dist. 32, q. 2, art. 2, 763: "Si aliquis curet aliquem a lepra, quia lepra est morbus hereditarius, hoc ipso quod a lepra curat, dat ei potentiam generandi filium sanum: ergo pari ratione, si originale morbus est hereditarius, videtur quod non deleatur, quin auferatur illa corruptio per quam originale in alterum transfunditur."

sibility of transmission to the progeny is gone. In this view, a potentially inherited disease would lose its transmissive power. If the original sin is a *morbus hereditarius,* just like leprosy, it follows that to be effective, the cure of the baptism should remove not only the guilt from the child's soul but also its transmissive power.

In discussing this argument, Bonaventure clarifies to what extent the original sin can be compared to leprosy:

> Leprosy is not a hereditary disease like the other disease which corrupts both nature and person [i.e., the original sin]; but leprosy corrupts exclusively the body of the human being, both in the nutritive and the generative powers. For this reason, a leper generates a leper [*leprosus generat leprosum*] because in the leprous person, the generative and the nutrimental moistures are equally corrupted. However, once one is cured of leprosy, both such moistures are healed at the same time. On the contrary, in the original sin, both the corruption of the person and that of the nature are present. This is the reason why these two corruptions [leprosy and original sin] differ. Indeed, the corruption of the person concerns the free will, while the corruption of the nature, as being generated by it, pertains to the generative power.[31]

Although leprosy and the original sin can both be defined as hereditary diseases, the subject of their corruption differs. While the subjects of the original sin are both nature and person, which respectively belong to the generative power and to the free will of the generating individual, the subject of leprosy is exclusively the individual nature, corrupted both in its nutritive and generative powers. In this passage, Bonaventure condenses the Aristotelian theory

31 BONAVENTURA DE BALNEOREGIO 1885, *In II Sententiarum*, dist. 32, q. 2, art. 2, 764: "Lepra enim sic est morbus hereditarius, quod non est alius morbus ut corrumpit personam et ut corrumpit naturam, eo quod totum hominem inficit ex parte carnis, non solum quantum ad nutritivam, sed etiam quantum ad generativam; et ideo leprosus generat leprosum, quia ita corruptus est in eo humor generativus, sicut nutritivus: et quando homo a lepra curatur, uterque humor simul in ipso sanatur. Sed in originali peccato est corruptio personae et naturae, ita quod istae corruptiones sunt diversae. Corruptio enim personae respicit liberam voluntatem; corruptio vero naturae, secundum quod ab illa causatur, respicit generativam virtutem."

of the nutritive origin of the seminal fluid: the generative moisture is infected by leprosy because it is the result of digestion of the nutritive moisture already infected by the same disease.

On the basis of humoral physiology, Bonaventure draws a distinction between the first cause of infection (i.e., the *humor nutritivus*) in the generating individual and the cause of transmission of the infection (i.e., the *humor generativus*). While removing the first cause of leprosy, the possibility of passing it on to the progeny is also removed; the same does not apply when removing the original sin through baptism. This is because baptism does not heal the bodily nature of the individual, but exclusively his/her spiritual nature. The sacrament clears the first cause of the infection of the original sin, i.e., Adam's fault (*culpa*), from the child's individual soul, although it does not remove the capacity to transmit the corrupted human nature to the descendants. The transmissive power lies in one's bodily nature, not in the persons themselves.

Unlike William of Auvergne, who defines leprosy as an *hereditas*, suggesting a reification of leprous nature, Bonaventure describes leprosy as *morbus hereditarius* rather than as a corrupting agency in itself. The editor of Bonaventure's *Commentary on the Sentences* traces back the reference to leprosy as a hereditary disease to Avicenna's *Canon of Medicine*, where the disease is placed among those inherited via the seed (*in semine hereditantur*).[32] However, while in the *Avicenna Latinus*, the verb *heredare* is used in a passive form, suggesting that leprosy is something that is received from birth,[33] Bonaventure uses *hereditarius*, an adjective from the same root, to point to a

32 See AVICENNA 1507, *Canon medicinae,* fen 2, doctr. 1, c. 8, 27v: "Et sunt egritudinum quedam que in semine hereditantur sicut albaras alba et tinea naturalis et podagra et ptisis et lepra."

33 Nevertheless, Avicenna just occasionally stresses the hereditary features of leprosy, see VAN DER LUGT 2008, 281–282.

pathology that is both the cause of the infection and the cause of its transmission.[34] As long as the first cause of leprosy runs in the body of the parents, its transmissive power persists.

At variance with William and Bonaventure, Thomas Aquinas (1225–1274) prefers to describe the original sin as a *morbus contagiosus*:

> That corruption [i.e., the original sin] which has the characteristic of passing onto another is usually defined as infection [*infectio*]; for this reason, contagious diseases [*morbi contagiosi*], such as leprosy, scabies, and similar, are called infections.[35]

In his *Summa Theologiae* (1265–1274), Aquinas prefers to qualify this disease as *contagiosus*, i.e., spreading from one person to another by contact, in order to stress the 'person-to-person' transmission, rather than suggesting a formal principle that is infective and transmissive at the same time. Following Lombard's teaching, he holds that the corruption of the original sin is not originated by a corrupting agent present in actually in the seed, but by the generative act in itself.[36] Contagious diseases are not consequences of Adam's sin, but they naturally belong to the fallen human nature. They are caused by human mistakes (e.g., a disorderly diet) or by the malfunctioning of the natural powers (e.g., the weakness of the formal principle in the generative process).[37]

34 In the following passage of his *Sententiae,* Bonaventure defines again leprosy as a hereditary disease, see BONAVENTURA DE BALNEOREGIO 1889, *In IV Sententiarum*, dist. 32, q. 1, art. 2, 733: "Lepra est morbus hereditarius, ergo transmittitur ad prolem […]."

35 THOMAS DE AQUINO 1999, *Summa theologiae,* I^{a}-II^{ae}, q. 83, art. 4, co., 911b: "Respondeo dicendum quod illa corruptio praecipue infectio nominari solet, quae nata est in aliud transferri, unde et morbi contagiosi, sicut lepra et scabies et huiusmodi, infectiones dicuntur."

36 THOMAS DE AQUINO 1999, *Summa theologiae,* I^{a}-II^{ae}, q. 83, art. 4, co., 911b: "Corruptio autem originalis peccati traducitur per actum generationis, sicut supra dictum est. Unde potentiae quae ad huiusmodi actum concurrunt, maxime dicuntur esse infectae."

37 THOMAS DE AQUINO 1999, *Summa theologiae,* III^{a}, q. 14, art. 4, co., 1941a: "Quidam autem defectus sunt qui non consequuntur communiter totam humanam naturam propter peccatum primi parentis, sed causantur in aliquibus hominibus ex quibusdam particu-

Albeit the seed is the vector of both the original sin and leprosy, and more generally of all physical and psychic defects, it is not the actual subject of either. In the seed, leprosy and original sin are not present as corrupting causes already in actuality, but rather *virtualiter*:

> […] even if the seed does not store the corruption of the fault [*infectio culpae*] in actuality, it does nevertheless in a virtual way [*virtualiter*], as it is shown by the fact that the leper's seed generates a leprous child, although leprosy is not in actuality in that seed. A certain defective power [*virtus deficiens*] in the seed produces the defect of leprosy in the child.[38]

As regards the Latin adverb *virtualiter*, this is frequently used by Aquinas as a synonym of *potentialiter* (as opposed to *actualiter*), in order to describe a mode of existence "according to the power or potentially."[39] In this perspective, the leprous seed does not contain leprosy as a corrupting agency but exclusively a defective power, which, in turn, determines the precondition for leprosy in the body of the offspring.

For this reason, the corruption in the seed cannot be truly defined as a disease (*aegritudo*), but it is exclusively a potential resemblance of the corruption of the generating body:

> Properly speaking, before the infusion of the soul, the corruption in the seed cannot be defined as a fault [*culpa*], therefore it cannot be defined as a punishment [*poena*] either […] It is rather a kind of defect since the resemblance with

laribus causis, sicut lepra et morbus caducus et alia huiusmodi. Qui quidem defectus quandoque causantur ex culpa hominis, puta ex inordinatione victus, quandoque autem ex defectu virtutis formativae."

38 THOMAS DE AQUINO 1929, *Scriptum super libros Sententiarum*, II, dist. 30, q. 1, art. 2, ad 4, 772: "[…] licet semen non habet in se infectionem culpae in actu, habet tamen in virtute, sicut etiam patet quod ex semine leprosi generatur filius leprosus, quamvis in ipso semine non sit lepra in actu: est enim in semine virtus aliqua deficiens, per cuius defectus contingit defectus leprae in prole."

39 See DEFERRARI, BARRY 1948, 1159.

> the nature of the generating agent virtually [*virtualiter*] persists in the seed, in the way leprosy in the leper's seed is not a disease [*aegritudo*].[40]

In Aquinas' perspective, all the defects conveyed by the seed are not actually present in it, and thus they cannot be truly categorized as formal principles able of passing on from parent to child. On a bodily level, the *leprosus generat leprosum* argument justifies the physical continuity between who generates and who is generated, but on a theoretical level, it does not explain how a defect of the soul can be materially caused.

In Thomas' interpretation, the genesis of the analogy between leprosy and the original sin has to be framed within the rejection of the traducianism on the origin of the soul. Since the sin belongs in the soul, the issue at stake was to justify the transmission of the sin from parent to child without presupposing the transmission of the soul itself.[41] To solve this theoretical impasse, those who hold the leprosy/original sin analogy resort to the philosophical theory of proportionality between soul and body:

> […] some have tried to clarify how the parent's fault (*culpa*) is transmitted to the offspring without presupposing the transmission of the soul by referring to the fact that defects are transmitted from the parent to the offspring so that a leper begets a leper (*leprosus generat leprosum*) and a gouty a gouty (*podagricus podagricum*), due to the same corruption of the seed, although a corruption of that sort cannot be truly defined leprosy or gout. Now, since the body is proportion-

40 THOMAS DE AQUINO 1929, *Scriptum super libros Sententiarum*, II, dist. 31, q. 1, art. 1, ad 4, 806: "Ad quartum dicendum quod, illa infectio quae est in semine, sicut non habet rationem culpae, proprie loquendo, ante infusionem animae, ita nec poenae […] sed est defectus quidam, inquantum similitudo naturae generantis in semine virtualiter manet, per modum etiam quo lepra in semine leprosi non est aegritudo."

41 THOMAS DE AQUINO 1999, *Summa theologiae,* I^{a}-II^{ae}, q. 81, art. 1, co., 901b–902a: "Ad investigandum autem qualiter peccatum primi parentis originaliter possit transire in posteros, diversi diversis viis processerunt. Quidam enim, considerantes quod peccati subiectum est anima rationalis, posuerunt quod cum semine rationalis anima traducatur, ut sic ex infecta anima animae infectae derivari videantur." On Aquinas' doctrine of the original sin, see COVA 2014, 188–193 and JOHNSON 2007.

> ate to the soul, and the defects of the soul redound to the body, and vice versa, they conclude that in the same way a defect of the soul is transmitted by the seed, even though the seed is not the actual subject of the fault.[42]

Once again, Thomas maintains that physical defects conveyed by the seed cannot be truly categorized as diseases (e.g., leprosy or gout), but exclusively as corruptions infecting the body. Given that the human soul is meant to animate a specific body and that some physical defects fall on the soul and vice versa, it follows that the seed can corrupt the child's soul without being itself the actual subject of the fault:

> The original sin does not pass on by way of his subject, i.e., the rational soul, but is transmitted by the seed. Since the father's soul was corrupted by sin, a disorder in the body follows, which was deprived of that order that the established nature [*natura instituta*] had received before. Thus, from that seed is generated a body deprived of such order, and the soul infused in this body is affected by the disorder of the fault […] as well as, due to some corruption of the seed, a defect is produced not only in the offspring's body generated out of that seed, e.g., leprosy, gout, and other similar diseases; but also in the soul, as it is evident in those who are naturally [*naturaliter*] stupid from birth.[43]

42 THOMAS DE AQUINO 1999, *Summa theologiae,* I^{a}-II^{ae}, q. 81, art. 1, co., 902a: "Alii […] conati sunt ostendere quomodo culpa animae parentis traducitur in prolem, etiam si anima non traducatur, per hoc quod corporis defectus traducuntur a parente in prolem, sicut si leprosus generat leprosum, et podagricus podagricum, propter aliquam corruptionem seminis, licet talis corruptio non dicatur lepra vel podagra. Cum autem corpus sit proportionatum animae, et defectus animae redundent in corpus, et e converso; simili modo dicunt quod culpabilis defectus animae per traductionem seminis in prolem derivatur, quamvis semen actualiter non sit culpae subiectum."

43 THOMAS DE AQUINO 1929, *Scriptum super libros Sententiarum*, II, dist. 30, q. 1, art. 2, ad 3, 772: "Ad tertium dicendum, quod peccatum originale non traducitur per traductionem sui subjecti, quod est anima rationalis, sed per traductionem seminis: quia ex quo anima patris per peccatum infecta fuit, sequitur etiam inordinatio in corpore, subtracto illo ordine quem natura instituta prius acceperat: et ita etiam ex semine illo generatur corpus tali ordine destitutum; unde et anima quae tali corpori infunditur, deordinationem culpae contrahit ex hoc ipso quod hujusmodi corporis forma efficitur; cum oporteat perfectionem perfectibili proportionatam esse: sicut propter aliquam corruptionem seminis contingit non tantum defectus in corpore prolis ex illo semine generatae, ut lepra, podagra, vel aliqua hujusmodi infirmitas; sed etiam defectus in anima, ut patet in his qui a nativitate naturaliter sunt stolidi."

Therefore, leprosy, gout, and other physical defects in the child are caused not by a corrupting agency inherited by the seed but by the corruption of the seed itself in its ability to reproduce the resemblance of all sorts of defects. The dynamic of transmission of physical and psychic defects is due to the power that organizes the body (*virtus dispositiva corporis*), which guarantees both the proportionality between soul and body and the psychic and bodily resemblance between parents and offspring:

> Although the soul is not in the seed, there sits a power that predisposes the body to receive the soul [*virtus dispositiva corporis*] that is infused along with the body, and that is also proportionate to the body since everything is received according to the mode of the receiver. For this reason, one ascertains that offspring resembles the parents, not only in corporeal defects, like a leper begetting a leper and a gouty a gouty, but also in the defects of the soul, like a hot-tempered [*iracundus*] begetting a hot-tempered, and fools [*amentes*] being born to fools. Even though the foot, i.e., the subject of gout, is not in the seed, and neither is the soul, i.e., the subject of anger [*ira*] or stupidity [*amentia*], in the seed lies the formative power of the body parts and the power to predispose to the soul.[44]

When the power that predisposes the body to be ensouled is defective (e.g., due to the corruption of leprosy or gout, or because it acquires the resemblance of physical defects from the parents), it could cause defectiveness pertaining to both soul and body. The seed contributes as a *physical instrumental cause* to the transmission of both leprosy and the original sin without convey-

44 THOMAS DE AQUINO 1953, *Super Epistolam ad Romanos,* c. 5, 1, 3: "[…] licet in semine non sit anima, est tamen in semine virtus dispositiva corporis ad animae receptionem, quae cum corpori infunditur, etiam ei suo modo conformatur, eo quod omne receptum est in recipiente per modum recipientis. Et exinde videmus quod filii similantur parentibus, non solum in defectibus corporalibus, sicut leprosus generat leprosum et podagricus podagricum, sed etiam in defectibus animae, sicut iracundus iracundum et amentes ex amentibus nascuntur. Quamvis enim pes, qui est subiectum podagrae, non sit in semine, nec anima quae est subiectum irae vel amentiae, est tamen in semine virtus formativa corporalium membrorum et dispositiva ad animam."

ing the actual subject of these.[45] As Thomas exemplifies, neither the subject of gout (and leprosy), i.e., the foot, nor the subject of anger and stupidity, i.e., the soul, are actually in the seed.

In Thomas' view, leprosy and original sin exist only in their subject, respectively the foot and the soul. Before the bodily configuration and animation of the embryo, leprosy and the original sin are just corruptions affecting the formative power of the seed. These are not formal causes capable of passing on from parent to child, but they are a virtual resemblance of the corruption of the generating body. In other words, a child's leprosy is caused by *the seed of a leper*, and not by *a leprous seed*.

4. Henry of Ghent and the formal infective disposition

Henry of Ghent (1217–ca. 1293) offers one of the most detailed and comprehensive treatments of the leprosy/original sin analogy. In his first *Quodlibet* (ca. 1276), he develops his interpretation of the Augustinian model of transmission of the original sin.[46] Henry outlines an "invasive infection" which, descending from the first parents, is not confined to the seed, but permeates every fiber of the generating body and is able to infect every soul coming into contact with such bodies like an actual disease.[47] In order to explain how sin can be passed on from parent to child, he resorts more precisely to the analogy with the way of transmission of leprosy. The cause of leprosy in the offspring is the infected substance from which it derives:

> By joining with the body formed out of that matter, the soul contracts the original sin, in the way in which, if someone were infected with leprosy,

45 See GIBELLINI 1958, 147.
46 For the chronology of Henry's *Quodlibeta,* I follow PORRO 2006, 171–232.
47 See COVA 2014, 246–247.

> everything that proceeds from their substance, formed out of it, would be infected with leprosy.[48]

Once again, the 'leper begets a leper' argument demonstrates that the natural order demands that who generates and who is generated share substance. However, in *Quodlibet* X (ca. 1286), he clarifies that, in the offspring, the original sin and leprosy are not caused by an individual reality numerically identical to that present in the substance of the parent:[49]

> Actually, what is transfused into the child's bodily substance is the residue of the nourishment and not some part of the parent's bodily substance, as someone used to claim to justify what is owed to the original sin.[50]

What is transmitted via the generative process is not a substance detached from the parent's body, but rather a residue of the nourishment which results from the parent's digestive process

Recalling the Aristotelian doctrine on the origin of the seminal fluid, Henry details step by step how the infection takes place both in the case of leprosy and of the original sin:

> Before being taken in the generative vessels [*vasa generationis*], the nourishment is not in that morbid disposition […]. But after [the nourishment] is taken in the

48 HENRICUS DE GANDAVO 1979, *Quodlibet* I, q. 21, 174,70–73: "[…] ex coniunctione cum corpore formato ex illa materia contrahit anima peccatum originale, ad modum quo si aliquis lepra infectus esset, et quidquid ex eius substantia procederet, ab illa formatum, lepra inveniretur infectum."

49 HENRICUS DE GANDAVO 1981, *Quodlibet* X, q. 5, 123,37–38: "Nec causatur illa dispositio in prole per aliquid idem numero transfusum in substantiam prolis, quod prius fuit in substantia parentis."

50 HENRICUS DE GANDAVO 1981, *Quodlibet* X, q. 5, 123,38–41: "Immo quod transfunditur in corporalem substantiam, non est nisi residuum nutrimenti, non autem aliqua portio corporalis substantiae parentis, ut quidam solebant dicere volentes per hoc salvare contractum originalis."

> generative vessels, the generative power corrupts the glutinous form [of nourishment] generating the form of the seed; and only then is this naturally [*naturaliter*] released and intrinsically ordered to the generation of the offspring, it is in that moment that the morbid disposition [*morbida dispositio*] is infused.[51]

Here, Henry is merging two different but complementary doctrines on the role of the generative or seminal vessels (*vasa seminaria*) in the generative process. According to Aristotle, they are organs that store the seminal fluid. On the contrary, Galen deemed that the testicles, alongside the female seminal vessels, were also the place of the generative power.[52] Even though the corrupted seminal fluid results from the digestion of nourishment, it acquires its infection after being drawn into the generative vessels and transformed into seed. Implicitly following Galen, Henry maintains that the *vasa generationis* store the generative power, which acts upon the nourishment, by shaping it in the form of the seed that, afterward, is fully able to lead to the generation of the offspring.

The following stage of infection happens in the *locus formationis,* i.e., the uterus:

> When the infected seed is detached from the parent, and it passes to the place where the formation happens [*locus formationis*], the same generative power, which configures the body and that before was in the body of the parent, remains in the seed to generate the body from it: by educing the corporeality, or the form of the body [*forma corporeitatis*] from the potentiality of matter, and by corrupting the form of the seed, likewise by infecting the body with the same disposition of which the parent was infected (just as the parent's generative power already had infected the seed of the same infection of which the parent

51 HENRICUS DE GANDAVO 1981, *Quodlibet* X, q. 5, 123,42–58: "Nutrimentum autem prius quam recipiatur in vasis generationis, nullo modo habet in se illam morbidam dispositionem […] Sed postquam receptum est in vasis generationis et vi generativa corrumpitur forma glutini et generatur forma seminis, tunc primo oritur naturaliter et per se ad prolis procreationem et infunditur semini illa morbida dispositio."

52 On the contrast between Aristotelian and Galenic doctrines on the seminal vessels, see JACQUART, THOMASSET 1985, 76.

> was infected). Indeed, even though the original sin is formally removed, its spark [*fomes*] remains in the material body parts […].[53]

This passage is interesting for several reasons. First of all, Henry stresses the formal continuity between the infectiveness of the generative power in the father's body and that of the generative power that takes charge of the formation of the embryo. Secondly, he refers to Avicenna's doctrine of *forma corporeitatis*, i.e., the three-dimensional extension of matter that persists identically throughout the substantial change and which has ontological continuity with the substantial form in actuality.[54] This is connected to Henry's personal doctrine on the 'dimorphism' of the human generation, which involves two different substantial forms: the form of the mixture educed from the potentiality of the matter that prepares the body to be ensouled by the soul it is meant for and the rational human form, which is infused by God once the body is fully formed.[55]

In this perspective, the infection of both leprosy and the original sin is caused by the generative power which, beyond producing corporeality from the potentiality of the matter, also infects the body with the same disease that

53 HENRICUS DE GANDAVO 1981, *Quodlibet* X, q. 5, 123,59–68: "Cumque semen infectum a parente descinditur et in locum formationis reponitur, eadem vis generativa et membrorum informativa quae erat in parente ad generandum semen ex nutrimento et inficiendum ipsum dicto modo, manet in semine ad generandum ex semine corpus humanum, corporeitatem sive formam corporeitatis educendo de potentia materiae, et corrumpendo formam seminis, et similiter inficiendum illud corpus eadem dispositione qua semen erat infectum, sicut et vis generativa parentis infecit semen eadem infectione qua ipse infectus erat. Etenim si remissum est originale formaliter, manet tamen fomes in membris materialis […]."

54 AVICENNA 1992, *Liber primus naturalium: Tractatus primus de causis et principiis naturalium*, 18,5–19,16.

55 As pointed out by Gabriella Zuccolin, Henry maintains that "conjoined twins are only one entity from the point of view of the form of the mixture (i.e., the form of the body educed by natural generation from the potency of the matter), but two distinct persons from the point of view of rational souls," ZUCCOLIN 2017, 583. See also ZUCCOLIN 2019, 169–183.

the parent was infected with. The very fact that the same disease persists as an infective principle from the parent's body to the offspring's shows that, in Henry's view, leprosy and original sin are *formal infective dispositions* that never lose their infective power. As Henry concludes, not even the formal remission from the original sin through baptism could remove that infection from the material body which is radically permeated by that infectious disposition.

The infective power of both leprosy and original sin perdures during the whole embryogenetic process:

> Even if we posit many natural generations and corruptions between the first generation of the form of the seed, and the last generation of the human body, this would not change because in any intermediate stage between the seed and the parent, the power to generate and to infect that was in the seed and in the parent perdures. In the same way, leprous parents radically [*radicaliter*] generate leprous children.[56]

As Henry concludes, the infective principle involved throughout the whole generative process maintains its infective power from the formation of the seed in the parent's generative vessels to the completion of the human body in the female's uterus. A leper generates a leper because leprosy has radically permeated the parent's body.

5. Final Remarks

Based on more or less direct knowledge of medical and natural philosophical doctrines on human generation and inherited disease, 13th-century theolo-

56 HENRICUS DE GANDAVO 1981, *Quodlibet* X, q. 5, 124,69–74: "Nec est differentia in hoc sive plures generationes et corruptiones naturales ponamus inter generationem primam formae seminis et ultimam corporis humani, quoniam semper manet vis easdem generandi et inficiendi in quolibet intermedio, quae fuit in semine et in ipso parente. Et per hanc eandem viam radicaliter leprosi parentes naturaliter generant leprosos."

gians show a plurality of approaches in discussing the analogy between leprosy and the original sin. In the first half of the 13th century, this is used for two related purposes: (i) on one side it is employed as an argument to show the providential order underlying the repercussion of the punishment for one individual's sinful action on humankind; (ii) on the other side, it demonstrates the natural necessity of the similarity in nature between 'who generates' and 'who is generated', even if this nature is corrupted.

In William of Auvergne's exegesis, leprosy is described as a *hereditas*, i.e., a leprous nature akin to that of the father, which is inherited just like a material wealth or legal obligation through the chain of generation. William's argumentation is grounded in the Aristotelian tenet, according to which what is generated inherits its nature (even if spoiled by the original sin or leprosy) from that of the agent who generates it. Therefore, what is conveyed by the seed is not a potential infection, but a leprous nature already in actuality.

In line with William's interpretation, Roland of Cremona stresses the universality and the necessity of the dynamic of passing on the resemblance from the generating to the generated party. However, what passes on from a leprous parent to the child is not a leprous nature, but an active cause that produces leprosy, which is passed on to the child's flesh in an active disposition.

In the second half of the 13th century, theologians still discuss the leprosy/original sin analogy, synthesized in the Latin expression *leprosus generat leprosum*, though they shift their focus on the mode of presence of leprosy and the original sin in the generative seed. In describing leprosy and the original sin, Bonaventure turns to a precise medical terminology: he defines both as *morbi hereditarii* in order to stress their intrinsic transmissive power, which as long as it runs in the body of parents, can never be prevented. In discussing

the points of difference between leprosy and original sin, Bonaventure refers to the possibility of healing from leprosy: unlike the original sin, this could be removed from the generating body by acting upon the nutrimental moisture, i.e., the first cause of the infection.

Thomas Aquinas, too, employs medical terminology in describing leprosy, which is rather defined as *morbus contagiosus.* In contrast with those who (like Bonaventure or William) stress the hereditary feature of both leprosy and the original sin, Thomas prefers to underline the 'person-to-person' dynamic of contagion. By questioning the physiological and philosophical premises underlying the analogy, Thomas investigates the mode of existence of leprosy in the generative seed. It is neither a formal principle that is infective and transmissive at the same time nor a formal cause capable of passing on from parent to child through the seed. In the seminal stage, leprosy is rather a virtual corrupting power that cannot be truly categorized as a disease, since a 'disease' must actually affect the subject. In Thomas' view, leprosy's subject is the foot, which is not actually present in the seed. Therefore, he concludes that leprosy in the seed is a virtual resemblance to the corruption of the generating body.

All these perspectives merge into Henry of Ghent's discussion. Resorting to both the Aristotelian doctrine on the origin of the seminal fluid and the Avicennian notion of *forma corporeitatis*, Henry describes leprosy as a formal infective disposition that perdures through the entire generative process that starts with the production of the seminal fluid in the infected body of the generating individual. In Henry's view, there is a formal continuity between the infectiveness of the generative power in the father's body and that of the generative power that takes charge of the formation of the embryo. By detailing step by step the different stages of infection, Henry claims that leprosy, which

is acquired in the *vasa seminaria* of the leprous parent, does not lose its infective power: this perdures identically during the whole embryogenetic process. Leprosy and the original sin are diseases that radically permeate the generating body, which cannot generate anything but another body affected by the same infectious disposition.

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Gentile da Foligno's *Consilium contra pestilentiam* and its Hebrew Translation

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Abstract: Due to his first-hand experience with the Black Death, the Italian physician Gentile da Foligno (d. 1348) became a famous authority in this field. He devoted various writings to the pestilence; one of them was a *Consilium* addressed to the city of Pisa. This same *Advice on the Plague* was then rendered into Hebrew by an anonymous translator. The practical character of the *Consilium*, which contains numerous instructions and recipes to prevent contagion and treat the disease, might have aroused the interest of Jewish physicians who, excluded from academic education, were looking for useful treatments. In this paper, the Latin text and its Hebrew translation are analyzed, and in the appendix the edition of both versions is provided.

Keywords: Latin-into-Hebrew; Gentile da Foligno; Black Death; Italian medieval medicine; medical *consilia*.

I.

Mostly famous for his commentary on Avicenna's *Canon*, the Italian physician Gentile da Foligno composed numerous medical *Consilia* – short writings addressing a specific disease and its treatment.[1] The great number of *Consilia* testifies to the exceptional first-hand clinical experience of Gentile, who, in the course of his professional activity, eventually contracted the plague and

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1 On Gentile da Foligno, see Thorndike 1934; Thorndike 1959; French 2001.

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died in Foligno in 1348.[2]

After having studied medicine in Bologna, Gentile taught in Siena, Perugia and Padua, while he also became famous at numerous lordly courts, as is testified by the dedications found in some of his *Consilia*.[3] Besides the *Consilia*, he wrote several medical treatises devoted to various topics, even though the commentary on the five books of Avicenna's *Canon* is considered to be his masterpiece.[4] Gentile's commentary covered the entire work and was used as a manual for university teaching until the 16th century. Furthermore, in the course of time, his writings on the plague became renowned due to his direct knowledge of the disease that eventually also caused his death.

Gentile da Foligno authored several *Consilia* on the pestilence, some of

2 The *Consilia* are variously transmitted in the manuscript tradition as well as in prints. Numerous collections of *Consilia* are found, which do not always correspond to each other. In the codex Napoli, Biblioteca Nazionale Vittorio Emanuele III, ms. VIII.D.40, ff. 155r–223v, 218 *Consilia* are copied; and in the ms. Cortona, Biblioteca Comunale e dell'Accademia Etrusca, ms. 110, ff. 140–148; ff. 149–160, about 290 *Consilia* are found. Moreover, relevant collections of *Consilia* are included in the following manuscripts: München, Bayerische Staatsbibliothek, Clm 77, ff. 18r–v; 79v–80r; 117r–140bis; Wolfenbüttel, Herzog August Bibliothek, Cod. Guelf. 81.4 Aug. 2°, ff. 189r–229v; Brugge, Openbare Bibliotheek, ms. 473, ff. 244r–285r; Città del Vaticano, Biblioteca Apostolica Vaticana, Vat. lat. 2482, ff. 1r–7v; 8v–38r; 49r–51r; 53r–70r; Pal. lat. 1264, ff. 247r–306v. The most ancient testimony, dating back to the 2nd half of the 14th century, is probably Città del Vaticano, Biblioteca Apostolica Vaticana, Vat. lat. 2418, ff. 214r–217r; however, it contains only few *Consilia*. For the printed edition, see GENTILIS DE FULGINEO 1486; GENTILIS DE FULGINEO 1495. The list of *Consilia* transmitted by some of the above-mentioned manuscripts has been compared to that of the prints by THORNDIKE 1959.

3 For instance, the *Consilium ad dissenteriam* is dedicated to Francesco, the count of Urbino (see Città del Vaticano, Biblioteca Apostolica Vaticana, Vat. Ross. 974, f. 55r); the *Consilium ad cerebri humiditatem* is addressed to Francesco, the bishop of Oleno (see Città del Vaticano, Biblioteca Apostolica Vaticana, Vat. Ross. 974, f. 3v); the *Consilium ad passiones oculorum* and the *Consilium ad sibilum auris* are devoted to Francisco de Florentia, chaplain of the cardinal Giovanni Colonna (see Città del Vaticano, Biblioteca Apostolica Vaticana, Vat. Ross. 974, f. 7v; 13v); the *Consilium ad egritudines stomaci* is addressed to Giovanni da Vico, prefect of Rome (see Città del Vaticano, Biblioteca Apostolica Vaticana, Vat. lat. 2482, f. 29v); the *Consilia ad egritudines vessice* and the *Consilium ad catarrum pectoris* are dedicated to Ubertino da Carrara, Lord of Padova, and to his sister (see Città del Vaticano, Biblioteca Apostolica Vaticana, Vat. lat. 2482, f. 24r; ff. 44–46).

4 For the list of manuscripts and printed editions of the *Commentary* to the *Canon*, see CHANDELIER 2017, 527–554.

which were addressed to cities such as Genoa – where the plague wave originated in Italy – Perugia and Pisa.[5] Other writings were not specifically associated with any city: regarding these, one could raise the question whether they should be considered different and independent texts or versions and extracts of the same *Consilium*,[6] since the rewriting and adaption of contents is a typical feature of the literary genre of the *Consilia*.[7]

The following writings on the pestilence are transmitted under the name of Gentile:

(i) *Consilium contra pestilentiam*

Incipit: "Quoniam gloriosus et excelsus Deus de largitate sua."

Manuscript tradition: Città del Vaticano, Biblioteca Apostolica Vaticana, Pal. lat. 1147, ff. 124r–136v; Firenze, Biblioteca Medicea Laurenziana, Plut. 90 sup. 90, ff. 63r–94r.

Early prints: Gentilis de Fulgineo, *Consilium contra pestilentiam* (Pataviae: per Laurentium Canozium, c. 1472–75); Gentilis de Fulgineo, *Consilium contra pestilentiam* (Colle in Valle Elsae: per Bonuum Gallum, c. 1478–79); Gentilis de Fulgineo, *Consilium contra pestilentiam*, *Tractatus de resistentiis* (Venetiis?: c. 1500).

Sudhoff raises doubts about the date of composition and suggests an earlier date with respect to the 1348 outbreak.[8]

5 On Gentile's treatises on the Black Death, see SUDHOFF 1911(2), 332–340; FRENCH 2001, 274–296.
6 THORNDIKE 1934, 244, discusses the question.
7 See AGRIMI, CRISCIANI 1994, 44–48; CRISCIANI 1996, 10–16, 20, 31–32.
8 See SUDHOFF 1911(2), 336.

(ii) *Sumarium de peste*

Incipit: "Retificetur aer primo sue residentie."

Manuscript tradition: Città del Vaticano, Biblioteca Apostolica Vaticana, Vat. lat. 8690, f. 152r–153r.

(iii) *Consilium in pestilentia que accidit Ianue*

Incipit: "Illustrissimis amicis nostris de Ianua."

Manuscript tradition: Città del Vaticano, Biblioteca Apostolica Vaticana, Pal. lat. 1260, ff. 96v–97r; Città del Vaticano, Biblioteca Apostolica Vaticana, Pal. lat. 1264, f. 301v; München, Bayerische Staatsbibliothek, Clm 77, ff. 117r–118r; Basel, Universitätsbibliothek, A.VI.6, ff. 296v–298r; Leipzig, Universitätsbibliothek, ms. 1178, ff. 53r–54r.

Early prints: Gentilis de Fulgineo, *Consilia* (Papiae: per Antonium Carcanum, c. 1486); Gentilis de Fulgineo, *Canon medicinae 7: De febre et aliae quaestiones*, ed. Antonius Gratarolus (Venetiis: Baptista De Tortis, 1494); *Consilia Cermisoni. Consilia Gentilis. Recepte Gentilis de febribus. Tractatulus de balneis Gentilis* (Venetiis: per O. Scottum, 1495).

(iv) *Consilium Gentilis quoad pestilentiam quod misit Pise*

Incipit: "Manifestum videtur quod causa terribilis mortis."

Manuscript tradition: Città del Vaticano, Biblioteca Apostolica Vaticana, Pal. lat. 1264, ff. 301v–302r; Città del Vaticano, Biblioteca Apostolica Vaticana, Vat. lat. 1043, ff. 374r–v; Leipzig, Universitätsbibliothek, ms. 1178, f. 54r.

Early prints: Gentilis de Fulgineo, *Consilia* (Papiae: per Antonium Carcanum, c. 1486); Gentilis de Fulgineo, *Canon medicinae 7: De febre et aliae quaestiones*,

ed. Antonius Gratarolus (Venetiis: Baptista De Tortis, 1494); *Consilia Cermisoni. Consilia Gentilis. Recepte Gentilis de febribus. Tractatulus de balneis Gentilis* (Venetiis: per O. Scottum, 1495).

The title with the reference to the city of Pisa is found only in the ms. Vat. lat. 1043. In the manuscript Pal. lat. 1264, the text is introduced by the formula: "Aliud capitulum." In the early prints, the work is entitled *Consilium aliud*. Lynn Thorndike suggests that this *Consilium* should be considered the second paragraph of the Genoese *Consilium*.[9]

(v) *Consilium in epidemia magna dum accidit Perusii*

Incipit: "Nulla videtur precessisse temporibus memorabilibus."

Manuscript tradition: Città del Vaticano, Biblioteca Apostolica Vaticana, Pal. lat. 1260, ff. 97r–v; Città del Vaticano, Biblioteca Apostolica Vaticana, Pal. lat. 1264, ff. 302r–v; Cesena, Biblioteca Malatestiana, ms. D.XXIV.3, f. 201.

Early prints: Gentilis de Fulgineo, *Consilia* (Papiae: per Antonium Carcanum, c. 1486); Gentilis de Fulgineo, *Canon medicinae 7: De febre et aliae quaestiones*, ed. Antonius Gratarolus (Venetiis: Baptista De Tortis, 1494); *Consilia Cermisoni. Consilia Gentilis. Recepte Gentilis de febribus. Tractatulus de balneis Gentilis* (Venetiis, per O. Scottum, 1495).

In the manuscript Pal. lat. 1264, the work is divided into two parts; on f. 302v, the following incipit is found: "Gentilis de Fulgineo cum venerabili collegio magistrorum in preservationem et defensionem a tanta pestilentia." It is not clear whether the latter text is the second paragraph of the Perugian *Consilium* or an independent *Consilium*.

9 See THORNDIKE 1959, 14.

(vi) *Consilium magistri Gentilis super pestilentiam*

Incipit: "Emergentis et inexcogitati considerantes eventus periculum et fragilitatis previsionis humane oportet."

Manuscript tradition: Wien, Österreichische Nationalbibliothek, Cod. 2317, ff. 34v–35r.

The attribution to Gentile has been debated.[10]

(vii) *Prognosticatio magistri Gentilis in quadam pestilentia scilicet tempore magne mortalitatis*

Incipit: "Egritudines erunt febres continue."

Manuscript tradition: Città del Vaticano, Biblioteca Apostolica Vaticana, Pal. lat. 1264, f. 303r.

(viii) *Considerationes aliorum medicorum circa easdem pestilencias*

Incipit: "Circa causam huius pestilencie variatur consideracio magistrorum."

Manuscript tradition: Würzburg, Universitätsbibliothek, M.p.misc.f. 6, ff. 63r–64r.

The work gathers opinions from different physicians, Gentile is mentioned as one of them; moreover, numerous similarities with the previous *Consilia* are found.[11]

Finally, the topic of the pestilence is treated also in the commentary on Avi-

10 See SUDHOFF 1911(2), 337.
11 See SUDHOFF 1911(1), 83–87.

cenna's *Canon*, precisely in the section dealing with pestilential fevers.[12]

II.

The name of Gentile da Foligno appears in the incipit of a Hebrew translation about the pestilence, which is transmitted in the manuscript Wien, Österreichische Nationalbibliothek, Cod. hebr. 59, ff. 224v–225v.[13] The Vienna exemplar, copied by a Sephardic handwriting, dates back to the 15th century. The text is introduced by the title *'Etzah 'al ha-dever* (*Advice on the Plague*), and its authorship is ascribed to Gentile da Foligno.[14] Moritz Steinschneider hypothesized that the translator might have been Joshua the Physician from Bologna, since two other *Advices* on the plague translated from Latin are included in the same Vienna manuscript, one of which is the *'Etzah 'al ha-dever* (*Advice on the Plague*) by Francesco Zanelli of Bologna. In the colophon, Joshua from Bologna is identified as the translator.[15] Apart from this reference, no other information concerning Joshua from Bologna is available.[16]

The title mentions that the *Advice* had been sent to Pisa, so that the writing can now be identified as the *Consilium Gentilis quoad pestilentiam quod misit Pise*. Previously, it had been suggested by Steinschneider to read 'Perugia' instead of 'Pisa', possibly in order to identify the work with the *Consilium in epidemia magna dum accidit Perusii*.[17] As in Latin, the incipit of the Hebrew version mentions the city of Pisa, together with Genoa and Naples, but the cities of Piombino and Massa are replaced with Catalonia:

12 Book IV, fen I, treatise 4; for the editions, see *supra*, n. 4.
13 See SCHWARZ 1925, no. 175, 193–194.
14 See STEINSCHNEIDER 1893, 791.
15 The Vienna catalogue suggests the same hypothesis; see SCHWARZ 1925, 193.
16 See ARIETI 1996, 238; PERANI 2002, 63.
17 See STEINSCHNEIDER 1893, 791.

Manifestum videtur quod causa terribilis mortis, que manifesta fuit prius apud Januam, deinde venit Pisas et Plumbinum et Massam et que est nunc Neapolim, sit venenosa putredo circa partes cordis et pulmonis.	דבר ברור הוא ונראה המיתה האכזרית אשר נולדה בתחלה בגינואה, ובקטלונייא ואחר זה בפישה ועתה היא בנפולי, הוא עפוש ארסיי בסביבות הלב והריאה. [It is evident and we see that the cruel death, which originated in the beginning in Genoa and in Catalonia and after that in Pisa and which now is in Naples, is a poisonous reek around the heart and lungs.][18]

As will be shown in the following, the Hebrew text found in the Vienna codex is a literal translation of the entire *Consilium Gentilis quoad pestilentiam quod misit Pise*, bearing numerous vulgarized Latin terms transcribed in Hebrew.

The same *incipit* that mentions the *Advice on the plague* sent to the city of Pisa and that is attributed to Gentile da Foligno is transmitted in a one-folio fragment, the Jerusalem, National Library of Israel, Ms. Fr. 81.2. This copy contains the entirety of the *Advice*, except for the last recipe, and corresponds to the work found in the Vienna codex.[19] The fragment, written in an Italian script, includes some notes concerning other medical remedies not ascribed to Gentile. Apart from minor divergences concerning different formulations of sentences, the Jerusalem copy features various vernacular words, which in the Vienna manuscript appear to have been rendered into Hebrew.

Therefore, the fragment seems to be a witness of an earlier composition stage compared to the Vienna text, being a testimony of a working phase in

18 Wien, Österreichische Nationalbibliothek, Cod. hebr. 59, f. 224v; Città del Vaticano, Biblioteca Apostolica Vaticana, Pal. lat. 1264, f. 301v.

19 The information provided by the catalogue of the National Library of Israel, stating that this version diverges from the one kept in the Vienna codex, must therefore be corrected.

which more terms than in the final version were rendered into the vernacular language.

As will be discussed in the following, the vulgarized Latin forms and the Romance words – more frequent in the Jerusalem fragment – do not feature morphological characters allowing an unquestionable identification of the translation's geographical origin. Some clues speak in favor of an influence of Italo-Romance, more specifically of a southern or Sicilian version. Furthermore, the hypothesis that the Hebrew work might have been composed in Italy could seem plausible considering the Italian background of the *Consilium* and the possible association with Joshua of Bologna. In-depth research concerning the lexicon and the translation method of the Hebrew version of Francesco Zanelli's work is required in order to formulate more precise assumptions regarding the identification of the translator.

III.

If one relies on the information transmitted in the manuscript Città del Vaticano, Biblioteca Apostolica Vaticana, Vat. Lat. 1043, namely that the text starting with the words "Manifestum videtur quod causa terribilis mortis" has been composed to address the city of Pisa – which is confirmed also by the Hebrew copies[20] –, then this *Consilium* must have been written shortly after the Genoese, since it contains a relevant description of the geographical diffusion of the disease, from Tuscany to Naples.

As in Gentile's other *Consilia* on the plague, in the Pisan *Consilium*, the aetiology of the disease is explained through the poisonous putrefaction that affects part of the heart and lungs:

20 See Wien, Österreichische Nationalbibliothek, Cod. hebr. 59, f. 224v.

> Causa terribilis mortis […] sit venenosa putredo circa partes cordis et pulmonis, de quibus exeunte venenoso vapore periculum est vicinantibus et conversantibus.[21]

The airborne transmission is treated also in the *Consilium magistri Gentilis super pestilentiam*[22] and in the *Considerationes aliorum medicorum circa easdem pestilencias*[23] as well as in the Perugian *Advice,*[24] in which the centrality of the heart and lungs is stated. Analogously to these *Consilia*, the Pisan *Consilium* – a quite brief work – focuses on practical remedies and *regimina,* leaving aside the discussion regarding the remote causes, which are only mentioned in passing:

> Huius autem putrefactionis, sive sit causa celestis adspectus, sive sit dispositio terrestris et aquarum, eandem habebit viam ausilii.[25]

Indeed, the *Consilium magistri Gentilis super pestilentiam* briefly mentions the astronomical causes responsible for the corruption of the air, while it thoroughly treats the measures to be adopted,[26] particularly focusing on public administration, which should issue an entry ban against visitors coming from

21 See Appendix, *infra.*

22 Wien, Österreichische Nationalbibliothek, Cod. 2317, f. 34v: "Propter adventum aeris putridi in respiratione continua, cuius male egritudinis communicatio maxime ex aliorum infectorum contagiosa conversatione procedit."

23 Würzburg, Universitätsbibliothek, M.p.misc.f. 6, f. 63r: "Immediata et particularis causa est quedam materia venenosa, que est circa cor et pulmonem […] unde congregatis vaporibus venenosis per inspirationem et attractionem fit multa huiusmodi pestilentie generatio, ut fluat non solum de homine ad hominem, sed etiam de civitate in civitatem."

24 Città del Vaticano, Biblioteca Apostolica Vaticana, Pal. lat. 1264, f. 302r: "Invenimus causam particularem immediatam fore quasdam materias venenosas que circa cor et pulmonem generatur."

25 See Appendix, *infra.*

26 Wien, Österreichische Nationalbibliothek, Cod. 2317, f. 34v: "Quantum ad primum previsa astrorum erraticorum coniunctione et fixorum apparitione et eorum influentia maligna et dispositionibus temporum et elementorum varietate notata secundum omnes veridicos canones medicorum."

an infected area.[27] Similarly, the *Considerationes aliorum medicorum circa easdem pestilencias* and the *Advices* to Genoa and Perugia focus on dietary instructions and recipes.

As that of the Genoese and the Perugian *Consilia*, the structure of the Pisan *Consilium* appears to be typical for its literary genre, being short and concise and concentrating on practical advices – which is different from the *Consilium contra pestilentiam*, whose division in propositions (*declarationes antecedentes*) and questions (*dubia*) reproduces the scheme of a scholastic treatise.

As the corruption of air is considered the main cause of the disease, the most important remedy includes the purification of the air with scented herbs and vinegar. Moreover, dietary guidelines to prevent the infection of healthy people and to treat sick patients are provided. Among other prescriptions, Gentile da Foligno suggests sprinkling the house with vinegar, leaving the room of the ill person often, walking in the open air and letting northern wind enter the house. Concerning the room where patients lie, it is recommended to place the sick person on a higher bed, so that their head is higher than the heads of the other people:

> Infirmus ponatur in lecto alto, ut, quantum possibile est, premineat capitibus astantium.[28]

This practice became common in the following years, as is attested by the famous image found in the printed edition of Johannes de Ketham's *Fasciculus medicine*, which depicts a man sick with plague lying on a bed in a higher

27 Wien, Österreichische Nationalbibliothek, Cod. 2317, f. 35r: "Et propter hoc ad memoriam ducimus ut nullus aeger ex partibus contaminatis civitatem ingredi dimittatur."
28 See Appendix, *infra*.

position than the practitioners visiting him.[29] The importance of hygienic measures is stressed, such as cleaning the house and washing hands numerous times. While herbal fumigations were a usual remedy, Gentile's advice to light a fire in the room was not considered a common measure; this practice – mentioned also in the *Consilium in pestilentia que accidit Ianue* and in the *Consilium in epidemia magna dum accidit Perusii* – is attested in the same engraving of the plague treatment in Ketham's *Fasciculum medicine*. After a brief reference to bloodletting, a few recipes for medicaments are included, precisely two purges, a pill and a potion. Concerning medicaments, the recommendation of using an old theriac is contained also in the *Consilium magistri Gentilis super pestilentiam*[30] as well as in the Genoese *Consilium*.[31]

In the conclusion, Gentile clearly states that the aim of his writing is to provide with instructions those who assist the invalid, in order to secure their health condition:

> Spero, quod Dei auxilio cum hiis remediis adstantes poterunt infirmos secure custodire et eis servire.[32]

Indeed, numerous advices are directed to the people who assist the sick, specifically concerning the way to protect themselves while taking care of the patients. Care and assistance, according to Gentile, appear to be characteristics proper to human behavior, as opposed to the conduct of the beasts:

29 JOHANNES DE KETHAM 1495.
30 Wien, Österreichische Nationalbibliothek, Cod. 2317, f. 35r: "Quantum ad tercium et ultimum secundi principalis utantur teriacha antiqua."
31 Leipzig, Universitätsbibliothek, ms. 1178, f. 53r: "Credimus tam sanis quam infirmis esse conveniens, quod utantur tiriaca magna, super qua transiverit annus."
32 See Appendix, *infra.*

Et specialiter oportet previdere, ut hii, qui infirmis adstant, securius possint adesse, ne qui infirmantur propter omnem humanitatem delinquantur, et miserabilius dimittantur quam actenus, ut brutis animalibus est consuetum.[33]

IV.

The choice of translating the Pisan *Consilium* into Hebrew probably reflects an interest of Jewish readers in a manual containing practical instructions for the prevention and treatment of the disease. In general, the *'Etzah 'al ha-dever* is mostly a literal translation of the Latin text, and it does not omit any recipe for medications nor does it leave out any instruction. The major discrepancy is found in the *incipit*, in which the cities of Massa and Piombino are not mentioned, being replaced by Catalonia, while the reference to Naples and Pisa is retained. Apart from this general literal correspondence, some abbreviations are observable, such as the shortening of the following sentence:

Potus autem continuus sit aque ordei subtilis cum vino granatorum aut iuleb. In vino granatorum et acetositas sit, secundum quod videbitur presenti medico, maior aut minor et in pluri aut pauciori usu.	והמשתה תהיה תמיד מי השעורים עם עסיס מרמונים ויחומץ, כפי ראות הרופא. [And the drinking will always be barley water with pomegranates juice and vinegar, according to the view of the doctor.][34]

It seems that the abbreviation might not be due to a choice by the translator, but rather depends on the manuscript source or a misreading of the source; as a matter of fact, the reiteration of "vino granatorum" might have led to an omission caused by a *saut du même au même* – indeed, the ms. Città del Vaticano, Biblioteca Apostolica Vaticana, Pal. Lat. 1264 features the same mistake.

33 See Appendix, *infra*.
34 See Appendix, *infra*.

The end of the sentence, "maior aut minor et in pluri aut pauciori usu," is absent also in the Latin copy transmitted in the ms. Città del Vaticano, Biblioteca Apostolica Vaticana, Vat. Lat. 1043. This is not the only omission that the Hebrew version and Vat. Lat. 1043 share; indeed, both omit the following sentence:

> Et specialiter oportet previdere, ut hii, qui infirmis adstant, securius possint adesse, ne qui infirmantur propter omnem humanitatem delinquantur, et miserabilius dimittantur quam actenus, ut brutis animalibus est consuetum.[35]

This resemblance could suggest a dependency of the Hebrew text on the Vatican copy; however, the evidence does not seem cogent enough to prove that the translation has been conducted on the basis of the Vat. Lat. 1043 or on its archetype.

Moreover, when compared to the Latin formulation, in the version witnessed by the ms. Wien, Österreichische Nationalbibliothek, Cod. Hebr. 59 some ingredients are added in the recipe for the purgative sirup, such as asparagus, parsley and celery. It is not clear whether this discrepancy is due to an addition by the translator or by the copyist of the Vienna manuscript.

Concerning content, the two Hebrew copies diverge on one specific point, namely that Jerusalem, National Library of Israel, Ms. Fr. 81.2 omits various references to the healthy persons, so that there is no distinction between the regimen for the ill and the regimen for the healthy ones, for instance:

35 See Appendix, *infra*.

Latin	Jerusalem, National Library of Israel, Ms. Fr. 81.2	Wien, Österreichische Nationalbibliothek, Cod. hebr. 59, f. 224v
Regimen sanorum est, quod utatur cibis laudabilibus […]	היא שירגילו מאכלים מובחרים […] [It is that they use excellent foods …]	הנהגה הבריאים היא שירגילו מאכלים מובחרים [The regimen of the healthy ones is that they use excellent foods …]

Latin	Jerusalem, National Library of Israel, Ms. Fr. 81.2	Wien, Österreichische Nationalbibliothek, Cod. hebr. 59, f. 224v
Regimen commune tam infirmis quam sanis est […]	וההנהגה הכללית משבהם [The common regimen for them …]	הנהגה כללית בבריאים כמו בחולים […] [The common regimen for the healthy ones as well as for the sick ones …]

Latin	Jerusalem, National Library of Israel, Ms. Fr. 81.2	Wien, Österreichische Nationalbibliothek, Cod. hebr. 59, f. 225r
Et hicmet potus est utilis sanis […]	וזה המשקה הוא טוב […] [And this potion is good …]	וזה המשקה הוא טוב לבריאים […] [And this potion is good for the healthy ones …]

This difference is all the more relevant if one considers the preventive aim of Gentile's prescriptions, which are mostly directed at those who assist the sick. Therefore, according to the version of the Jerusalem fragment, the content of the *Advice* to a certain extent loses its prophylactic character and appears to deal mainly with the treatment of the disease; it is perhaps not by chance that the last sentence concerning the health of those who help sick patients is

omitted:

Latin	Jerusalem, National Library of Israel, Ms. Fr. 81.2	Wien, Österreichische Nationalbibliothek, Cod. hebr. 59, f. 225v
Spero, quod Dei auxilio cum hiis remediis adstantes poterunt infirmos secure custodire et eis servire.	ויעמוד לשרת ויבטח בו [And he will stand to serve and will be insured in it.]	ובוטח אני עם עזר האלהי כי עם אלה הרפואת המשרתים יוכלו לשרת החולה ולשרתם לצרכם. [And I trust that, with God's help, with these healings those who serve will be able to serve the sick and serve them for their needs.]

Finally, a minor discrepancy between the two Hebrew copies is that the Jerusalem fragment does not feature what can be considered the short titles for the paragraphs; these titles are missing also in Latin, and they are probably an innovation of the Hebrew translator. The fact that they are absent in the Jerusalem copy suggests that it stems from an earlier stage of the translation process, more adherent to the Latin source, while a structured text with clearer divisions between the paragraphs might denote a final composition.

The presence of foreign terms – Latin as well as Romance – in Latin-into-Hebrew medical translations is a well-known phenomenon.[36] Following this tradition, the *'Etzah 'al ha-dever* is characterized by the abundant presence of vulgarized Latin words, which are, unlike in other texts, not introduced by the formula בלעז, *be-la'az*; they are rather completely integrated in the Hebrew sentences – an example for this is the phrase סנדליש לבנים ואדומים,

36 See Aslanov 2013(1); Aslanov 2013(2); Bos, Mensching 2005; Bos, Mensching, Zwink 2017; Cohen-Hanegbi 2013; Einbinder, McVaugh 2013.

sandales levanim ve-'adumim (Lat. *sandalorum alborum et rubeorum*), in which the vulgarized Latin substantive is accompanied by the adjective in Hebrew. These expressions are more frequent in the fragment Jerusalem, National Library of Israel, Ms. Fr. 81.2, while in the Vienna copy some of them have been rendered into Hebrew; these differences between the two exemplars might hint at two different stages of the translation process: the Jerusalem fragment could witness an earlier phase, in which more Latin and Romance words were included, while the Vienna manuscript might come from a later stage, in which only technical terms still appeared in vulgarized Latin.

As has already been demonstrated in the case of other medical treatises, translators often did not distinguish between Latin and Romance and sometimes adopted vulgarized Latin forms.[37] Indeed, translators tend to transliterate Latin words according to their pronunciation rather than following a systematic correspondence between each Latin and Hebrew letter. This is observable, for instance, in the adoption of the prosthetic vowel before a preconsonantal 's' – which, as will be shown, appears also in the *'Etzah 'al ha-dever*.[38] Moreover, the absence of vowels in the Hebrew transliteration complicates the identification of the regional origin of Romance and vulgarized Latin forms. A clear distinction between Latin and Romance is not noticeable within the transliterations found in the *'Etzah 'al ha-dever*, but it seems that the version transmitted in the Jerusalem fragment tends towards Romance forms more often. For instance, some of the terms in the Vienna exemplar clearly have a genitive desinence, such as קפילי ויניריש (*capilli veneris*, Lat. *capillorum veneris*), but other forms are more indistinct and might be identified with Latin as much as with Romance, such as גימה (*gemma*, Lat. *gemme*) or מאנה (*manna*, Lat. *manne*). On the contrary, mostly masculine nouns feature a vul-

37 See ASLANOV 2002 and ASLANOV 2003.
38 For an example of this phenomenon regarding Latin terms, see ASLANOV 2013(1), 53.

garized desinence, as in the cases of אגריקו (*agarico*, Lat. *agarici*) and ריוברברו (*reubarbaro*, Lat. *reubarbarum*).

A few expressions feature a different desinence in the Vienna and in the Jerusalem texts; desinences in the earlier stage tend to be assimilated to Romance forms, such as הפילולי (*ha-pillule*, Lat. *pillularum*), while the Vienna copy transmits a Latin ending הפילולאש (*ha-pillulas*). The same is true for סנדלי (*sandali*, Lat. *sandalorum*), which appears as שנדיליש (*sandales*), probably a vulgarized version of the plural form required by the context, since the corresponding adjectives bear the plural ending: סנדליש לבנים ואדומים (*sandales levanim ve-'adumim*); alternatively, it could be read as *sandalis*, being a Latin form then but in the wrong number. A clear example for this phenomenon of the Latinization of Romance expressions is פירניצי (*pernitze*, Lat. *perdicum*), testified by the Jerusalem fragment, and the more Latinized פרדישי (*perdiši*), which is found in the Vienna witness; another example is the use of the preposition 'de' replacing a genitive form, דקסיאה (*de-cassia*, Lat. *cassie*), substituted in the later phase with קשיאה (*cassia*). The measuring unit *uncia* is spelled אונקי' (*unchia*) in the Jerusalem copy, while at the later stage it loses the nasal אוקי' (*uchia*) and adopts the Hebrew plural ending אוקיות (*uchiot*).[39]

Some expressions blur the line between Latin and the vernacular by adopting the vernacular form of the noun and the Latin ending for its adjective, such as בול ארמיני (*bol armeni*, Lat. *boli armeni*). Finally, few words witnessed by the Vienna manuscript omit the desinence, possibly as a consequence of the ambiguity between Latin and the vernacular, for instance, פוליפוד (*polipod*, Lat. *polipodium*), מיטרידאט (*metridat*, Lat. *metridatum*) and אשרוף (*isirup/esirup*, Lat. *sirupus*), while the Jerusalem fragment attests the vulgarized endings פוליפודיאו (*polipodio*), המיטריטאטו (*ha-metritato*) and שירופו (*s/širupo*).

39 For the same variation of spelling, see MAIMONIDES 2021, 16.

From the above-mentioned examples it becomes evident that non-Hebrew terms are found in the context of medical terminology and, more specifically, that they belong to the semantic field of botanic. Numerous ingredients listed in the pharmacological recipe adopt the vulgarized Latin forms, such as גינפרי (*ginepri*, Lat. *iuniperus*), פונגיי (*fungi*, Lat. *fungis*), אשפרגי (*asparagi*), מלישא (*melissa*, Lat. *melisse*), אנדיויאה (*indivia*, Lat. *endivie*), קשיאה (*cassia*, Lat. *cassie*), שינא (*senna*, Lat. *sene*), גריופילי (*gariofili*, Lat. *gariofilorum*), קמפורא (*camfora*, Lat. *camphore*), טריאקא (*tiriaca*, Lat. *tiriaca*), פנוקולי (*fenuculi*, Lat. *feniculo*), כרכוס (*crocus*, Lat. *croci*). The only proper medical term is the name of the hand vein used for phlebotomy, that is, סאלווטילא (*salvatella*, Lat. *salvatellarum*) and the more generic פילולאש (*pilules*, Lat. *pillularum*). As in other medical treatises, the practical dimension of the instructions given in the *Consilium* explains the use of vernacular and Latin for ingredients, providing the physician with unequivocal information regarding medicaments that could easily be shared with and understood by patients.[40]

In the Jerusalem fragment, even non-technical expressions appear in vulgarized forms, for instance, הספיריטואל (*ha-spiritual*, Lat. *spiritualium*), which has later been translated into Hebrew as הרוחניים (*ha-ruḥanim*); סטינטריאלי (*settentriale*, Lat. *septentrionalis*), replaced in the Vienna copy by the Hebrew צפוני (*tsfoni*); קומוני (*comuni*, Lat. *communi*) and later turned into פשוטים (*pešutim*); מניפילי (*manipuli*), which has no correspondence in the Latin text, has been later translated as אגודה (*'agudah*); the same holds true for בקולטוררה (*be-colaturra*, Lat. *in colatura*), rendered into Hebrew as בסנון (*be-sinun*), as testified by the Vienna manuscript. The vulgarized form of a few very common ingredients was retained at first, such as רוסא (*rosa*, Lat. *rose*), ציצי (*tzetzi*, Lat. *cicerum*), הלטוקי (*ha-latuche*, Lat. *lattucis*), פולפא (*pulpa*, Lat.

40 For analogous cases, see *supra*, n. 36.

pulpe), and צוקירו (*tzucchero*, Lat. *zucari*), while in the later version they were translated into Hebrew, according to the reading of the Vienna exemplar, in which they are present as ורדים (*vradim*) , אפונים (*'eponim* – more properly peas than chickpeas), החזרת (*ha-ḥazeret*), לב (*lev*) and סוכרי (*sucari*).

The morphology of these terms documents the development that the vernacular had undergone after the second half of the 14th century. Linguistic phenomena typical to Romance languages are observable also in the corresponding Hebrew transliteration, such as the metathesis found in the word רקאליסיאה (*ricolisia*), from the original *liquiritia*; here, it is also possible to observe the use of the letter *samek̲* to render the affricate sound [ts],[41] while in the spelling adopted by the Jerusalem fragment, ריקוליציאה, the letter *tzadi* is used. Another typical feature of the vulgarization of Latin is the presence of the prosthetic vowel before an impure 's', such as in אשקולופינדריאה (*iscolopendria*, Lat. *scolopendrie*) , אשקורופולו (*iscurupolo*, Lat. *scrupulum*). Given the probable Italian origin of the text, the prosthetic vowel should possibly be understood as an 'i' rather than an 'e'. However, in the Jerusalem copy, these words do not feature the prosthetic vowel since they are spelled סקורופולו (*scurupolo*) and סקולפינדריאה (*scolopendria*). The term אשרוף (*isirup/esirup*) seems to include the Arabic article 'al' in its north-African and Sicilian variation 'el/il', but again, according to the spelling found in the fragment, השירופו, there is no addition of the letter *aleph*. Moreover, the addition of a transition vowel in a cluster of consonants, such as in אשקורופולו (*iscurupolo*, Lat. *scrupulum*), looks like a typical characteristic influenced by Italo-Romance. Other features are noteworthy, for instance, the addition of the letter *aleph* in the case of a vocalic hiatus, as in אנדיויאה (*indivia*, Lat. *endivie*), קשיאה (*cassia*, Lat. *cassie*), אשקולופינדריאה (*iscolopendria*), רקאליסיאה (*ricolisia*).

41 For similar uses of the letter *samek̲*, see ASLANOV 2013(1), 47.

As has already been attested elsewhere, there is no strict differentiation between the letters *šin* and *samek̲* in the transliterations of the Vienna codex[42]; for instance, sandalwood is spelled both שנדיליש and סנדליש, or the ending '-s' is rendered both with 'ס-' and with 'ש-' in כרכוס (*crocus*) and פילולאש (*pillulas*). On the contrary, according to the spelling adopted by the copyist of the Jerusalem fragment, it seems that there is a distinction between the two letters, since, for instance, the city of Pisa is spelled פיסא, while in the Vienna codex it is spelled פישא; *senna* is spelled with the letter *šin* (שינא) in the latter, and with the letter *samek̲* (סינא) in the former. Finally, the soft 'g' is rendered by a double *yod* in the Jerusalem copy, for instance, in ייניברי (*ginebri*) and יימה (*gemma*).

V.

In the course of the 14th century, a turn in the translation movement into Hebrew starts to manifest itself due to the increasing number of Latin-into-Hebrew versions, especially in the field of medicine.[43] This shift reflects the needs of Jewish physicians, who did not have access to the most advanced knowledge because of their exclusion from universities and their lack of proficiency in Latin.[44] The number of plague treatises translated from Latin into Hebrew in the 14th and 15th centuries demonstrates the interest in the information circulating among Christian physicians as well as the preference towards Latin rather than Arabic sources.[45] In their prefaces, translators often refer to the troubles encountered by Jewish practitioners, who were faced with accusations of ignorance for their lack of textual sources. Such allegations

42 See Aslanov 2013(1), 46.
43 See Freudenthal 2012.
44 See García-Ballester, Ferre, Feliu 1990.
45 See Di Segni 2024.

were the motivation for translations that aimed at providing scholars with indispensable instruments to deal with the epidemics.[46]

It is thus not surprising to find a Hebrew version of the work of Gentile da Foligno, a renowned master who became famous already during his lifetime. The good reputation of Gentile's production among Jewish scholars is attested by translations of his writings into Hebrew and by references to his treatises in Hebrew texts. Apart from the *Advice* on the plague addressed to the city of Pisa, other medical manuals – in most cases excerpts of them – were translated into Hebrew as well. Book IV of Gentile's famous commentary to the *Canon* was translated,[47] and some extracts of it also circulated.[48] Sections of the treatise *De balneis* were rendered into Hebrew under the title *Hamerḥazaot*, and are today kept in three manuscript copies.[49] Furthermore, *compendia* of remedies and instructions ascribed to Gentile are gathered in different forms, such as in a collection according to his *Practica*[50] and in a compilation of prescriptions probably made by Bernard Alberti, which circulated under the name of Gentile da Foligno.[51] As late as in the 17th century, an anthology of medical and kabbalistic prescriptions, containing remedies and charms, makes reference to the *Advice on the plague* sent to Pisa.[52] Finally, Gentile's legacy among Jewish scholars is testified also by the circulation of medical remedies in Judeo-Italian.[53]

46 See Di Segni 2024.
47 New York, Jewish Theological Seminary of America, ms. 2740.
48 London, Wellcome Library, ms. hebr. A.12, ff. 2r–7v. Fragments of medical writings, possibly containing some excerpts of the commentary to the *Canon*, are kept in Montreal, Yehuda Elberg, ms. 89.
49 Paris, Bibliothèque nationale de France, ms. hébr. 1181, f. 11v; ms. hébr. 1182, f. 11r; Boston, Francis A. Countway Library of Medicine, Ballard 836, f. 57v.
50 Moscow, Russian State Library, ms. Guenzburg 165, f. 360r–v.
51 University of Pennsylvania, Lawrence J. Schoenberg Collection, LJS 471, ff. 1r–53v. See Steinschneider 1878 and Steinschneider 1893, 777.
52 London, British Library, Or. 10462, f. 40r.
53 Oxford, Bodleian Library, ms. Oppenheim Add. fol. 18, f. 28v; Città del Vaticano, Biblio-

Among the authors who quoted from Gentile's writings in Hebrew, there is the Provençal scholar Judah ben Isaac Kohen, who wrote a Supercommentary on Averroes' *Middle commentary* to the *Organon*.[54] In his youth, Judah ben Isaac Kohen had studied in Bologna, and it was probably there that he became acquainted with Gentile's commentary to the *Canon*, as well as with other Italian masters mentioned in his Supercommentary. Moreover, Gentile's name appears in some sections of the Hebrew translation of Nicolaus Praepositus' *Antidotarium*.[55] Finally, two anonymous commentaries include references to Gentile da Foligno: a commentary to Avicenna's *Canon*, Book IV, fen I, kept in the manuscript Oxford, Bodleian Library, Mich. Add. 15,[56] which makes use of Gentile's commentary, and a Supercommentary to Ibn-Ridwan's commentary to the *Tegni* by Galen.[57]

These pieces of evidence testify to Gentile's fame, who was considered a renowned medical authority for practical remedies – such as in the case of the *Advice on the plague* sent to Pisa or the collections of prescriptions – and also a famous commentator of Avicenna's *Canon.* The interest of Jewish physicians in Gentile's production is part of the history of the exchanges between Hebrew and Latin in medieval Europe and of the actors involved in the process. The circumstances of the Hebrew translation of the *Advice on the plague* shed light on the practice of this intercultural dynamics and elucidate certain aspects of the specific working method. To contextualize the data gathered here, especially concerning the stages of the translation process and the use of vulgarized Latin, within the broader framework of the other

teca Apostolica Vaticana, ebr. 375, f. 14r; 40r–v.

54 See STEINSCHNEIDER 1893, 734.

55 See STEINSCHNEIDER 1893, 791, 813–816.

56 See STEINSCHNEIDER 1893, 692.

57 See STEINSCHNEIDER 1893, 734. The text is found in the ms. Moscow, Russian State Library, ms. Guenzburg 1122, ff. 3v–29r.

Hebrew versions of Gentile's medical writing will probably make it possible to reconstruct Gentile's legacy in Hebrew more accurately.

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APPENDIX

Latin textual tradition

Manuscripts:

R1 = Città del Vaticano, Biblioteca Apostolica Vaticana, Pal. lat. 1264, ff. 301v–302r.[1]

R2 = Città del Vaticano, Biblioteca Apostolica Vaticana, Vat. lat. 1043, ff. 374r–v.[2]

L = Leipzig, Universitätsbibliothek, ms. 1178, f. 54r.[3]

Prints:

P = Gentilis de Fulgineo, *Consilia*, Antonius Carcanus (Papiae: c. 1486).

V1 = Gentilis de Fulgineo, *Canon medicinae 7: De febre et aliae quaestiones*, ed. Antonius Gratarolus, Baptista De Tortis (Venetiis: 1494).

V2 = *Consilia Cermisoni. Consilia Gentilis. Recepte Gentilis de febribus. Tractatulus de balneis Gentilis*, per O. Scottum (Venetiis: 1495).

Hebrew textual tradition

Manuscripts:

W = Wien, Österreichische Nationalbibliothek, Cod. hebr. 59, ff. 224v–225v.[4]

J = Jerusalem, The National Library of Israel, Ms. Fr. 81.2.[5]

1 On this manuscript, see SCHUBA 1981, 335–337.
2 On this manuscript, see CALDELLI 2007, 70.
3 Unfortunately, at the time of this research, the manuscript was being restored, and I was not able to consult it.
4 On this manuscript, see SCHWARZ 1925, no. 175, 193–194.
5 On this fragment, see https://www.nli.org.il/en/discover/manuscripts/hebrew-manuscripts/itempage?docId=PNX_MANUSCRIPTS990034959620205171&vid=MANUS-

CONSILIUM GENTILIS QUOAD PESTILENTIAM QUOD MISIT PISE 1348[6]

Manifestum[7] videtur, quod causa terribilis mortis, que manifesta fuit[8] prius[9] apud[10] Ianuam[11], deinde[12] pervenit[13] Pisam[14] et Plumbinum[15] et Massam[16], et que nunc est[17] Neapolim[18], sit[19] venenosa putredo circa partes cordis et pulmonis, de quibus exeunte venenoso vapore periculum est[20] vicinantibus et conversantibus. Huius autem[21] putrefactionis[22], sive sit causa celestis adspectus, sive sit[23] dispositio terrestris et aquarum, eandem[24] habebit[25] viam ausilii, scilicet cordis et principalium membrorum[26] confortationem et destructionem venenose putredinis[27], que est prohibitio additionis eius in egris et prohibi-

CRIPTS&scope=PNX_MANUSCRIPTS (last accessed 30 August 2024).

6 Consilium … 1348] aliud capitulum *R1* Consilium ad pestilentiam. Consilium aliud ad idem *PV1 om. V2 add.* consilium aliud pestilentia *in marg. R2*
7 Manifestum] *add.* autem *V2*
8 fuit] *om. R2*
9 prius] primo *PR1V1V2*
10 apud] *om. PV1V2*
11 Ianuam] Ianue *PV1V2*
12 deinde] postea *PV1V2*
13 pervenit] venit *LPV1V2 om. R2*
14 Pisam] Pise *PR1V1V2*
15 Plumbinum] Plumbino *R1*
16 Massam] Massa *R1*
17 nunc est] *inv. L*
18 et Plumbinum … Neapolim] et cetera *PV1V2*
19 sit] est *R2*
20 periculum est] *add.* in *PV1V2 inv. R2*
21 autem] *om. PV1V2*
22 putrefactionis] putredinis *LPR1V1V2*
23 sit] *om. LR2*
24 eandem] cum *PV1V2*
25 habebit] habent *L*
26 membrorum] *om. R1R2*
27 destructionem … putredinis] venenose putredinis destructionem *L*

tio[28] putrefactionis[29] in sanis. Et specialiter oportet previdere, ut hii, qui infirmis adstant, securius possiunt[30] adesse, ne qui infirmantur propter omnem humanitatem [31] delinquantur[32], et miserabilius dimittantur[33] quam actenus[34], ut[35] brutis animalibus est consuetum[36].

Regimen commune tam[37] infirmis quam[38] sanis est, quod rectificetur[39] aer cum continua accensione ignis elevate[40] flamme[41], et pro sanis proiiciantur in ignes[42] arbores et plante[43] quecumque[44] odorifere, ut est[45] iuniperus; pro infirmis vero[46] proiiciantur[47] salices[48], granata et mirti[49]. Cibaria egrorum[50] sint[51] de pullis et[52] perdicibus, secundum quod videbitur medico[53] de indigentia casus virtutis, et potus sit vini subtilis in hora ciborum, si videtur[54] medicis presen-

28 prohibitio] prohibitionem in *L* prohibitione *R1 om. R2*
29 putrefactionis] putredinis *PV1V2* putridis *L add.* eius *R2*
30 securius possint] *inv. LPV1V2 add.* eis *L*
31 propter … humanitatem] propter omnem inhumanitatem *L* per aeris malignitatem *PV1V2*
32 delinquantur] relinquantur *PV1V2*
33 miserabilius dimittantur] *inv. LPV1V2*
34 quam actenus] *add.* et *LR1* quatenus *PV1 om. V2*
35 ut] et nunc *R1*
36 Et … consuetum] *om. R2*
37 tam] est *R1 om. LPV1V2*
38 quam] et *LPR1V1V2*
39 rectificetur] continue rectificere *R2*
40 elevate] elevantis *R2*
41 flamme] flammam *R2*
42 ignes] ignem *R1*
43 arbores … plante] plante et arbores *PV1V2*
44 quecumque] quascumque *PV1*
45 est] *om. R2*
46 vero] non *R2 om. R1*
47 proiiciantur] ponantur *R1*
48 salices] salicem *V1*
49 granata … mirti] mirthe granata *PV1V2*
50 egrorum] eorum *LPV1V2*
51 sint] sunt *L*
52 et] de *R1 om. R1*
53 medico] medicis *R1*
54 medico … videtur] *om. R2*

tibus et[55] in hora[56] casus virtutis. Potus autem continuus[57] sit[58] aque ordei subtilis cum vino granatorum aut iuleb. In vino granatorum[59] et acetositas sit, secundum quod videbitur presenti medico, maior aut minor et in[60] pluri aut pauciori usu[61]. Non[62] est enim[63] dubium[64], quod acetosa vehementer[65] resistunt[66] putredini, sed inquantum sunt percussiva[67] spiritualium, habent aliquam suspitionem.

Subveniatur etiam febricitantibus subito[68] cum flobotomia et[69] ventosis circa nates et loca inferiora, et[70] cum[71] clisteriis trahentibus ad inferiora materiam[72]. De usu autem farmacie minus potest[73] dari iudicium per absentem[74] medicum[75]. Consulo tamen[76], quod quam[77] citius est possible, tentetur[78] evacuari humor[79].

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55 et] *om. PV1V2*
56 hora] horis *R2*
57 continuus] communis *PV1V2*
58 sit] *om. PV1V2*
59 aut … granatorum] *om. R1*
60 in] *om. L add.* usu *PV1V2*
61 maior … usu] *om. R2* usu *om. PV1V2*
62 Non] *add.* autem *R1*
63 est enim] *inv. R1L* enim *om. PV1V2*
64 dubium] dubio *R2*
65 vehementer] convenienter *PV1V2*
66 resistunt] assistunt *V2 om. R1*
67 percussiva] repercussiva *R2*
68 febricitantibus subito] *inv. R2*
69 et] *add.* cum *PV1V2*
70 et] *om. V2*
71 cum] *om. R1*
72 ad … materiam] materiam ad inferiora *R2*
73 minus potest] potest maius *PV1V2* potest *om. R1*
74 absentem] absentiam *V1V2* absentis *R2* absententiam *P*
75 medicum] medicine *PV1V2* medico *R2*
76 tamen] *om. LPV1V2*
77 quod quam] *inv. R1*
78 tentetur] temperetur *V1*
79 humor] humorum peccans *R2*

Potus communis[80] omnibus[81] actu[82] egrotantibus per rectificationem putredinis[83], de quo debet sumi[84] semel aut bis[85] in die ieiuno stomacho[86], est hoc: Recipe aque rose libram I, vini subtilis convenientis vinosi[87] uncias IIII, ponatur in eis boli armeni[88] electi triti et[89] subtiliter[90] cribelati dimidia uncia. Dosis huius potus sit uncia II. Et si vult[91] apponere[92] de aqua communi, apponat[93]. Et hicmet[94] potus est utilis[95] sanis ad defensionem eorum[96], si[97] detur sanis cum[98] vino puro aut parum limphato cum proportione predicta.

Regimen sanorum est, quod utatur[99] cibis laudabilibus de carnibus pullinis et[100] perdicum[101] et avium[102] et castrati et edi[103] lactantis, vitule[104] et[105] raro porci et ovis sorbilibus et aquis cicerum sine cortice et oleribus minutis cum[106] fe-

80 communis] *add.* actu *V1 add.* aptus *L*
81 omnibus] *add.* actus *V2*
82 omnibus actu] *inv. PV1* actu *om. L*
83 putredinis] putrefactionis *R2*
84 debet sumi] *om. R2*
85 semel … bis] bis aut semel *PV1V2*
86 stomacho] *add.* debet sumi *R2*
87 vinosi] *om. PV1V2*
88 boli armeni] bolliar *PV1V2*
89 triti et] *om. PV1V2*
90 subtiliter] *add.* pulverizati aliter *PV1V2 add. illeg. R2*
91 vult] *om. R1*
92 apponere] ponere *PV1V2*
93 apponat] ponat *R2*
94 hicmet] extimet *PV1* existimes quod *V2*
95 utilis] communis *PV1V2*
96 eorum] *om. PV1V2*
97 si] sed *R2*
98 cum] qui *R1*
99 utatur] utantur *LPV1V2*
100 et] *om. R2*
101 perdicum] perdicis *R2*
102 et avium] *om. R2*
103 edi] *add.* et *R1*
104 vitule] vituli *PV1V2*
105 et] *om. PV1V2*
106 cum] et *R1*

niculo et petrosilio, et utantur vinis laudabilibus subtilibus[107], et utantur[108] rebus acetosis, nisi qui sint[109] extenuati pectoris et parati ad tusses. De piscibus[110] autem parum[111] aut[112] nihil[113] comedant[114], caveant a fungis[115], de lattucis cum aceto possent[116] uti non continue[117], de ficubus[118] siccis possent[119] comedere et passulis[120] et de[121] silvestribus carnibus possent uti[122] carne[123] caprioli iuvenis et aliquando porci silvestris[124].

Laudo, quod sani tendant[125] ad[126] purgationem[127], et sirupus conveniens posset[128] esse iste: Recipe radicum V liquiritie, ysopi[129] ana unciam I, melisse, capillorum[130] veneris, scolopendrie ana libram I, seminis endivie[131], portulace, sandalorum[132] alborum[133] et rubeorum[134] ana dimidiam unciam, zucari libram I; fiat sirupus et acetosetur cum aceto vini, secundum quod videbitur necessitas.

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107 subtilibus] et assuctis *R2*
108 vinis … utantur] *om. PV1V2*
109 sunt] fuerint? *R2*
110 De piscibus] pisces *R2*
111 autem parum] *inv. R1*
112 aut] *om. PV1V2*
113 parum … nihil] nihil aut parum *L* nihil *om. PV1V2*
114 comedant] comedat *R1* comedint *R2*
115 fungis] frigidis *R1*
116 possent] potest *PV1V2*
117 continue] continuo *R2*
118 ficubus] *add.* et passulis *R2*
119 possent] poterit *PV1V2*
120 et passulis] *om. R1*
121 de] *om. PV1V2*
122 uti] *add.* alii *R2*
123 carne] carnibus *PV1V2 add.* porci silvestris et *R2*
124 et … silvestris] *om. R2* silvestris *om. PV1V2*
125 tendant] intendant *PR1V1V2*
126 ad] *om. LPV1V2*
127 purgationem] purgationes *R1* purgationibus *LPV1V2*
128 posset] possit *R1* potest *L*
129 liquiritie ysopi] *inv. PV1V2*
130 capillorum] capilli *PV1* capillis *V2*
131 endivie] *add.* scolopedrie ana libram I seminis endivie *sed del. R1*
132 sandalorum] sandalis *R2*
133 alborum] albis *R2*
134 rubeorum] rubis *R2*

Purgatio fiat[135] cum hoc: Recipe pulpe cassie dimidiam unciam, manne uncias II, agarici in colatura[136] vel in substantia dracmam I, salis gemme tertiam[137] partem[138] scrupuli I[139], et in quibusdam addatur reubarbarum[140141], et in quibusdam turbit et in quibusdam sene vel polipodium[142]. In omnibus tamen ponantur[143] medicine ducentes[144] virtutem solutivorum ad pectus, et ideo quibusdam erit usus conveniens[145] pillularum de agarico secundum Mesue.

Laudo etiam flobotomias, et[146] opinor flobotomias[147] salvatellarum[148] fore[149] multum utiles[150]. Est[151] etiam[152] conveniens, quod[153] quilibet sanus a XIV anno[154] supra[155] sumat bis in septimana[156] qualibet vice dracmam I tiriace cum pauco potu vini subtilis[157]. Pueris[158] autem, qui[159] sint[160] infra[161] XIV[162] annum[163],

135 Purgatio fiat] purgetur *R2*
136 in colatura] incolatur *R1*
137 tertiam] secunda *R1* tertia *PV1V2*
138 partem] pars *PR1V1V2*
139 I] *om. R2*
140 reubarbarum] reubarbari *PV1V2*
141 et … reubarbarum] *om. R1*
142 polipodium] polipodii *R2*
143 ponantur] ponatur *R2*
144 ducentes] ducens *R1*
145 usus conveniens] *inv. R2*
146 et] *add.* de salvatellis *L*
147 et … flobotomias] *om. PR1V1V2* et flobotomias opinor *L*
148 salvatellarum] salvatele *PV1V2 om. L*
149 fore] esse *L*
150 utiles] utile *L*
151 Est] et *PV1V2*
152 etiam] *add.* est *PV1V2*
153 quod] quia *PV1*
154 anno] *om. PV1V2*
155 supra] circiter *PV1V2*
156 septimana] *add.* pro *PV1V2*
157 subtilis] *add.* et *R1*
158 Pueris] pueri *R1*
159 autem qui] *inv. R1* qui *om. R1*
160 sint] sunt *PV1V2*
161 infra] in *PV2*
162 XIV] IX *LPV1V2*
163 annum] anno *PV1V2* annos *R1L*

potest dari quid[164] modicum, ut scrupulum I, et communiter tiriaca sit, super[165] quam[166] transuerit annus, et metridatum etiam[167] est conveniens[168].

Eodem modo illi[169], qui adstant infirmis, sumant omni mane toto tempore[170], quo adstant[171], dimidiam dracmam tiriace cum optimo vino, et frequenter lavent sibi[172] manus et facies[173] modo[174] cum aqua rose[175], modo cum[176] aceto[177], modo cum vino[178], et semper inter se et infirmum teneant ignem, et infirmus ponatur in lecto[179] alto, ut[180], quantum possibile est[181], premineat[182] capitibus astantium, et sepe[183] balneent[184] domum cum aceto, et sepe exeant cameram infirmi, et[185] veniant ad publicum[186] et apertum[187] aerem, et quando flat[188] ventus[189] septentrionalis[190], recipiant[191] eum[192] per omnes fenestras. Regantur

164 quid] *om. R1*
165 super] supram *R2*
166 quam] quo *R1*
167 etiam] *om. R2*
168 etiam … conveniens] est conveniens etiam *PV1V2*
169 illi] illis *L*
170 toto tempore] *om. R1*
171 astant] adsunt *PV1V2*
172 sibi] *om. R2*
173 facies] faciem *PV1V2*
174 modo] *om. R1*
175 aqua rose] aqua acetosa *LR1* vino *PV1V2*
176 modo cum] *om. R2*
177 aceto] acqua acetosa *PV1V2*
178 modo … vino] *om. LR2* modo cum aceto *PV1V2*
179 lecto] loco *PV1V2*
180 ut] et *PV1V2*
181 possibile est] *inv. R2*
182 premineat] preminet *R1* prohemineat *R2*
183 sepe] semper *PV1V2*
184 balneent] balneant *PR1V1*
185 et] ut *R2*
186 publicum] aerem *R2*
187 et apertum] distopertum *R2 add.* sive apertum *R1*
188 flat] flant *PV1V2*
189 ventus] venti *PV1V2*
190 septentrionalis] septentrionales *PV1V2*
191 recipiant] recipiunt *R1*
192 eum] eos *PV1V2*

etiam[193] cibis laudabilibus[194] dictis supra[195], et spero, quod Dei auxilio[196] cum[197] hiis remediis adstantes[198] poterunt[199] infirmos[200] secure[201] custodire et eis[202] servire[203].

Fiat istud pomum: Recipe camphore scrupulum[204] I, sandalorum[205] alborum[206] et rubeorum[207] ana dracmam[208] I[209], croci dimidiam dracmam[210], garofilorum dracmam[211] I[212]; fiat pulvis et ponatur in pecia vel[213] informetur[214] cum laudano. Et hoc est pro[215] egris; pro sanis vero[216] fiat ex eisdem rebus[217], sed ponatur[218] dracma I croci, et[219] scrupuli[220] II gariofilorum[221] et cetera[222].

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193 etiam] *add.* cum *LPV1V2*
194 cibis laudabilibus] *inv. PV1V2*
195 Regantur … supra] *om. R1*
196 auxilio] *add.* astantes *L*
197 cum] quod *PV1V2*
198 astantes] *om. L*
199 poterunt] *om. L*
200 infirmos] infirmis *PR1V1V2*
201 secure] *om. R2*
202 custodire … eis] *om. PR1V1V2*
203 servire] serviant *L*
204 scrupulum] dracmam *R2*
205 sandalorum] sandalis *R2*
206 alborum] albis *R2*
207 rubeorum] rubis *R2*
208 dracmam] scrupulum *R2*
209 I] *om. R2*
210 dimidiam dracmam] libras V *R2*
211 dracmam] scrupulum *PV1V2*
212 gariofilorum … I] *om. R2*
213 vel] et *R1*
214 informetur] informentur *L add.* pomum *PV1V2*
215 pro] per *R2*
216 vero] non *R2* etiam *V2* et *PV1 om. L*
217 eisdem rebus] predictis *L*
218 ponatur] addatur *L*
219 et] *om. V1V2*
220 scrupuli] libras *R2*
221 scrupuli … gariofilorum] gariofilorum scrupuli II *PV1V2*
222 et cetera] et fiat pomum quo (quod *V2*) odoretur *PV1V2* Explicit consilium Gentilis de fulgineo ad pestilentiam *R2*

עצת[223] מאי׳[224] יינטיל[225] דפוליני[226] שלח[227] בפישא[228] שנת[229] ק״ח כשהיה[230] הדבר הגדול הש׳[231] ישמרנו אמן.

דבר ברור הוא[232] ונראה המיתה[233] האכזרית[234], אשר נולדה בתחלה[235] בגינואה[236] ובקטלונייא, ואחר זה[237] בפישא,[238] ועתה[239] היא[240] בנפולי[241], היא[242] עפוש ארסיי[243] בסביבות הלב והריאה, אשר מהם נמשך בכל חלק מחלקי[244] הגוף.

הסבה[245]: סבת[246] זה העפוש או תהיה[247] סבה[248] שמימיית, או סבה[249] ארציית, או סבה[250] מימיית[251], כלם יש להם[252] תכלית אחד, והוא[253] להמית הלב. וההנהגה

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223 עצת] זו היא עצת *J*
224 מאי׳] מש׳ *J*
225 יינטיל] יינטילי *J*
226 דפוליני] *add.* אשר *J*
227 שלח] שלחה *W sed corr.*
228 בפישא] בפיסא *J*
229 שנת] בשנת *J*
230 ק״ח כשהיה] אלף שמ״ח למניינם שנת *J*
231 הש אמן] *J om.*
232 הוא ונראה] נ״ל *J*
233 המיתה] שהמיתה *J*
234 האכזרית] אכזרית *J*
235 בתחלה] *J om.*
236 בגינואה] בגירואה *W corr. sup. l.* ביינובה *J*
237 זה] *J om.*
238 בפישא] בפיסא *J*
239 ועתה] ואחר *J*
240 היא] *J om.*
241 בנפולי] *add.* המגפה *J*
242 היא] הוא *JW*
243 ארסיי] סמיי *J*
244 חלק מחלקי] חלקי *J*
245 הסבה] *J om.*
246 סבת] וסיבת *J*
247 תהיה] יהיה *J*
248 סבה] סבת *J*
249 סבה] סבת *J*
250 או סבה] *J om.*
251 מימיית] ושמירת *J*
252 יש להם] *J om.*
253 והוא] ר״ל *J*

הטובה[254] היא לחזק הלב וכל האברים הראשיים, וגם כן[255] להכרית העפוש הארסיי מן[256] החולים, ולשמור הבריאים.

ההנהגה[257]: הנהגה[258] כללית[259] בבריאים[260] כמו בחולים היא[261] כי תמיד יחודש האויר ויתוקן התמדת האש עם שלהבת גדולה. בעבור הבריאים יוקחו[262] העצים ריחניים[263] כמו גינפרי[264] וזולתם, ובעבור החולים יעשה מערבה ורמון והדס. המאכל[265] מהחולה[266] יהיה[267] מעופות, כאשר[268] יורה[269] הרופא העומד סביב[270] החולה,[271] ובעת[272] נפילת הכח[273]. והמשתה[274] תהיה תמיד מי השעורים[275] עם עסיס[276] מרמונים[277] ויחומץ[278], כפי[279] ראות[280] הרופא. אין[281] בזה[282] ספק כי החומץ[283]

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254 הטובה] טובה *J*
255 כן] *J om.*
256 מן החולים] *J om.*
257 ההנהגה] *J om.*
258 הנהגה] וההנהגה *J*
259 כללית] הכללית *J*
260 בבריאים … היא] משבהם *J*
261 היא] הוא *W*
262 יוקחו] יקחו מן *J*
263 ריחניים] הריחניים *J*
264 גינפרי] ייניברי *J*
265 המאכל] ומאכל *J*
266 מהחולה] החולה *J*
267 יהיה] *J om.*
268 כאשר] כמו *J*
269 יורה] שיורה *J*
270 סביב] סביבו *J*
271 החולה] *J om.*
272 ובעת] בעת *J*
273 הכח] כח *J*
274 והמשתה] השתייה *J*
275 השעורים] שעורים *add.* מתוקנים *J*
276 עסיס] יין *J*
277 מרמונים] רימון *J*
278 ויחומץ] מחמיץ *J*
279 כפי] כאשר *J*
280 ראות] ירא בעיני *J*
281 אין] ואין *J*
282 בזה] *J om.*
283 החומץ] החמוץ *J*

החזק[284] מאד עומד כנגד[285] הסם, אבל מפני כי הוא מרתיע[286] הרוחניים[287], יש מענו לגמגם בנתינתו[288].

ההקזה[289]: מיד כשיקדיח[290], עשה[291] ההקזה[292] וכוסות[293] המציצה[294] בעגבות ובמקומות[295] התחתונות.[296]

הרגל[297] הרפואות[298] החדות[299] לא נוכל לדון, וזה יעמוד לרופא שירפאנו,[300] מ״מ אם יוכל להריק[301] החומר החוטא,[302] אין ספק כי הוא טוב.

משקה[303] לנגב העפוש וישתה ממנו פעם או פעמים על הצום הוא[304] זה: קח מי[305] ורדים[306] א׳ ליטר, יין דק ולבן וטוב ד׳ אוקיו,[307] בול ארמיני טוב[308] ומובחר[309] כתוש עד[310] אשר דק ומטפה בדקות[311] חצי אוקי׳[312]. שיעור נתינת[313] זה המשקה ב׳ אוקיו.[314]

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284 החזק] חזק *J*
285 כנגד] נגד *J*
286 הוא מרתיע] מתעים *J*
287 הרוחניים] הספיריטואל *J*
288 בנתינתו] בנתינתם *J*
289 ההקזה] *om.* *J*
290 מיד כשיקדיח] בזר ? באש תקרר *J*
291 עשה] יעשה *J*
292 ההקזה] הקזה *J*
293 וכוסות] וכוסי *J*
294 המציצה] ההקזה *J*
295 ובמקומות] ומקומות *J*
296 התחתונות] תחתוניות *J*
297 הרגל] גם ההרגל *J*
298 הרפואות] מהרפואות *J*
299 החדות] אמרות *J*
300 שירפאנו] *om.* *J*
301 להריק] להאריך *J*
302 החושה] *om.* *J*
303 משקה] *add.* כללי *J*
304 הוא] והוא *J*
305 מי] מים *J*
306 ורדים] רוסא *J*
307 אוקיו] אונקי *add.* ושים בו *J*
308 טוב] אן ? *J*
309 ומובחר] מובחר *J*
310 עד … דק] *om.* *J*
311 בדקות] ? *J*
312 אוקי׳] אונקי *J*
313 נתינת] *om.* *J*
314 אוקיו] אונקי *J*

ואם תרצה, להשים[315] עמו[316] מים פשוטים[317] שים. וזה המשקה הוא טוב לבריאים[318] עם יין נקי,[319] כדרך שאמרנו.

הנהגה הבריאים[320] היא[321] שירגילו מאכלים מובחרים,[322] מתרנגולים[323] ועופות אחרים,[324] פרדישי,[325] סריסים, גדי[326] יונק,[327] עגל יונק, ביצים[328] צלויים, ומי אפונים[329] וגם[330] האפונים[331] בלי[332] קליפתם, עשבים קנונים עם פנוקולי ופטרושילו,[333] וירגילו[334] יינות מובחרים,[335] ודברים[336] חמוצים לבר אם יש לו עוצר בחזה והמוכנים[337] לשעול.[338] מין הדגים יאכל[339] מעט או לא[340] כלום,[341] וישמר מן הכמהין הם[342]

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315 להשים] לשים *J*
316 עמו] *J om.*
317 פשוטים] קומוני *J*
318 לבריאים] *J om.*
319 נקי] *add.* או *J*
320 הנהגה הבריאים] *J om.*
321 היא] הוא *JW*
322 מובחרים] *add.* מכשר *J*
323 מתרנגולים] תרנגולים *J*
324 אחרים] *add.* כגון *J*
325 פרדישי] פירניצי *add.* ומאסאט *J*
326 גדי] וגדיים *J*
327 יונק] יונקים *J*
328 ביצים] וביצות *J*
329 אפונים] ציצי *J*
330 וגם] *J om.*
331 האפונים] ארופים וציצי *J*
332 בלי] בלתי *J*
333 ופטרושילו] ופיטרוסימילי *J*
334 וירגילו] וירגיל *J*
335 מובחרים] *add.* וירגיל *J*
336 ודברים] דברים *J*
337 והמוכנים] המוכנים *J*
338 לשעול] לשיעור *J*
339 יאכל] *J om.*
340 לא] כמעט *J*
341 כלום] *add.* מהם *J*
342 מן … הם] *J om.*

פונגיי[343], החזרת[344] עם החומץ[345] יוכל[346] להרגיל[347], אך[348] לא[349] תמיד.[350] יוכל[351] לאכול מן התאנים[352] או[353] מן הצמוקים, מבשר הציר יוכל להרגיל ולפעמים[354] מבשר[355] חזיר יערי[356] ומצבי[357] רך וטוב.[358]

אשרוף[359]: משבח[360] אני כי הבריאים ישימו מגמת פניהם אל ההרקות, וזה[361] האשרוף[362] הוא[363] טוב: קח[364] ה׳[365] שרשים והם שרשי כרפס ואשפרגי ברוסי וגרמיניש ופטרושילי, רקאליסיאה,[366] אזוב מ״א א׳ אוקי׳[367], מלישא,[368] קפילי ויניריש[369], אשקולופינדריאה[370] מ״א,[371] אגודה[372] זרע אנדיואיה,[373] זרע פורטולייגא,[374] שנדיליש[375]

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343 פונגיי] מהפונגי *J*
344 החזרת] והלטוקי *J*
345 החומץ] *J add. illeg. sed del.*
346 יוכל] תוכל *J*
347 להרגיל] *add.* לפעמים *J*
348 אך] *J om.*
349 לא] ולא *J*
350 תמיד] להתמיד *J*
351 יוכל] ויוכל *add.* ג״כ *J*
352 התאנים] מתאנים יבשים *J*
353 או … להרגיל] *J om.*
354 ולפעמים] *add.* מעט *J*
355 מבשר] בשר *J*
356 יערי] וג״כ *J*
357 ומצבי] מצבי *J*
358 וטוב] *J om.*
359 אשרוף] *J om.*
360 משבח] ומשבח *J*
361 וזה] הוא *J add.*
362 האשרוף] השירופו *J*
363 הוא] *J om.*
364 קח] לזה *J*
365 ה׳ … ופטרושילי] *J om.*
366 רקאליסיאה] ריקוליציאה *J*
367 אוקי׳] *J om.*
368 מלישא] *J om.*
369 קפילי] וקפילווינירי ? *J*
370 אשקולופינדריאה] וסקולפונדריאה *J*
371 מ״א] א׳ *J add.*
372 אגודה] מניפילי *J*
373 אנדיואיה] אינדיביאה *J*
374 פורטולייגא] פורקקאל ? *J*
375 שנדיליש] סנדאלי *J*

לבנים ואדומים מ״א[376] חצי אוקי׳,[377] סוכרי[378] א׳ ליטר.[379] עשה[380] אשרוף[381] ויחומץ[382] עם חומץ יין כפי ההכרח.

המשלשל[383]: קח לב[384] קשיאה[385] חצי אוקי׳[386], מאנה ב׳ אוקיות,[387] אגריקו בסנון[388] או בעצמות[389] א׳ דר׳, מלח גימה[390] שליש חלק מאשקורופולו, ולפעמים הוסיף ריוברברו, ולפעמים הוסף[391] טורביד[392], ולפעמים[393] שינא,[394] פוליפוד.[395] ובכל רפואה שים מרפואות אשר כחותם להריק[396] החזה, ועל[397] כן לפעמים[398] נרגיל הפילולאש[399] מאגריקו[400] לפי מאשואי.[401] ומשבח אני גם[402] כן ההקזה[403] בסאלווטילא[404] כי היא[405] מועולה.[406]

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376 מ״א] מכא׳ *J*
377 אוקי׳] אונק *add.* א׳ ליטר ו ? *J*
378 סוכרי] צוקירו *J*
379 א׳ ליטר] *om.* *J*
380 עשה] ויעשה *J*
381 אשרוף] שירופו *J*
382 ויחומץ] *om.* *J*
383 המשלשל] ואח״כ נקהו עם זה *J*
384 לב] פולפא *J*
385 קשיאה] דקסיאה *J*
386 אוקי׳] אונקי *J*
387 אוקי׳] אונקי *J*
388 בסנון] בקולטוררה *J*
389 בעצמות] בעצמותו *J*
390 גימה] יימה *J*
391 הוסף] *om.* *J*
392 טורביד] מהטורביט *J*
393 ולפעמים] או *J*
394 שינא] סינה *add.* או *J*
395 פוליפוד] פוליפודיאו *J*
396 להריק] להאריך *J*
397 ועל כן] ע״כ *J*
398 לפעמים] *om.* *J*
399 הפילולאש] הפילולי *J*
400 מאגריקו] אגאריקו *J*
401 מאשואי] מזואי *J*
402 גם כן] *om.* *J*
403 ההקזה] *add.* וההקזה *J*
404 בסאלווטילא] בסקוניניולי ? *J*
405 כי היא] *om.* *J*
406 מועולה] מועלת *J*

טריאקא[407] מן ההכרח הוא[408] גם כן בו כל בריא[409] מי״ד שנים ומעלה[410] יקח[411] ב׳ פעמים בשבוע א׳ דר׳ מתריאקא[412] בכל פעם עם יין[413] דק. הקטנים[414] יותר[415] מזה תוכל לתת מעט פחות כמו א׳ אשקורופולו[416] ועשה שהתריאק[417] העבור[418] השנה[419] וגם[420] המיטרידאט.[421] אבל[422] אותם[423] שעומדים[424] לשרת[425] החולים[426] יקחו בכל בקר כל[427] עוד[428] שעומדים עליהם[429] חצי דר׳ מטריאק[430] עם יין טוב, ותמיד[431] ירחצו[432] פניהם,[433] ידיהם,[434] פעם עם מים מחומצים,[435] פעם[436] עם חומץ,[437] פעם[438] עם מי[439]

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407 טריאקא] והוא *J*
408 הוא] *J om.*
409 בריא] חולה *J*
410 ומעלה] ולמעלה *J*
411 יקח … פעמים] יתפוש בב׳ *J*
412 מתריאקא] מטוריאקה *J*
413 יין] מעט *J add. sup. l.*
414 הקטנים] ולקטנים *J*
415 יותר … פחות] *J om.*
416 אשקורופולו] אשקורופו׳ *W* סקורופולו *J*
417 שהתריאק] שהטוריאקה *J*
418 העבור] יעשה *J*
419 השנה] השבה *J*
420 וגם] וכן *J*
421 המיטרידאט] המיטריטאטו *J*
422 אבל] *J om.*
423 אותם] ואותם *J*
424 שעומדים] העומדים *J*
425 לשרת] לשרתו *J*
426 החולים] *J om.*
427 כל] ובכל *J*
428 עוד] יום *J*
429 עליהם] על החולה לשרת *J*
430 מטריאק] מטורייאקה *J*
431 ותמיד] ופעם אחד תמיד *J*
432 ירחצו] ירחץ *J*
433 פניהם] פניניכיו *J*
434 ידיהם … מים] *J om.*
435 מחומצים] בחומץ *J*
436 פעם] ופעם אחד *J*
437 חומץ] יין טוב *J*
438 פעם] *add.* אחר *J*
439 מי] מים *J*

ורדים[440] וחומץ[441], פעם[442] עם יין. ותמיד יעמוד[443] בינם[444] ובין החולה אש. החולה[445] יעמוד במטה גבוהה כאשר[446] תוכל[447] להיות,[448] ותמיד ירחץ הבית עם חומץ, ותמיד[449] יצאו מן החדר[450] אותם העומדים[451] לשרתו[452] כדי שיראו אויר מגולה. וכשינשב[453] רוח צפוני,[454] יקבלו[455] אותו[456] האויר בכל החלונות.[457]

ינהגו[458] אותם המאכלים[459] אשר זכרנו למעלה[460]. ובוטח[461] אני עם עזר האלהי כי עם אלה הרפואת המשרתים יוכלו לשרת החולה ולשרתם לצרכם.

תפוח[462] להריח: קח קמפורא א׳ דר׳, סנדליש לבנים ואדומים מ״א א׳ אשקורופולו[463], כרכוס חצי דר׳, עשה אבק, ושים בבגד, ויריח או תן לו צורת תפוח עם לאפדנו. וזה בעבור החולים, אבל בעבור הבריאים עשה עם אלו העניינים ותוסיף עליהם א׳ דר׳ כרכוס וב׳ אשקורו׳ מגריופולי. תם ונשלם.

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440 ורדים] רוסאטי ועם *J*
441 וחומץ] חומץ מעורכים יחד *J*
442 פעם עם יין] *J om.*
443 יעמוד] יהיה *J*
444 בינם] בינו *J*
445 החולה] והחולה *J*
446 כאשר] היותר *J*
447 תוכל] שיוכל *J*
448 להיות] *J om.*
449 ותמיד] ולפעמים *J*
450 מן החדר] מהחדר *J*
451 העומדים] המשרתים *J*
452 לשרתו … מגולה] לתפוש אוויר *J*
453 וכשינשב] וכשיפרח *J*
454 צפוני] סטינטריאלי *J*
455 יקבלו] יפתחו *J*
456 אותו … בכל] *J om.*
457 החלונות] לקבלו *J add.*
458 ינהגו] וינהגו *J*
459 המאכלים] במאכלים המעונגים *J*
460 למעלה] *J om.*
461 ובוטח … לצרכם] ויעמוד לשרת ויבטח בו *J*
462 תפוח … ונשלם] *J om.*
463 אשקורופולו] אשקורופו *W*

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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 Europe[1] 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.

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"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-Parot[6] 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]

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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 epidemics[16] 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-

tione 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 data[21] 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, Nucio 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 Paginca (*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 […] calculla de nouvel les estoille fixex, ou il print moult grant labeur."

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 opuscule 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 influentia 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 infirmancium.[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.

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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 crisium et terminis creticorum dierum ac pronosticationibus eorumdem 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.

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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 sufficenter 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 operacione 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 crisium et terminis creticorum dierum ac pronostictionibus 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 celestia 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 Perugia[47] 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 sortiatur 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 ascendentis 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 inplendo […]
>
> Quinto caveant a locis corruptis et fetidis, et precipue ubi cadavera et corpora mortuorum sepeliuntur […]
>
> Sexto caveant sibi a replectionibus 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 nativitatum, 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 exerceat 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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Health and Sickness in Henry of Herford's *Catena aurea entium*

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Abstract: Henry of Herford frequently addresses medical topics throughout his encyclopedia, the *Catena aurea entium*. The paper offers an overview of the sections that deal with health, sickness, and diseases. While including key texts of medieval medical literature, Henry's 'medical library' has a specific focus on practical medicine, pharmacology, and the regimen. The paper also includes editions of some questions dedicated to specific diseases.

Keywords: Henry of Herford; encyclopedism; disease; environment; plague.

Henry of Herford (ca. 1300–1377), a Dominican friar active in the province of Saxony in the 14th century, did not devote a specific treatise to medicine, yet he dealt extensively with this area of learning in his two major works, the *Liber de rebus memorabilioribus sive Chronicon* and the *Catena aurea entium* (= *CAE*).[1] The *Chronicon* is a universal chronicle from the creation of the world until Henry's own days (1355). The work, a compilation from numerous ancient and medieval sources of different kinds that adopts the famous scheme of the six ages of the world popularized by Augustin and Beda, was renowned – and is still used by historians today – as a source for the vicissitudes of the

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1 In the prologue to his encyclopedia, the *Catena aurea entium*, Henry provides a list of his works: Henricus de Hervodia forthcoming, *CAE*, Prol., 5,15–19. To them a *Sermo de Sancto Joanne Baptista*, today attributed to Henry, must be added: on Henry's works – extant and lost – see Kaeppeli 1975, 197–198; Hillenbrand 1981, 745–749; Schumann 1996, 24–82; Haye 2016, 599–603.

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German lands in the late Middle Ages.[2] In line with his intention to focus on "events worthy of remembrance" ("de rebus memorabilioribus"), made explicit in the title of the work, Henry gives an account, among other facts, of the numerous epidemics that constellated human history.[3]

Notably, the last section of the work is dedicated to the Black Death, the plague pandemic that swept throughout Europe around the mid-14th century and whose consequences he eye-witnessed himself or learned from reports shared by other Dominican convents.[4] Henry describes the bands of flagellants that roamed the German lands performing their rites,[5] and interprets their appearance in apocalyptic terms as a prefiguration of the coming of the Antichrist.[6] He refers to an earlier prophecy by a certain friar Robert (Uzès?) who, some thirty years before the plague outbreak, had foretold a great pestilence as God's punishment for the sins of mankind.[7] He portrays the massacres perpetrated against the Jews, accused of spreading the epidemic by poisoning water sources.[8] While emphasizing economic motivation and the desire for the Jews' wealth as the main driving force behind these massacres, Henry admits that the irregular spread of the contagion, which was "wandering around" as if by choice ("quasi eligendo grassaretur"), seemed to indicate human agency.[9] By browsing through Henry's chronicle, one gets the

2 On the *Chronicon*, see POTTHAST 1859, IX–XXXVII; SCHUMANN 1996; and the bibliography quoted by PALAZZO FORTHCOMING(1), n. 2.

3 HENRICUS DE HERVORDIA 1859, *Chronicon*, 3: "Tempora memorabiliora […] aut morbis et pestilentiis corrupta."

4 On Henry's account of the Black Death in the *Chronicon*, see my analysis in PALAZZO 2024, 86–90.

5 See HENRICUS DE HERVORDIA 1859, *Chronicon*, aetas VI, cap. 100, 280–282.

6 HENRICUS DE HERVORDIA 1859, *Chronicon*, aetas VI, cap. 100, 277: "Gens sine capite flagellariorum adventum Antichristi praenuntiavit."

7 See HENRICUS DE HERVORDIA 1859, *Chronicon*, aetas VI, cap. 99, 233.

8 See HENRICUS DE HERVORDIA 1859, *Chronicon*, aetas VI, cap. 100, 277: "Fontes, fluvii et putei per diversas provincias, ut dicebatur, intoxicabantur. Judei crudeliter mactabantur."

9 See HENRICUS DE HERVORDIA 1859, *Chronicon*, aetas VI, cap. 100, 280.

impression that the pandemic was a central element in a broader crisis that affected Europe at a political, religious, and social level in the mid-14th century.[10] Moreover, Henry lists a number of natural portents (earthquake, floods, appearances of ghosts and monsters, rain of owls and snakes, monstruous births) preceding and surrounding the epidemic, in line with his taste for the 'marvellous', for those *memorabiliora* that are the subject of his chronicle. However, in the *Chronicon* the 'extraordinary' is interweaved with naturalistic explanations.[11] Henry, for instance, accounts for the birth of a two-headed lamb in terms of Albert's theory of monstrous generation[12] and has resort to conjunctionist astrology by quoting a passage from Gherard of Cosvelde's stating that the flagellant movement was foreshadowed by an astral configuration.[13] In sum, the *Chronicon* not only describes the catastrophic consequences of the health crisis brought about by the plague epidemic, but also gives us an insight into its social, political, and cultural impact. Moreover, it sheds light on the complex reactions of medieval society and culture to the approaches and measures of the medical science of the time.

On the other hand, the *Catena aurea entium* (= *CAE*) is a gigantic encyclopedia exploring the various aspects of reality, from God to angels, from the

10 A similar interpretation of the plague outbreak as a result of a time of general crisis is given by Conrad of Megenberg in his *Tractatus de mortalitate in Alamannia*: see KRÜGER 1972, 839–862. On the scientific content of the treatise, see GOTTSCHALL 2006. Conrad also addressed the issue of plague in Book 2, chapter 33 of his *Buch von der natürlichen Dingen* (1348–50), a vernacular encyclopedia: see GOTTSCHALL 2003.

11 On this, see SMOLLER 2000, 168–171, 177–182.

12 See HENRICUS DE HERVORDIA 1859, *Chronicon*, aetas VI, cap. 99, 270; ALBERTUS MAGNUS 1987, *Physica*, II, tract. 3, cap. 3, 138,33–45.

13 See HENRICUS DE HERVORDIA 1859, *Chronicon*, aetas VI, cap. 100, 283–284. It is important to bear in mind that the astrology of conjunctions played an important role in the medical discussion around the causes of the plague outbreak with several *Pestschriften* linking the epidemic with the conjunctions of the major planets: see, e.g., Augustine of Trento's plague tractate, Jacme d'Agramont's *Regiment de preservació*, the *Compendium de epidemia* of the masters of the Paris medical faculty, the tractate of the anonymous practitioner of Montpellier, Simon de Couvin's allegorical poem *De judicio Solis in conviviis Saturni*, etc.: see ARRIZABALAGA 1994, 252–254; PALAZZO 2024, 74–81.

celestial spheres to the elements, from minerals to plants, from animals to mankind.[14] Structured in ten books, in turn subdivided into *ansae* (rings of the chains), the *CAE*, as a whole, contains no less than 5000 questions. Each question replies to a why-sentence ("*Cur* […]") with one or more excepts from a large number of theological, philosophical, scientific, and literary sources. The *CAE* belongs therefore to the genre of compilations.[15] Henry was able to find models for the question-and-answer arrangement, unusual for encyclopedic literature, in some important medieval scientific collections of questions, such as the medical *Quaestiones Salernitanae* or the pseudo-Aristotelian *Problemata*.[16] Not surprisingly, given its systematic structure and its attempt at comprehensiveness, the *CAE* covers all aspects of medical learning, from anatomy to embryology, from pharmacology to environmental medicine, from analysis of diseases to prevention and therapy, quoting from a vast array of medieval medical sources (both Graeco-Arabic sources translated into Latin and original Latin works).

Taken together, Henry's two major works give us an invaluable vantage point from which to examine his conception of sickness and provide us

14 ENRICO DI HERFORD 2004, *Tabula quaestionum VIII-X*, 215,1–9. Preserved in 8 manuscripts, it occupies ca. 500 two-column folios of the two Vatican manuscripts (Città del Vaticano, Biblioteca Apostolica Vaticana, Vat. lat. 4310, containing Books I–VII, and Vat. lat. 3025, containing Books VII.5,41–X). As yet, only Book 6 and part of 7 have been published thus far, while Book 1 is forthcoming: HENRICUS DE HERVODIA 2023(1), HENRICUS DE HERVODIA 2023(2) and HENRICUS DE HERVODIA FORTHCOMING. For the other parts of the work, I will refer to the text as preserved by manuscripts.

15 HENRICUS DE HERVODIA FORTHCOMING, *CAE*, Prol., 5,20–6,28: "[…] nunc ultimo quaedam de quolibet ente more problematum studiosius et exacte colligam et in unum librum compingam secundum veram et realem entium cohaerentiam et consequentiam primo ponens quaestiones et eisdem statim subinferens certas certorum doctorum in certis locis ut in pluribus responsiones. Et compilationem ipsam *Catenam entium auream vel problematum* fratris Henrici de Hervordia ordinis praedicatorum conventus Mindensis nominavi dividens ipsam in decem partes generales, quas etiam ulterius distinxi per ansas aliquot ipsam catenam continuantes et producentes et quasi per partes suas sibi invicem unam uni consequenter cohaerere facientes."

16 On this group of sources and their impact on the encyclopedic tradition, see VENTURA 2004; DRAELANTS 2005.

with two distinct perspectives, one more 'sociological', derived from the historical account of the *Chronicon*, the other strictly scientific, grounded in the medical theories cited in the *CAE*.

In what follows I intend to provide an overview of all parts and questions of the *CAE* that deal with health, sickness, diseases and related topics, thus exploring Henry's views on medical matter, and in particular in the field of nosology and pathology. Since most of these sections are still unedited, I thought it worthwhile to present two appendices with selected questions relevant for this discussion, made available for the first time.

Given the compilatory nature of the *CAE*, which is made up of more or less verbatim quotations from other sources, the analysis of its questions will serve to clarify Henry's familiarity with the medical literature read at his time as well as with the medical discussions taking place in medical schools and faculties. Studies have already been conducted on other parts of the *CAE*, which showed that Henry had diversified strategies for using and reworking his sources in different branches of knowledge (philosophy, theology, astronomy, mythography) and was at the forefront of certain cultural trends in the 14th century.[17] Even though he never reached the degree of university master and worked probably as a conventual lector over his entire career, [18] in the *CAE* he demonstrates his awareness of the most influential works of his time across various disciplines and appears well-informed about the doctrinal debates taking place in the academic environment in the late–13th and 14th centuries. By charting Henry's views on medical matter, it will also be possible to better define the nature and purpose of the *CAE*. It has been argued that this

17 VENTURA 2015(1), 454–462; PALAZZO 2022, PALAZZO 2023(1), and PALAZZO 2023(2); LOCONSOLE 2023; PANARELLI 2022; MARCON 2024; BONINI FORTHCOMING.

18 Henry is attested outside Germany to take part in the general councils of the Dominican order in Milan in 1340, in Lyon in 1348 and, maybe, in Narbonne in 1354: see SCHUMANN 1996, 17–19.

work, far from merely collecting quotations from its reference texts on different aspects of reality, is a 'philosophical manual' or *summa* that actually aims to compare the opinions of different sources and recreate, through its organization into questions and answers, scholarly discussions on the hottest and most controversial topics of the late Middle Ages. Moreover, since the *CAE* was intended for the lectors and *fratres studentes* of the German Dominican provincial and conventual schools, it also had a didactic function and served as a channel for the dissemination and popularization of the academic culture.[19] Therefore, the *CAE* is also an important witness to the ways in which the medical learning cultivated in major university centers and universities found its way into a non-specialist context (the German provincial and conventual schools) and was reworked and combined with other sources and traditions to suit the educational needs of the Dominican friars.

Plague and Epidemic Diseases

In Book 1, after addressing standard themes of Christian theology, Henry surveys the main figures of classical mythology. Henry dedicates *CAE* I.1,85 to "Sirenigres," the goddess of epidemics ("numen epidimiale"), progeny of Juno and Mars.

The answer deserves to be analyzed as it reflects standard medieval views on plague and epidemic diseases in general (the etymology of epidemic and pestilence [*pestilentia*], the aerist conception, symptoms, phases of the clinical course, etc.) based on a number of non-medical sources.

85. Cur Sirenigres, numen epidimiale, filia Iunonis dicitur.

Responsio: Albericus: »Quia ex Iunone per filium suum Martem genitum est.

19 VENTURA 2007, 139–140 and VENTURA 2009, 227, 238–239.

Est autem numen pessimum et saevissimum dictum Sirenigres, id est subitatio vel attractus mortis, a 'sires', quod est attractus, et 'nigres', mors. Ipsum etiam epidimia dicitur, id est 'super cognitionem', quia nescitur, quomodo veniat, ab 'epi', quod est supra, et 'demos', scientia. Et "pestilentia dicitur ‹a pesti› Graece, quod Latine sonat humor, quia pestem ferat, quo membra dissolvuntur et putrescunt, quasi 'pestilatia', vel dicitur a pascendo, quia, sicut incendium depascit" et toto corpore grassatur, quandoque cum glandulis venit et scrophulis vel apostematibus aliis quibuscumque, sicut diebus istis plus in tribulationibus nostris quam in codicibus vel scriptura videmus, et "gignitur ex aere venenoso et corrupto", unde et filia Iunonis fingitur«. In libro *De gestis Lombardorum*, cap. 4 legitur, quod tempore Iustiniani imperatoris "pestilentia maxima fuit in Liguria". "Coeperunt enim in inguinibus hominum vel aliis locis delicatioribus nasci glandulae, quas mox subsequebatur febrium intolerabilis aestus ita, ut in triduo homo extingueretur, et qui triduum exegisset, spem habebat vivendi". Quicumque funeri appropinquasset, extinguebatur etc. Nota de ephemera, parte IX. "Haec inguinaria ab inguinum percussione dicitur", a partibus illis incipiens et in totum hominem desaeviens "in tantum acuta, quod non habeat homo spatium temporis, quo vel vitam speret vel mortem horrescat, sed repentina labes cum morte veniat", ut tempore beati Gregorii factum legitur.

The first segment ("Quia ex Iunone […] Iunonis fingitur"), which Henry attributes to the third Vatican Mythography ("Albericus"), is in fact a tacit quote from the mythographic section of his own *Chronicon*.[20] Henry refers to *Sirenigres* as an evil and very fierce deity, suggesting an improbable Greek etymology according to which Sirenigres would mean "death attraction" from "sires" (attraction) and "nigres" (death). This deity is also called epidemic, which, according to another unlikely etymology, would mean "above knowledge" from 'epi', which is 'above', and 'demos', which means 'science'. Indeed, it is not known how an epidemic breaks out ("quomodo veniat").

20 HENRICUS DE HERVORDIA, *Chronicon*, Hildesheim, Dombibliothek, HS 665, II, f. 149rb: "Syrenigres numen est epydimiale vel pestilentiale natum ex Iunone per Saturnum vel Martem. Est autem numen pessimum et sevissimum dictum Syrenigres, id est subitatio vel attractus mortis, a 'syres', quod est attractus, et 'nygros', mors. Sicud epydimia dicitur quasi 'supra cognitionem', quia nescitur, quomodo veniat, ab 'epy', quod est supra, et 'demos', scientia. Et pestilentia dicitur a pesty Grece, quod Latine sonat humor, quia pestem ferat, quo membra dissolvuntur et putrescunt, quasi quasi 'pestilatia', vel dicitur a pascendo, quia, sicud incendium depascat et toto corpore grassatur, quandoque cum glandulis venit et scropulis vel apostematibus aliis quibuscumque, sicud diebus istis plus in tribulationibus nostris quam in codicibus vel scriptura videmus, et gignitur ex aere corrupto, unde et filia Iunonis fingitur."

Henry tacitly quotes the chapter Hugutio dedicates to the plague in his *Derivationes*,[21] arguing that *pestilentia*, which derives from the Greek 'pestis', meaning 'humor' in Latin, is what brings the plague, causing the destruction and putrefaction of the limbs. According to another etymology, pestilence is derived from "grazing" ("a pascendo"), because, just as fire devours ("depascit") a body, pestilence ravages it, producing buboes, scrofulas, and apostemes. Moreover, pestilence originates from poisonous or corrupt air, which is why, Henry adds, it is represented as Juno's daughter, an allusion to Juno's aerial nature.

Henry refers to the same chapter of Hugutio's *Derivationes* once again at the end of the above text, arguing that *pestilentia* is called inguinal because it first strikes in the groin and then spreads to all parts of the body. It is a disease so acute that no time is left for hope of survival or fear of death, but the sickness ("labes") comes suddenly along with death. It is interesting to note that Hugutio's source is actually a text from the *Etymologiae* by Isidor of Seville (chapter 6 of Book 4) on the nature of epidemics that was very influential over the course of the Middle Ages and thus, through Hugutio's quotations, Henry endorses the Isidorean conception.[22] Henry adds that the terrible ef-

21 HUGUTIO 2004, *Derivationes*, P72 "Pesti" §§ 1–6, 932: "*[1] PESTI grece, latine humor dicitur, unde hec pestis, quidam morbus, quando scilicet membra dissolvuntur et putrescunt, vel dicitur pestis quasi pastis a pascendo, quia veluti incendium depascat dum descendit per totum corpus, et gignitur ex corrupto aere*; [2] eadem et contagium dicitur et contagio a contingendo, quia quem tetigerit polluit, vel quia tactu unius descendit per omnes; [3] *ipsa et inguina ab inguinum percussione*, eadem et lues a labe vel luctu vel luendo dieta, *que tanto acuta est ut non habeat spatium temporis quo vel vita speretur vel mors, sed repentinus morbus simul cum morte venit*; [4] unde hec pesticula -e, pesticus -a -um et pestuosus -a -um, ambo pro peste plenus, unde pestuose -ius -me et hec pestuositas. [5] Et componitur cum lentos et dicitur pestilentus -a -um et hic et hec et hoc pestilens -tis, idest plenus peste, et utrumque comparatur -or -mus, [6] unde pestilente et pestilenter -ius -me adverbia et hec pestilentia, idem quod pestis, sed proprie pestis est proprium nomen illius morbi, pestilentia vero est id quod ex se effìcit, et inde dicitur pestilentia secundum quosdam *quasi pastulentia, quia sicut incendium depascat dum descendit per totum corpus*." (My italics).

22 ISIDORUS 1911, *Etymologiae*, IV, cap. 6, §§ 17–19: "*Pestilentia* est contagium, quod dum unum adprehenderit, celeriter ad plures transit. *Gignitur enim ex corrupto aere*, et in

fects of pestilence in these times can be seen more in real disasters than in books and the Holy Scripture ("sicut diebus istis plus in tribulationibus nostris quam in codicibus vel scriptura videmus"). The sentence, which may be an allusion to the beginning of the first of Gregory the Great's *Homiliae in Evangelia*,[23] touches on a crucial issue for medieval accounts of epidemics in general and of the Black Death in particular, namely the question of how far narratives in medieval sources are realistic and chronicle historical events and how far, on the contrary, they transfigure historical reality, reframing facts according to pre-existing literary models and sources.

The mosaic of quotations is completed by a quote from the *Historia Langobardorum* by Paul the Deacon (Paulus Diaconus), who describes the development of the disease, from the first appearance of the buboes in the groin and other delicate parts of the body to a bout of unbearable fever, until death, which occurs within three days. Those who had made it through the third day had hope of survival. Moreover, the epidemic was so lethal that whoever approached the funeral rites was to die.[24] The *Historia Langobardorum* was one of the most authoritative sources on the Justinianic plague in the West. To Paul, for example, we owe the description of the epidemic that ravaged Rome in 680.[25] It should not cause surprise, therefore, to find in the *Chronicon* a long verbatim quotation from Paul's text to account for the plague that reached

visceribus penetrando innititur. Hoc etsi plerumque per aerias potestates fiat, tamen sine arbitrio omnipotentis Dei omnino non fit. *Dicta autem pestilentia, quasi pastulentia, quod veluti incendium depascat*, ut (Virg. Aen. 5,683): *Toto descendit corpore pestis*. Idem et contagium a contingendo, quia quemquem tetigerit, polluit. *Ipsa et inguina ab inguinum percussione*. Eadem et lues a labe et luctu vocata, *quae tanto acuta est ut non habeat spatium temporis quo aut vita speretur aut mors, sed repentinus languor simul cum morte venit.*" (My italics).

23 GREGORIUS MAGNUS 1999, *Homiliae in evangelia*, I, hom. 1, 1, 6,14–16: "Nam gentem super gentem exsurgere earumque pressuram terris insistere plus iam in nostris tribulationibus quam in codicibus legimus."

24 PAULUS DIACONUS 1878, *Historia Langobardorum*, II, 4, 86–87.

25 On the medical relevance of Paul's work, see MENÉDEZ BUEYES 2012.

Italy during the 20th year of the reign of the emperor Justinian. More remarkable, by contrast, is the fact that the very same text is quoted by Henry once again when it comes to describing the devastating effects of the Black Death.[26]

PAULUS DIACONUS 1878, *Historia Langobardorum*, II, 4, 86–87	HENRICUS DE HERVORDIA, *Chronicon*, sexta aetas, cap. 51; Wolfenbüttel, Cod. Guelf. 11b Helmst., f. 55va–b	HENRICUS DE HERVORDIA 1859, *Chronicon*, sexta aetas, cap. 99; ed. Potthast, 274
Huius temporibus in provincia praecipue Liguriae maxima pestilentia exorta est. Subito enim apparebant quaedam signacula per domos, hostia, vasa vel vestimenta, quae si quis voluisset abluere, magis magisque apparebant.	Vicesimo anno Iustiniani facta fuit magna mortalitas in Ytalia incipiens a Lyguria, ita ut pene destitueretur habitatoribus terra illa. Ex *gestis Lombardorum*, l. ii, cap. 4: hoc tempore in prouincia Ligurie maxima pestilentia exorta est. Subito enim apparebant quedam signacula per domos, hostia, vasa vel vestimenta, que siquis voluisset abluere, magis magisque apparebant.	Et in ejus Principio celum spissa caligine terras | Pressit, et ignavos inclusit nubibus estus, | hominumque viscera primo torrentur flammisque fatiscunt, ut dicetur anno Karoli IV. tertio.
Post annum vero expletum coeperunt nasci in inguinibus hominum vel in aliis deligatioribus locis glandulae in modum nucis seu dac-	Post annum uero expletum ceperunt nasci in inguinibus hominum uel in aliis locis delicatioribus glandule in modum nucis seu dactuli,	Ceperunt nasci in inguinibus hominum vel in aliis locis delicatioribus glandule in modum nucis vel

26 The pages that Paul the Deacon dedicates to the plague have also been recognized as an important source for Boccaccio in the *Decameron*: BRANCA 1990, 381–387. This fact that would explain the analogies between Henry's account of the Black Death ravaging German lands and Boccaccio's description of the plague outbreak that took place in Florence. The importance of the *Historia Langobardorum* for Boccaccio is confirmed by the fact that an epitomized version of this text was included in one of his autographs: see PANI 2014.

tuli, quas mox subsequebatur febrium intolerabilis aestus, ita ut in triduo homo extingueretur. Sin vero aliquis triduum transegisset, habebat spem vivendi. Erat autem ubique luctus, ubique lacrimae. Nam, ut vulgi rumor habebat, fugientes cladem vitare, relinquebantur domus desertae habitatoribus, solis catulis domum servantibus. Peculia sola remanebant in pascuis, nullo adstante pastore.	quas mox subsequebatur [55va] febrium intolerabilis estus, ita ut in triduo homo extingueretur. Sin uero aliquis triduum transegisset, habebat spem viuendi. Erat autem ubique luctus, vbique lacrime. Nam ut vulgi rumor habebat querentes cladem vitare, relinquebantur domus deserte habitatoribus solis catulis domum seruantibus, peculia sola remanebant in pascuis nullo astante pastore.	dactili. Quas mox subsequebatur febrium intollerabilis estus, ita ut in triduo homo extingueretur. Sin vero aliquis triduum transegisset, habebat spem vivendi. Erat autem ubique luctus, ubique lacrime. Nam ut vulgi rumor habebat, querentes cladem vitare hinc inde fugerunt. Et relinquebantur domus deserte habitatoribus solis catulis domos servantibus. Peculia sola remanebant in pascuis, nullo astante pastore.
Cerneres pridem villas seu castra repleta agminibus hominum, postera vero die universis fugientibus cuncta esse in summo silentio.	Cerneres pridem villas vel castra repleta agminibus hominum, postera uero die universis fugientibus, cuncta esse in summo silentio.	Cerneres pridem villas seu castra repleta agminibus hominum, postera die, universis vel mortuis vel fugientibus, cuncta esse in summo silentio.
Fugiebant filii, cadavera insepulta parentum relinquentes, parentes obliti pietatis viscera natos relinquebant aestuantes. Si quem forte antiqua pietas perstringebat, ut vellit sepelire proximum, restabat ipse insepultus; et dum obsequebatur, perimebatur, dum funeri obsequium praebebat, ipsius funus sine obsequio	Fugiebant filii cadauera insepulta parentum, parentes obliti pietatis viscera natos relinquebant estuantes. Siquem antiqua forte pietas perstringebat, ut vellet sepelire proximum, restabat ipse insepultus, et dum obsequebatur, perimebatur, dum funeri obsequium prebebat ipse, funus sine obsequio manebat.	Fugiebant quoque filii cadavera parentum insepultorum. Parentes obliti pietatis viscera, natos relinquebant estuantes. Si quem antiqua forsitan pietas perstringebat, ut vellet sepelire proximum, restabat ipse insepultus, et dum obsequebatur, perimebatur. Dum funeri obsequium prebebat, ipse [*sic*] funus

manebat. Videres saeculum in antiquum redactum silentium: nulla vox in rure, nullus pastorum sibilus, nullae insidiae bestiarum in pecudibus, nulla damna in domesticis volucribus. Sata transgressa metendi tempus intacta expectabant messorem; vinea amissis foliis radiantibus uvis inlaesa manebat hieme propinquante. Nocturnis seu diurnis horis personabat tuba bellantium, audiebatur a pluribus quasi murmur exercitus. Nulla erant vestigia commeantium, nullus cernebatur percussor, et tamen visum oculorum superabant cadavera mortuorum. Pastoralia loca versa fuerunt in sepulturam hominum, et habitacula humana facta fuerant confugia bestiarum. Et haec quidem mala intra Italiam tantum usque ad fines gentium Alamannorum et Baioariorum solis Romanis acciderunt. Inter haec Iustiniano principe vita decidente, Iustinus minor rem publicam aput Constanti-	Videres seculum in antiquum redactum silentium, nulla vox in rure, nullus pastorum sibilus, nulle insidie bestiarum pecudibus, nulla dampna in domesticis volucribus, sata transgressa metendi tempus intacta expectabant messorem, vinea amissis foliis radiantibus uuis illesa manebat hyeme propinquante, nocturnis sive diurnis horis personabat tuba bellantium, audiebatur a pluribus quasi murmur exercitus, nulla erant vestigia commeantium, nullus cernebatur percussor, et tamen visum oculorum superabant cadavera mortuorum, pastoralia loca versa fuerunt in sepulturam hominum et habitacula humana facta fuerunt confugia bestiarum. Et hec quidem mala intra Ytaliam tantum usque ad fines gentium Alemannorum et Baioariorum solis Romanis acciderunt.	sine obsequio manebat. Videres seculum in antiquum redactum silentium. Nulla vox in rure, nullus pastorum sibilus. Nulle insidie bestiarum pecudibus. Nulla dampna in domesticis volucribus. Sed corvorum subito nimis multiplicatorum tota die crocitationes super viventes et super mortuos hyatus. Sata transgressa metendi tempus intacta expectabant messorem. Vinea amissis foliis, radiantibus uvis, illesa manebat hyeme propinquante. Nullus cernebatur percussor, et tamen visum oculorum superabant cadavera mortuorum. Intra civitates cymiteria sepeliendis non sufficiebant, unde et in campis sepulturas hominum novas faciebant. Simile quid dictum est anno Justianiani …

nopolim regendam suscepit.		

The recourse to Paul the Deacon's account of the Justinianic plague to depict the events related to the plague pandemic of the mid-14th century is part of the strategy of 'rewriting' the facts of the Black Death that Henry pursued in the *Chronicon*. Other elements contribute to this strategy: Henry stylizes the plague metaphorically as a blaze[27] – a metaphor we have already encountered in Isidor of Seville –, applies the Ovidian account of the plague on the island Oenopia in the time of king Aeacus to the Black Death,[28] and reshapes an event that occurred in the town of Hameln, near Minden, through the narrative framework of an anecdote narrated by Albert the Great.[29] In other words, Henry makes use of a vast tradition of images, metaphors, and conceptual models as a narrative frame through which he rethinks and restructures the reality of the pandemic, which he experienced directly as an eyewitness or knew through the first-hand accounts of his contemporaries.

27 HENRICUS DE HERVORDIA 1859, *Chronicon*, aetas VI, cap. 99, 274: "[…] tam ingens, tam pestifer ignis epydimialis conflagravit."

28 See HENRICUS DE HERVORDIA 1859, *Chronicon*, aetas VI, cap. 100, 285; Ovidius, *Metamorphoses* VII,523–613.

29 HENRICUS DE HERVORDIA 1859, *Chronicon*, aetas VI, cap. 100, 285–286: "Quarto anno Karoli in opido Hamelen supra Mindam in metis Westphalie et Saxonie pestis quedam singularis oboritur. Siquidem fovea fodiebatur, purgabatur et eruderabatur in area civis cujusdam ibidem. Fossor existens in imo, subito, nescitur a quo tactus, corruit et exspiravit. Alius descendit ad extrahendum primum jam frigidum, et ipse quoque mox extinctus est. Fama per opidum et terram diffunditur. Omnes admiratione metuque percelluntur. Lues quidem videbatur, sed causa non apparuit. Tertius cautius agere volens, fune forti cingitur circa corpus, per quem de fovea, cum opus esset, extraheretur. Ad medium fovee descendens pervenit, totoque corpore stupidus esse cepit et rigere. Signum dat. Semivivus extrahitur, aliquamdiu sic permanens. Post reviviscens, tempore longo decubuit, et tandem sanatur. Quartus descendens in foveam similiter ut primi duo periclitatur." See ALBERTUS MAGNUS 2004, *Meteora*, III, 2, 12, 141,30–72. For the differences between the two texts and the two distinct explanatory models used by the two thinkers to unravel the mysterious cause of air corruption in the well or the cave, see my remarks in PALAZZO 2024, 89–90.

Let us now return to the *CAE*. The *ansa* 4 of Book 2, devoted to the concept of place ("locus"), contains a number of questions dealing with the wholesomeness of different places ("loca"), based on borrowings from Albert the Great's *De natura loci*.[30] Within this context, Henry also addresses the environmental origin of pestilences, a notion that played a crucial role in the debate on the aetiology of plague triggered by the mid-14th-century pandemic outbreak. In *CAE* II.4,25, for instance, Henry quotes the *De natura loci* (I.13) to explain why places that are very humid, but not very warm, are poisonous and pestiferous. Interestingly, Henry relates the March of Brandeburg and Friesland to Albert's passage, thus adapting Albert's theory to his own experience.[31] In the *CAE* II.4.33, Henry cites another passage from Albert's *De natura loci* on the subject of ponds, marshes, and swamps, arguing that these wetlands are pestilential and poisonous because they are filled with a swampy vapor that contaminates the air, giving it a poisonous quality, so that the air, when inspired, either kills as poison or causes diseases according to the nature of those who inhale it.[32] The aerist model as a conceptual key to explain the aetiology of pestilential and contagious diseases underlies this Albert passage

30 See, e.g., Enrico di Herford 1987, *Tabula quaestionum I–VII*, II.4,27, 35,53–54: "Cur locus habens montes altos ad meridiem est sanus ad inhabitandum"; II.4,28, 35,55–56: "Cur, si locus sit ad occidentem et montes ad orientem, non est multum sanus"; II.4,29, 36,57–58: "Cur loco existente ad oriente et montibus altis ad occidentem nec adhuc multum sanus est."

31 *CAE* II.4,25, Erfurt, Universitätsbibliothek Erfurt, Dep. Erf., CA 2° 370, f. 81rb: "Cur loca multum humida et parum calida sunt venenosa et pestifera ut Marchia Brandeburgensis et Frisia et similiter loca paludosa. Responsio Alberti *ibidem* […]."

32 *CAE* II.4,33, Erfurt, Universitätsbibliothek Erfurt, Dep. Erf., CA 2° 370, f. 81vb: "Cur loca stagnis et aliis aquis palustria et paludibus venenosa sunt et pestifera. Responsio *ibidem*: Quia vaporosa sunt ex fumo palustri, quo aerem inficiunt et corrumpunt et in qualitatem venenosam permutant, qui intractus vel ut venenum interficit vel morbos secundum qualitates inspirantis inducit. Fundus etiam stagni et lutositas eius corrupta sunt, nisi quando lapidosus est fundus et quando purgatur aquis magnis influentibus ipsum, quod fit ex calore accidentali extraneo et corrumpente." Albertus Magnus 1980, *De natura loci*, 1, cap. 13, 22,88–95.

quoted by Henry.[33] The insistence on the concept of poison is noteworthy. It has been claimed that the plague treatises understood the plague epidemic as a form of poisoning, identifying poison as the cause and agent of the disease and not simply using it as a metaphor for the epidemic.[34] Similarly, Albert and Henry refer to poison not as a metaphor for the process of contamination of the air and those who breath it, but as an actual substance produced by smoke emanating from a swampy environment, acting on air, affecting a living body, and causing diseases or death. In the second part of question *CAE* II.4.33 it is added that soil and mud in humid areas become corrupted, unless they are rocky or a large amount of running water purifies them.

The link between air and epidemics is clearly established in a passage from the *Pantegni* by Constantine the African quoted by Henry in the *ansa* 3 of Book 4:

CONSTANTINUS AFRICANUS 2011, *Theorica Pantegni*, V partic., cap. 11, 245,18–247,3 (f. 57r–v)	*CAE* IV.3,20, Erfurt, Universitätsbibliothek Erfurt, Dep. Erf., CA 2° 370, f. 126vb
Hic autem morbus uocatur epidimiosus, quia multiplex et subitus, uno eodemque tempore multis ingruens hominibus. Huius morbi causa est uniuersalis mutationis circumdantis aeris quod duabus mutatur ex causis, ex situ regionis ex qualitate temporis.	Cur aer aliquando fit epidimiosus. Responsio *ibidem*, cap. 10: Morbus vocatur epidimiosus, quia multiplex et subitus uno eodemque tempore multis ingruit hominibus. Et causa eius est universalis mutatio aeris nos circumdantis, qui ex duabus causis mutatur. Ex situ regionis et ex qualitate temporis.
Mutatio aeris propter locum, ex fumo fit dissolutio. Herbarum fructuum, siue similium putrefientium,	Ex primo sic: herbae, fructus et huiusmodi putrefiunt et fumus ab eis dissolutus ascendit et miscetur aeri.

33 On the concept of air corruption in the *pestschriften*, see, at least, DUCOS 2001.

34 GIBBS 2019, ch. 4. On this theory, see ABERTH 2021, Introduction and ch. 1. See also JACQUART 2022.

quia dum ascendit miscetur aeri. Similiter ex fumo lacuum criptarum, fossarum, *coporum* [*sic*] mortuorum locum illum uicinantium, siue inter locum positorum uel ex fumo mortuorum in bello morientium, uel ex pestilentia bestiarum. Vnde mutatus aer populares mortificat homines, quod contingit atheniensibus de mortuorum ethiopum corruptionibus.	Similiter de lacubus et fossis corporum mortuorum vel corporibus multis in bello mortuorum vel ex pestilentia bestiarum aer, ut dictum est, mutatur et sic mutatus homines plures mortificat.
Mutatio substantie aeris est ex temporibus anni cum naturam suam exierint, ut si hiemps calida fuerit et sicca, et sine pluuia, estas uero pluuiosa, uer frigidum et siccum, autumpnus calidus et humidus. Vnde locis pestilentia euenit, et quinances, facierum uarietates, peracute febres, cum accidentium pessimitate. Causa hec minor est priore. Si ergo intelligi debet mutatio aeris ex temporibus anni que non tantum homines mortificat, sed et bestias quod ex corruptionibus fit humorum et spirituum.	Ex secundo sic: cum anni tempora naturam suam exierint, aer in substantia mutatur. Si enim hiems calida fiat et sicca et sine pluvia, aestas vero pluviosa, ver frigidum et siccum, autumnus calidus et humidus, pestilentia evenit, quae non homines tantum mortificat, sed et bestias, quod ex corruptionibus humorum fit et spirituum.

The question is part of a set of questions dealing with the impact of air on people's health conditions.[35] It is worth noticing that in Book 4, which is dedicated to the four elements, Henry also appeals to several Galenic works on different issues.[36] No doubt, Henry excerpts the passage from the *Pantegni* be-

35 See, e.g., Enrico di Herford 1987, *Tabula quaestionum I–VII*, IV.3,18, 64,25: "Cur aer temperatus laudabilis sit" (quoted from the *Pantegni*); IV.3,21, 64,28–29: "Cur aer in locis palustribus et aliis locis corruptis pestilentialis est" (it is an internal cross-reference to *CAE* II.4,25 and following questions); IV.3,22, 64,30: "Cur aer nativus quaerendus est aegrotanti" (quoted from Hippocrates' *Aphorisms*).

36 For example, he quotes the *De elementis* regarding the number of the elements (*CAE* IV.1,26), the *De complexionibus* on the origin of flame (*CAE* IV.2,8) and the impact of the different quality of water on health conditions (*CAE* IV.4,81–88), and the *De accidente et*

cause it expounds the gist of the Hippocratic-Galenic aerist theory.[37] First, a disease is defined as epidemic ("epidimiosus") when it affects many people at the same time, immediately, and in different ways. Second, the general cause of an epidemic is identified as the transformation of the air surrounding people. Finally, the particular causes of air contamination are detailed and linked either to the geography of a region or to the quality of seasonal weather conditions. In the former case, the air is mixed with and contaminated by the fumes released from rotten herbs and fruits or by the miasmas emanating from ponds, graves containing corpses, bodies of dead soldiers, and the carcasses of plague-hit animals. When the seasons are not in accordance with their nature, and thus winter is warm and dry, summer rainy, etc., the air is transformed substantially ("in substantia"). As a consequence, a pestilence breaks out, leading to the death of both human beings and animals by corrupting their humors and spirits.

Environmental Factors and Diseases

The way in which the unfolding of the seasons of the year affects people's bodies, causing manifold illnesses, is, however, focused on in the *ansa* 5 of Book 2, dedicated to time, eternity, and seasons. In the question II.5,8–38, Henry quotes around 30 different loci from Galen's *Commentary* on Hippocrates' *Aphorisms*.[38] As a general rule, it is argued that seasonal changes very often produce diseases.[39] Then, Henry goes on to quote aphorisms – and Ga-

morbo on the narrowness of pores as cause of a cold disease (*CAE* IV.1,9).

37 See, e.g., HIPPOCRATES 1931(2), *Nature of Man*, ch. 9, 24: "ὅταν μὲν ὑπὸ νοσήματος ἑνὸς πολλοὶ ἄνθρωποι ἁλίσκωνται κατὰ τὸν αὐτὸν χρόνον, τὴν αἰτίην χρὴ ἀνατιθέναι τούτῳ ὅ τι κοινότατόν ἐστι καὶ μάλιστα αὐτῷ πάντες χρεόμεθα· ἔστι δὲ τοῦτο ὃ ἀναπνέομεν."

38 On the meteorological aspects of the Hippocratic texts, see LIEWERT 2015.

39 *CAE* II.5,13, Erfurt, Universitätsbibliothek Erfurt, Dep. Erf., CA 2° 370, f. 85rb: "Cur mutationes temporum maxime generant morbos, et in temporibus magnae mutationes aut frigiditatis aut aestus et alia secundum rationem sic, Hippocrates partic. 3 aphor. 1"; see

len's related comments – linking pathologies to a specific season and climatic conditions. For example, in summer, quartans become shorter;[40] southern and northern winds bring about different illnesses;[41] dry seasons cause severe sicknesses;[42] while autumn produces extremely acute diseases, spring is healthy and least deadly;[43] moreover, autumn is bad for those affected by phthisis,[44] etc.

Seasons are also said to have a different impact on the health of people of different ages.[45] Therapies and medicaments must be applied by taking into consideration the period of the year.[46] In the questions 32 to 35, Henry

HIPPOCRATES 1487, *Aphorismi*, III, 1, f. 20rb (HIPPOCRATES 1931(1), *Aphorisms*, 122).

40 *CAE* II.5,11, Erfurt, Universitätsbibliothek Erfurt, Dep. Erf., CA 2° 370, f. 85ra: "Cur tempore aestatis quartanae ut multum fiunt breves, autumnales vero longae, et maxime, quae ad hiemem coniunguntur [*coni. ex* coniungitur], Hippocrates partic. 2, aphor. 25"; see HIPPOCRATES 1487, *Aphorismi*, II, 25, f. 17vb (HIPPOCRATES 1931(1), *Aphorisms*, 114).

41 *CAE* II.5,16, Erfurt, Universitätsbibliothek Erfurt, Dep. Erf., CA 2° 370, f. 85va: "Cur in temporibus, quando flant austrini venti, gravatur auditus, caligatur visus et pigrescit motus, ut Hippocrates *ibidem*, aphor. 6"; see HIPPOCRATES 1487, *Aphorismi*, III, 6, f. 20va (*recte* HIPPOCRATES 1931(1), *Aphorisms*, aph. 5, 122); *CAE* II.5,17, Erfurt, Universitätsbibliothek Erfurt, Dep. Erf., CA 2° 370, f. 85vb: "Cur tempore boreali, id est cum Boreas flaverit multum, tusses faringhes, ventres duri, dissuriae, horrores, dolores laterum et pectoris expectabuntur, Hippocrates ibidem"; see HIPPOCRATES 1487, *Aphorismi*, III, 6, f. 20va–b (*recte* HIPPOCRATES 1931(1), *Aphorisms*, aph. 5, 122).

42 *CAE* II.5,19, Erfurt, Universitätsbibliothek Erfurt, Dep. Erf., CA 2° 370, ff. 85vb–86ra: "Cur in siccis temporibus acutae aegritudines fiunt, *ibidem* aphor. 8"; see HIPPOCRATES 1487, *Aphorismi*, III, 8, f. 20vb (*recte* HIPPOCRATES 1931(1), *Aphorisms*, aph. 7, 122).

43 *CAE* II.5,21, Erfurt, Universitätsbibliothek Erfurt, Dep. Erf., CA 2° 370, f. 86ra: "Cur tempore autumnali acutissimae aegritudines et maxime mortiferae fiunt ut in pluribus, ver vero sanissimum est et minime mortiferum, Hippocrates *ibidem*, aphor. 10"; see HIPPOCRATES 1487, *Aphorismi*, III, 10, f. 21ra (*recte* HIPPOCRATES 1931(1), *Aphorisms*, aph. 9, 124).

44 *CAE* II.5,22, Erfurt, Universitätsbibliothek Erfurt, Dep. Erf., CA 2° 370, f. 86rb: "Cur tempus autumnale phtisicis malum est, aphor. 11"; see HIPPOCRATES 1487, *Aphorismi*, III, 11, f. 21ra (*recte* HIPPOCRATES 1931(1), *Aphorisms*, aph. 10, 124).

45 *CAE* II.5,30, Erfurt, Universitätsbibliothek Erfurt, Dep. Erf., CA 2° 370, f. 87va: "Cur tempore veris pueri et in principio aestatis infantes et bene degunt, id est vivunt, et maxime sani sunt; aestate vero et usque ad medium autumni senes; reliqua vero parte autumni et hieme medii aetate, id est iuvenes, aphor. 19"; see HIPPOCRATES 1487, *Aphorismi*, III, 19, f. 22vb (*recte* HIPPOCRATES 1931(1), *Aphorisms*, aph. 18, 128). The reply to this question, as well as another two (*CAE* II.5,29 and 31), is attributed by Henry not to Galen, but to Oribasios.

46 *CAE* II.5,36, Erfurt, Universitätsbibliothek Erfurt, Dep. Erf., CA 2° 370, f. 88vb: "Cur

quotes 4 aphorisms in a row that detail the diseases prevailing in each of the four seasons. Overall, this section provides us with a substantial part of the Hippocratic-Galenic pathological and nosological concepts, cataloguing various diseases, clarifying how humoral imbalances lead to them, and illustrating their climatic causes. From the analysis of the Galen quotations in this part of the *CAE* it emerges that Henry quotes Constantine the African's version of Galen's commentary, following his source text with a certain freedom. The synopsis below, comparing *CAE* II.5,33 and the corresponding passage in Galen's commentary according to the 1487 Venetian edition, reveals a deliberate process of rewording designed to make Galen's text easier to read: we notice the addition of a few explanatory comments (highlighted in italics) and a tendency to condense the source text. We cannot exclude, however, that some of these changes were occasioned by the copy of Constantine's version that Henry had at his disposal.

GALENUS 1487, III, 22, f. 23ra	*CAE* II.5,33, Erfurt, Universitätsbibliothek, CA 2° 370, f. 88ra–b
Estate uero quedam horum et febres continue et causon et tertiane plurime et uomitus et diarie et oculorum et aurium dolores et oris ulcerationes et pudendorum putredines et desudationes.	Cur tempore aestatis quaedam harum aegritudinum fiunt: et febres continuae et causon et tertianae plurimae et vomitus et diarriae et oculorum et aurium dolores et oris ulcerationes et pudendorum putredines et desudationes, Hippocrates aphor. 22.
In estate teste Hy. vernales nascun-	Responsio Galeni *ibidem*: Quidam vernales morbi nascuntur in aestate.

tempore aestatis purganda sunt superiora, tempore autem hiemis inferiora. Responsio Galeni 4 partic. aphor. 4"; see HIPPOCRATES 1487, *Aphorismi*, IV, 4, f. 25ra (HIPPOCRATES 1931(1), *Aphorisms*, 134); *CAE* II.5,37, Erfurt, Universitätsbibliothek Erfurt, Dep. Erf., CA 2° 370, f. 88vb: "Cur temporibus sub Cane et ante Canem molestae sunt *pharmaciae* [: purgationes *Hipp*.], aphor. 5, partic. 4"; see HIPPOCRATES 1487, *Aphorismi*, IV, 5, f. 25ra (HIPPOCRATES 1931(1), *Aphorisms*, 134).

tur morbi: unde initium estatis intelligitur. Sicut enim initium estatis veri in aere assimilauit. sic et hic in infirmitatibus generandis.	Sicut enim initium aestatis veri in aere assimilatur, sic et in infirmitatibus generandis.
Dixit tamen ex his quosdam morbos estati proprios. scilicet febres continuas: et causon: et tertianas: et omnia que de colera fiunt rubea.	Febres autem continuae, causon et tertianae et omnia, quae de cholera rubea fiunt, sunt morbi proprii aestati, *quae est cholerae generativa et multiplicativa*.
Vomitus enim est causa cum colera, id est humores natant in ore stomachi ebulientia: diarie cum petunt inferiora: ophtalmiae cum impleant capita. Alia quoque praeter hec de capitum nascuntur plenitudine, que cum in eis adunata expellunt a se capita: et a membris eiiciantur in membra: oris faciunt ulcerationes colera a capitibus descendente rubea. Putredines quoque in uulneribus non sepe nascuntur in estate: nisi cum in humiditatem mutant: aut cum uentis careat: uel auster suflat: siquem uentum habeat. Estas enim si a cursu sue nature in humiditatem uenerit: et sine uentis fuerit non solum in uulneribus putredinem facit: sed etiam in omnibus membris sicut Hypo. in 3° epidimie. Sed tamen si estas in paruam humiditatem se mutauerit in uulneribus paruam gignit ex parua occasione putredinem: causa caloris et humiditatis.	Vomitus etiam tunc causatur cum cholera rubea, id est humores cholerae rubeae natant in ore stomachi ebullientia. Diarriae, cum petunt inferiora. Ophtalmiae, cum impleantur capita. Alia autem praeter haec de capitis nascuntur plenitudine, *sicut dolores aurium* et ulcerationes oris per choleram rubeam a capite ad membra descendentem. Putredines etiam nascuntur, cum aestas in humiditatem innaturalem mutetur per pluvias nimias et carentiam ventorum. Tunc enim in vulneribus et pudendis occasione parva putredinem gignit causa caloris et humiditatis, *quae putredinis sunt generativa*.
Desudationes in exteriori nascuntur cute: que sicut uulnera cutem exasperant exteriorem quorum causa est multus sudor colericus: unde heleni huiusmodi pustulas abusiue uocant desudationes.	Desudationes etiam in cute nascuntur, *id est parvae pustulae quasi de sudoris materia factae*, et sicut vulnera cutem exasperant, quarum causa est multus sudor cholericus, unde abusive pustulas istas heleni appellant desudationes.

The issue of the interaction between environmental factors and well-being is taken up once again in Book 5. In this part of the *CAE* Henry investigates weather and climate phenomena (e.g., comets, thunders, lightning, rain, hail, clouds, parhelia, etc.) and geological events (e.g. earthquakes) by drawing massively on Albert's *Meteora*. In the final section of the first *ansa*, however, he borrows a number of passages from the pseudo-Aristotelian *Problemata*, some of which concern the winds and their impact on human health.[47] In other words, the very same topics broached in the passages of Galen's *Commentary* on the *Aphorisms* quoted in Book 2 are also addressed in *CAE* V.1 on the basis of this pseudo-Aristotelian source, whose importance for medieval medical discussions is widely acknowledged.

Minerals, Plants, Animals, and Mankind

In Books 6 and 7, which deal respectively with minerals and plants, relying mostly on Albert the Great's works (*De mineralibus*, *Meteora* and *De vegetabilibus*), Henry also delves into the therapeutical and prophylactic properties of mineral and vegetable substances on the basis of medical sources renowned for pharmacology:[48] Galen's *De simplicium medicamentorum facultatibus*, Avicenna's *Liber canonis*, Costantine the African's *Pantegni* and *De gradibus*, Isaac Israeli's *De diaetis particularibus* and *De diaetis universalibus*, the *Circa instans*,[49]

47 See, e.g., ENRICO DI HERFORD 1987, *Tabula quaestionum I-VII*, V.1,123, 96,236: "Cur austri sicci et inaquosi febriles sunt"; V.1,127, 96,241–242: "Cur temporum mutationes et ventorum generant et dissolvunt et determinant aegritudines et faciunt"; VI.1,128, 96,243: "Cur hieme boreali facta, si ver pluviosum fuerit et austrinum, aestas morbida fit febribus et opthalmiis"; etc. According to Iolanda Ventura, the pseudo-Aristotelian *Problemata* due to their structure in questions and answers, were particularly apt to be quoted in the *CAE*: VENTURA 2009, 214–215. On the reception of the pseudo-Aristotle's *Problemata* in the encyclopedic tradition, see VENTURA 2006.

48 On the structure and sources of these two books see, LOCONSOLE 2023 and PANARELLI 2022.

49 Henry mainly cites this work under the title "Circa instans"; sometimes, he attributes the passages from this source to Avicenna (e.g. *CAE* VII.2,75–76) or quotes them as anon-

and Averroes' *Colliget*. Odo of Meung's *Macer Floridus* too deserves to be mentioned among the medical sources of Book 7 as it belongs to the rather different tradition of monastic medicine. Also known with the title of *De viribus herbarum*, Odo's poem was concerned with the therapeutical value of medicinal plants.[50]

Book 8, the longest of the *CAE* with 11 *ansae*, after dedicating the first seven *ansae* both to animals in general (VIII.1) and to each animal species, i.e., birds, fishes, pack and domestic animals, wild animals, snakes and other reptiles, lizards, and insects (VIII.2–7), in the remaining *ansae* addresses issues of medical interest by exploring the anatomy, physiology, and reproductive process of all living beings, including human beings (VIII.8–11). The medical theories and problems analyzed in Book 8 are treated based on Albert's *De animalibus* and on medical sources already used in previous books (e.g. Isaac's *De diaetis particularibus* and *De diaetis universalibus*, Avicenna's *De medicinis cordialibus*, Averroes' *Colliget*, etc.).

Within this context, several questions are dedicated to topics related to various pathologies, medical problems, anatomic anomalies, disorders of the respiratory, digestive, genital system, etc. Henry, for instance, explores at length the humoral theory in some 40 questions of the *ansa* 10 of Book 8 (VIII.10,50–92), with some devoted to specific humoral alterations.[51] These

ymous; only rarely does he attributes them to Platearius (e.g., *CAE* VI.3,5 ter.). De Renzi's thesis that the *Circa instans* was authored by a Salernitan physician called Matthaeus Platearius is today no longer accepted: see VENTURA 2015(2), 258–259. Iolanda Ventura has extensively published on this work, its manuscript tradition, and reception: see, among others, VENTURA 2016(1).

50 For an overview of medieval vegetal pharmacology and its ancient sources, see VENTURA, HUNT, MAYER 2023.

51 See, e.g., *CAE* VIII.10,52, Erfurt, Universitätsbibliothek Erfurt, Dep. Erf., CA 2° 371, f. 114va: "Cur sanguis alius est bonus et naturalis, alius innaturalis"; VIII.10,64, f. 115va: "Cur omne corpus sanguineum cito putrescit"; VIII.10,74, f. 116rb: "Cur et qualiter cholera fit innaturalis"; VIII.10,80, f. 117ra: "Cur dicitur, quod melancholia innaturalis est quadruplex"; VIII.10,83, f. 117rb: "Cur vere melancholici sunt macri et nigri." By

questions are all extracted from Albert's *De animalibus*, in particular from Book 3, but also from Books 1, 12, and 13.

ALBERTUS MAGNUS 1916, *De animalibus*, I, 3, 5, n. 607, 217,4–13	*CAE* VIII.10,89, Erfurt, Universitätsbibliothek, CA 2° 371, f. 117va
Fel etiam sicut vesica unam habet tunicam compositam ex tribus speciebus villorum. Quando autem non attrahit fel coleram, aut siquidem attrahit, sed non complete, eveniunt nocumenta.	Cur, quando non attrahit fel choleram, aut siquidem trahit, non tamen convenienter, eveniunt nocumenta.
Quando enim colera retinetur super fel, inducit apostemata epatis et ycteritiam: et quandoque putrescit et tunc inducit febres malas. Quando autem superflue fluit ad membra urinae, ulcerat ea: et si ad alia membra undans derivatur, inducit herysypilam et formicam et huiusmodi: et quando spargitur in toto corpore quieta, accidit yctericia: et quando fluit ad intestina, iuducit solutionem ventris cum intestinorum rasura.	§ Responsio *ibidem*: Quia si trahit, sequuntur apostemata hepatis vel ictericia. Si putrescat, cholera inducit febres. Si superflue fluat ad membra urinae, vulnerat ea. Si ad alia membra inundans vadat, inducit erisipelam, formicam et huiusmodi. Et si spargitur in toto corpore, accidit ictericia. Si fluat ad intestina, inducit solutionem ventris cum intestinorum rasura.

ALBERTUS MAGNUS 1916, *De animalibus*, I, 3, 5, n. 608, 217,14–30	*CAE* VIII.10,91, Erfurt, Universitätsbibliothek Erfurt, Dep. Erf., CA 2° 371, f. 117vb
Splen autem omnino est evacuatorium sanguinis et adustionis eius cinereae, quae est melancolia naturalis et melancolia accidentalis. Et habet quamdam virtutem resistendi cordi ex latere uno, et felli et epati ex latere alio.	91. Cur factum est splen. § Responsio Alberti, libro 1, tract. 3, cap. ultimo: Ut trahat humorem melancholicum

turning to Albert's *De animalibus* as far as issues of humoral medicine are concerned, the *CAE* mirrors a change with respect to the treatments of humors of the 13th-century encyclopedists, who were relying on proper medical sources: see VENTURA 2016(2).

Trahit autem turbiditatem sanguinis et digerit eam: et quando a[c]cescit aut pontica efficitur, mandat eam ad os stomachi, ut excitet appetitum in eo et temperet caliditatern ipsius. Via autem per quam mandat, est vena magna.	ex hepate.
Quando autem debilitatur splen in trahendo melancoliam ex epate, accidunt in corpore aegritudines melancolicae, sicut morfeae nigrae et cancri et varices et elefantiae et lepra et huiusmodi. Si autem bene quidem attrahit, sed non potest a se expellere superfluum, opilatur et fit magnus et intumescit et forte apostematur. Si autem expellit eam superflue et est pontica, facit esuriem nimiam et appetitum cibi immoderatum. Si autem est acetosa, facit nauseam et vomitum, et intestinis aliquando facit accidere excoriationem mortiferam, et alia huiusmodi multa facit quae medicorum est considerare.	Quando autem debilitatur in hoc, accidunt in corpore infirmitates melancholicae, ut morpheae nigrae, cancri, varices, elephantiae, leprae et huiusmodi. Si autem bene quidem trahat, sed non possit a se expellere, opilatur et intumescit splen et forte apostemabitur. Si autem expellit superflue et est pontica, facit esuriem nimiam et appetitum cibi immoderatum. Si autem est acetosa, facit nauseam et vomitum, et aliquando in intestino excoriationem mortiferam.

Henry's tendency to rework Albert's texts, which has been highlighted by other studies, is confirmed by this synopsis. To adapt Albert's text, which focuses on gall bladder and its attractive action, to the question-and-answer format of the *CAE*, Henry modifies two sentences ("Quando autem non attrahit fel coleram, aut siquidem attrahit, sed non complete, eveniunt nocumenta" and "Splen autem omnino est […]") into the titles of the two questions. Henry's re-elaboration aims to simplify the source text. To this end, some small segments ("evacuatorium sanguinis […] ex latere alio," "et quando ac[c]rescit […] vena magna") have been omitted, probably because they were

considered by Henry as superfluous information. The remainder of the source text is faithfully followed, but the effort to make it more schematic is evident.

Within the *ansa* 11, while examining the organs of the genital system, Henry also explores the complex territory of the sexuality-related issues and women's medicine. Some questions deal with disorders related to sexual intercourse and its abuses[52] or with anatomic or physiological anomalies of the genital organs.[53] Several questions concern reproduction and birth, focusing on conditions that, while not strictly pathological, were perceived as abnormal or deviating from the regular pattern of human procreation, involving abortion, hermaphroditism, twin and monstruous births, etc.[54] On all these topics, too, Henry massively relies on Albert's *De animalibus*, which was a reference point on sexuality and all related subjects.[55]

52 *CAE* VIII.11,9, Erfurt, Universitätsbibliothek Erfurt, Dep. Erf., CA 2° 371, f. 119va: "Cur quaedam mulieres tempore, quo poma mamillarum intumuerunt, [si] utantur coitu moderato, velocius accipiunt incrementum quam prius, quaedam autem ex usu coitus illo tempore torpescunt et macrescunt et deficiunt corpora earum"; VIII.11,43, f. 121vb: "Cur retentio longa spermatis facit aliquando suffocationem matricis"; VIII.11,50, f. 122rb: "Cur propter distillationem et fluxum menstrui fit, quod mulieres saepe liberantur a pluribus infirmitatibus"; VIII.11,81, f. 124vb: "Cur emittents multum de spermate pallescit et debilitatur tantum, quantum debilitaretur, si quadragies de sanguine emitteret"; VIII.11,92, f. 126ra: "Cur, quando aliquis virorum nimium satagit coire, quandoque sanguinem loco seminis emittit"; VIII.11,93, f. 126ra: "Cur mulieres quaedam post pollutionem factam in somno inveniunt se quandoque siccas circa genitalia."

53 *CAE* VIII.11,39, Erfurt, Universitätsbibliothek Erfurt, Dep. Erf., CA 2° 371, f. 121va: "Cur tumores circa vulvam stantes toles dicuntur"; VIII.11,44, f. 121vb: "Cur quandoque accidit spasmus in matrice, per quem etiam prohibetur impregnatio"; VIII.11,71, f. 123-vb: "Cur quibusdam impotentibus coire in iuventute redibit potentia coeundi in aliqua aetate, quibusdam autem numquam."

54 See, e.g., *CAE* VIII.11,114, Erfurt, Universitätsbibliothek Erfurt, Dep. Erf., CA 2° 371, f. 128rb: "Cur conceptus quandoque fit hermaproditus"; VIII.11,116, f. 128rb: "Cur quandoque concipiuntur gemini, et quae est causa geminorum"; VIII.11,118, f. 128va: "Cur adhuc mola generatur in feminis"; VIII.11,130, f. 129vb: "Cur quaedam pariunt filios sine unguibus"; VIII.11,134, f. 130ra: "Cur dolores in aborsu maiores sunt doloribus in partu"; VIII.11,141, f. 130vb: "Cur mulieres quaedam partus monstruosos effundunt et sibi et omnibus ad se pertinentibus et specie et individuo dissimile[s]"; etc. On twins and abnormal births in Albert the Great, who is the source of Henry, see, at least, THIJSSEN 1987; RESNICK 2013, 348–353 and RESNICK 2019; ZUCCOLIN 2019, 144–157.

55 See JACQUART, THOMASSET 1981.

Prevention and Therapy: Practical Medicine

While several sections of the *CAE* contain groups of questions dealing with medical matter in general and health, pathology and specific diseases in particular, it is only in Book 10 that Henry sets out a systematic and comprehensive discussion of pathology, nosology and therapy on the basis of a rich medical bibliography, which includes both translations of classical Greek and Arabic sources and Latin writings by Western physicians.

Henry dedicates Book 10, the last one of the *CAE*, to mankind, the culmination of divine creation. The human being is considered in both its spiritual dimension and its bodily condition within the theological framework of the history of salvation, with *CAE* X.1 dealing with the original state of innocence, *CAE* X.2–4 with the corrupted nature of mankind *in via*, and *CAE* X.5 with death and final resurrection.

In the *ansa* 2 we find the same questions on generation (anatomy and physiology of the genital organs, embryology, births, etc.) that Henry had already included in the *ansa* 11 of Book 8. In this case, however, Henry does not reply with excerpts from Albert's *De animalibus*, but merely refers to the corresponding questions in Book 8. These internal references are indicative of the continuity between animal generation and human procreation in the state of the corrupted nature. The *ansa* 3 covers topics such as the being of men, their activities, and their associated life. The first 50 questions are relevant from a medical point of view, dealing partly with the physical and physiognomic characteristics of humans thanks to passages quoted from Albert's *De animalibus*, partly with teratology on the basis of quotations from both Book 16 of Augustine's *De civitate Dei* and Isidor's *Etymologiae*.

Henry dedicates the whole *ansa* 4 to *materia medica*. The arrangement of medical topics, it has been noted,[56] presents traits of originality with respect to other encyclopedias, because Henry avoids the traditional head-to-toe examination ("a capite ad calcem") of the parts of the body and their illnesses or the organization of the medical subject matter according to the various areas of medicine, opting for the Galenic model of the threefold distinction of natural things (i.e., the things of which the human body is made up, namely elements, mixed parts, limbs, virtues, spirits, etc.), non-natural things (air, food and drink, sleep and wakefulness, exercise and rest, repletion and depletion, etc.), and things against nature (diseases).[57] Since the anatomy and physiology of the human body ("natural things") were treated previously in the *ansa* 2 of Book 10 and in Book 8, Henry focuses now on the other two groups of things, which are respectively the subject of preventive medicine ("in sanitatis conservatione") and practical medicine ("aegritudinis remotione"). As a consequence, the first 118 questions of the *ansa* 4 (*CAE* X.4,1–118) form a systematic and detailed examination of the regimen, with a substantial number of questions dedicated to the different types of food, their nutritional qualities, their tastes, their curative properties, etc. (*CAE* X.4,6–57).[58] Another major

56 VENTURA 2009, 217–219.

57 ENRICO DI HERFORD 2004, *Tabula quaestionum VIII-X,* X.4, 194,5–195,20: "[…] secunda corporalis et haec est triplex, scilicet in sanitatis conservatione, aegritudinis remotione et periculorum declinatione, circa quae simul sciendum, quod secundum Galenum rerum, ex quibus horum est scientia, quaedam sunt naturales, quaedam non naturales et quaedam contra naturam. Naturales, ut ad propositum nostrum dicamus, sunt ex quibus corpus humanum constituitur vel componitur, scilicet elementa, commixtiones, membra, virtutes et spiritus etc. […] Non naturales sunt, ex quibus corpori bene adhibitis sanitas conservatur, quae sunt aer, cibus et potus, somnus, vigilia, exercitium, quies, evacuatio, puta balneorum, coitus, pharmaciae, phlebotomiae, ventosarum, sanguisugarum, secessus et urinae etc., de quibus hic primo dicetur. Contra naturam sunt, ex quibus neglectis, si assint, destituitur, ut morbi etc., de quibus dicetur secundo."

58 This section of the *CAE*, as well as the substantial presence of Isaac's *Diaetae*, Avicenna's, *Liber canonis* (Book 2, treatise 2), and Book 5 of Averroes' *Colliget* in other parts of the *CAE* (notably Books 6 and 7), makes Henry's encyclopedia a witness to the medical literature on conservation of health: on this tradition, see NICOUD 2007.

focus of interest is evacuation in its manifold forms (*CAE* X.4,64–118): from baths to expulsions of liquid substances (sweat, tears, vomiting), from defecation to meteorism. The questions dealing respectively with purges (*CAE* X.4,84–96) and phlebotomy (*CAE* X.4,97–117) can be regarded as two compact treatises on these two subjects.

The remainder of the *ansa* 4 deals with pathologies ("things against nature"), which Henry subdivides into universal diseases and particular illnesses. Universal diseases are in turn subdivided into diseases that affect the entire body at once (pestilences and fevers) or diseases that can hit all parts of the body separately (e.g., apostemes, morphea, scabies, leprosy, ulcer, wounds, burn) (*CAE* X.4,119–149).[59] Contagious diseases, such as anthrax, scabies, leprosy, smallpox, etc., belong to this second group. On the other hand, particular diseases are gathered in four groups according to the body parts affected (animal parts and the brain, vital parts and the heart, natural parts and the liver, genital parts and testicles) (*CAE* X.4,150–199).[60] In questions dealing with the regimen and pathologies, Henry quotes a large selection of medical writings, from most of which he has already drawn in previous books, namely the *Aphorisms* by Hippocrates, some writings by Galen, the *De diaetis* and the *De febribus* by Isaac Israeli,[61] Constantine the African's *Pantegni*,[62] the *Liber*

59 *CAE* X.4, Appendix B, 340: "Nunc dicetur de rebus contra naturam, scilicet morbis, symptomatibus et huiusmodi. Morbi autem sunt duplices, scilicet universales et particulares. Dico autem universales et illos, qui simul sunt in universo corpore, et alios, qui possunt universis partibus corporis divisim accidere, ut sunt apostemata, morphea, scabies, lepra, ulcus, vulnus et adustio. Et in universo sunt pestilentiae, febres, et de quibus primo."

60 *CAE* X.4, Appendix B, 371: "Post morbos universales quaerendum est de particularibus, qui sunt quadripartiti. Sunt enim vel circa partes animales, quibus principatur cerebrum, vel circa partes vitales, quibus cor, vel circa partes naturales, quibus hepar, vel circa partes genitales, quibus testiculi principantur, et circa partes unicuique istarum vicinas."

61 On Isaac's *Liber febrium* and its reception in the Latin West, see VEIT 2003.

62 On Constantine's *Pantegni*, which is a translation-reworking of the *Kitāb al-Malakī* by ʿAlī ibn al-ʿAbbās al-Maǧūsī, and its fortune, see BURNETT, JACQUART 1994; KWAKKEL,

canonis and the *De medicinis cordialibus* by Avicenna, and Averroes' *Colliget*. However, in Book 10 other names appear for the first time or rise to prominence, such as Rogerius de Barone,[63] Arnau de Vilanova, Johannes de Sancto Paulo,[64] etc.

While a systematic study of the medical sources of Book 10 is still awaited, a few aspects deserve to be highlighted. The *Viaticum* features prominently among the sources of this section of the *CAE*. Henry ascribes this work to Isaac (e.g., *CAE* X.4,165,169,171, 179–180, 182, 184–186, 191) or quotes it anonymously.[65] Iolanda Ventura had already recalled attention to the explicit use, in Book 5 of the *CAE* (V.4,65), of the commentary on the *Viaticum* by a certain Matthaeus, one of the few *Viaticum*-commentaries composed in the Middle Ages.[66] Several other quotations from the same commentary are contained in *CAE* X.4, as the text published below in the Appendix B (see *CAE* X.4,136–141) shows. Moreover, another *Viaticum*-commentary by Bernardus is quoted by Henry in the same section (see *CAE* X.4,143 and X.4,147). It has been impossible to identify either author. We hope that the extracts edited here for the first time will make it possible to identify these thus far neglected *Viaticum*-commentaries[67].

NEWTON 2019.

63 Henry quotes the *Practica maior* by Rogerius de Barone; in at least one case, however, the author quoted as *Rogerius* might be Rogerius Frugardi: see HENRICUS DE HERVORDIA, *CAE* X.4,116, Paris, Bibliothèque nationale de France, lat. 6444: "Rogerius dicit in *Cyrurgia* sua, parte III, cap. ultimo." On the tradition of practical medicine and surgery, see MCVAUGH 2006.

64 See GREEN 2005.

65 As is well-known, the *Viaticum* was written by Ibn al-Ǧazzār (Algizar) and rendered into Latin by Constantine the African. The attribution to Isaac was however not exceptional: we find it, for instance, in Vincent of Beauvais: see SCHULER 1999, 213.

66 VENTURA 2009, 207–208.

67 On the commentary tradition of the *Viaticum*, see WACK 1990. One of *Viaticum*-commentaries studied by Wack is that by Bona Fortuna. According to Luke Demaitre, a solution Wack seems to agree with, Bona Fortuna would be identical with Bernard de Bona Hora, because "both names may be translations of the French name 'Bonheur'": WACK 1990, 129. I have checked the extracts Henry attributes to Bernardus *Super Viati-*

While in the vast majority of cases Henry seems to know first-hand his medical sources, there are a few cases in which one has the impression he quotes some authors second-hand via other sources: this is the case with the reference to Isaac's *Liber de febribus* in *CAE* X.4,126 and Avicenna in *CAE* X.4,129.

There are of course citations of lesser-known sources, such as Bertholdus de Suevia, who is also quoted by Henry on haemorrhoids and is likely to be identified as the author of a treatise *De urinis* preserved in a few manuscripts,[68] the *Tractatus de phlebotomia* by Alexander (X.4,99,104,113)[69], or the *Liber de phlebotomia* by Reynaldus (i.e., Reginaldus o Riginaldus) (X.4,102–103).[70] The *CAE*, and Book 10 in particular, is also a witness of the dissemination of the *Colliget*, whose translation is placed towards 1285 and which was extremely influential in some late-medieval medical debates (e.g., on the definition of the fever, on the mixing and quantification of qualities within composed substances, on the scientific status of medicine).[71] Henry's quotations are mostly taken from Book 5 of *Colliget* and concern the properties of food and simples (X.4,41–48, 50–51, 55) and the fevers (X.4,125).[72]

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cum with the corresponding passages in Bona Fortuna's commentary, but they do not match: see BONA FORTUNA, *Tractatus super Viaticum*, VII, 100–102, Paris, Bibliothèque nationale de France, lat. 15373, ff. 153rb–155vb.

68 *CAE*, X.4,83, Paris, Bibliothèque nationale de France, lat. 6444, ff. 50vb–51ra: "Cur et qualiter differunt emorroys et emorroyde." see THORNDIKE, KIBRE 1963, 213, 718.

69 The quotations do not seem to coincide with the *De fleubotomia* [*et iudicio cruoris et diversitate pulsus*] of a certain Alexander, preserved only in the manuscript Pal. Lat. 1367, Città del Vaticano, Biblioteca Apostolica Vaticana, ff. 175vb–176va: see THORNDIKE, KIBRE 1963, 563; on the manuscript, see SCHUBA 1992, 58–62.

70 RIGINALDUS 1854, *De Phlaebotomia Liber*.

71 JACQUART, MICHEAU 1990, 182–185; CHANDELIER 2019. On this work, see also GÄTJE 1980.

72 For an analysis of the use of this treatise in the *CAE*, see PALAZZO FORTHCOMING(2).

Conclusion

Since *materia medica* is a subject covered in all major encyclopedias, it is unsurprising that Henry frequently addresses medical topics throughout the *CAE*. Although he is not a medical expert, Henry demonstrates his ability to master a vast array of diverse medical sources. His 'medical library' includes writings of philosophy of nature, notably Albert's writings (in particular *De animalibus*, *De natura loci*, *De mineralibus*, and *De vegetabilibus*) and ps.-Aristotle's *Problemata*. The Salernitan tradition is heavily represented through translations of fundamental texts from the *Articella* (the *Isagoge Johannicii* and the Hippocratic *Aphorisms* and *Prognostica*) as well as well-known and lesser-known Latin works (the *Circa Instans*, the *Antidotarium Nicolai* [VII.4,86], Riginaldus' book on phlebotomy, the *Compendium* by Master Salernus [IX.4,13], among others). Moreover, a significant part of Henry's medical references come from the translations-adaptations of Constantine the African: the *Pantegni*, the *Viaticum*, the *De gradibus* (e.g., VI.3,34, VII.2,29), Isaac's *Diaetae* and *Liber febrium*, Galen's *Commentary* on the *Aphorisms*. Galenic doctrines are also attested by quotations from other works by Galen (the *De simplici medicina*, *De accidente et morbo*, *De complexionibus*, etc.) and the *Pasionarius* by Gariopontus (VI.1,156). In keeping with the trends of Latin medicine in the 13th and 14th centuries, which emphasized the importance of Avicenna's writings (*Liber canonis* and *De cordialibus*) as well as, later, Averroes' *Colliget*, Henry draws extensively on these works.

Other important figures representative of different strands of the Latin medieval medicine (e.g., Johannes de Sancto Paulo, Giles of Corbeil, Arnau de Vilanova, etc.) also feature in the *CAE* alongside lesser-known works like the *Viaticum*-commentaries by Bernardus and Matthaeus and the work by Bertholdus Suevus. It is also important to notice that historical and lexico-

graphic sources provide Henry with descriptions of epidemics. The fact that the *CAE* contains quotations from such an impressively rich and diverse 'medical library' raises the question of how Henry accessed these sources. As we have said before, save for two (or maybe three) sojourns to Italy and France to attend Dominican general councils, Henry spent most of his life in Germany as conventual or provincial lector. Therefore, we must speculate that Henry put together his medical dossier mainly from resources available in German libraries. Future research on the versions, translations, and manuscripts used by Henry will maybe offer insight into the exact libraries from which his medical sources came from. At this stage of the research, we must content ourselves with taking the *CAE* as a document of the sources – philosophical, theological, scientific and mythographic – accessible in the German area at the time.

It is also worth considering why Henry put such a strong emphasis on medical topics in the *CAE*. If we assume that the *CAE* also had a didactic purpose, being conceived as a tool to suit the end of the education of the Dominican friars, it is intriguing to consider how the medical notions quoted by Henry fit into the Dominican educational system. This system aimed to prepare the *fratres communes* for confession and predication, and to train the *fratres studentes* for advanced roles in teaching at provincial schools, *studia generalia*, and universities. We know that, like other texts on natural philosophy, medical sources were often dug out by friars seeking metaphors for use in preaching and the care of souls, and generally within religious contexts.

A remarkable example of this metaphorical reading of medical sources is found in another Dominican encyclopedia, the *Liber de exemplis et similitudinibus rerum*, written by Giovanni di San Gimignano a few decades before

the *CAE*.[73] While the inclusion of medical topics in the *CAE* might also be explained in similar terms, this is not the main reason medical sources hold such an important role in Henry's encyclopedia. As said above, the *CAE* cannot be simply categorized as belonging to that group of encyclopedias known as mirrors of the world ("imagines mundi") and whose aim was to describe reality in itself. Rather, the focus of the *CAE* is to reconstruct the scholarly debates that were taking place within each disciplinary domain. This concern is particularly evident in the medical field, where Henry provides a comprehensive and up to date documentation on each topic discussed and contrasts various sources.[74] This approach also explains why Henry deals with the same topic from different perspectives, drawing from different classes of sources: for instance, in Book 2 he takes up pathologies from the perspective of their environmental causes based on Galen's *Commentary on the Aphorisms*, whereas in Book 10 he quotes sources of practical medicine to discuss diseases ("morbi") and their appropriate therapies.

Another crucial aspect deserves adequate emphasis: Henry's interest in medical topics was both rooted in and stimulated by the practical needs of Dominican conventual life.[75] Despite the variety of medical traditions attested in the quotations of the *CAE*, there is a *fil rouge* connecting many of these medical sources, namely their practical nature and immediate usefulness in

73 ZIEGLER 1995.

74 The question IX.4,13, for instance, is dedicated to the controversial issue of the nature of medicine, at the center of a lively debate in medical schools and faculties in the late Middle Ages: by combining several sources, whether quoted explicitly or referred to implicitly (Isidor's *Etymologiae*, Magister Salernus, Averroes' *Commentary* on *Cantica Avicennae*, Aristotle's *De sensu et sensato*), Henry accounts for some of the opinions discussed in that debate: for an analysis of *CAE* IX.4,13, see PALAZZO FORTHCOMING(2).

75 The *CAE* is conspicuous by its absence in the volume of MONTFORD 2004, who illustrates how medical interests and knowledge and concerns with health and sickness permeated the Mendicant life and attitudes in the late Middle Ages despite the decline of the figure of the *frater medicus* and the strict regulations that were designed to prevent friars from practicing clinical activity.

curing or preventing illnesses. This focus on practical knowledge is made explicit, as mentioned earlier, by the theological framework of Book 10 and finds expression in the massive recourse to the tradition of practical medicine (the *Practica maior* by Rogerius de Barone, the *Liber febrium* by Isaac, the *Pantegni*, treatises on phlebotomy), to texts of pharmacology and writings on the properties of simples (Odo of Meung's *Macer Floridus*, the *Circa instans*, *Liber de virtutibus simplicium medicinarum* by Johannes de Sancto Paulo, etc.), and to works related to prevention and regimen (Isaac's *Diaetae*, Book 5 of the *Colliget*, etc.). Since it quotes pertinent passages from these sources on each matter of prevention and therapy – and in most cases, clearly indicating the titles of the sources and the locations of the passages quoted within the text sources – the *CAE* can be regarded as a medical 'Ersatzbibliothek'.

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APPENDIX A

The three following questions are based on the collation of the two witnesses of the Books 1–6 of the *CAE*:

A = Erfurt, Universitätsbibliothek Erfurt, Dep. Erf., CA 2° 370

V = Città del Vaticano, Biblioteca Apostolica Vaticana, Vat. lat. 4310, which also preserves Book 7.

The comparison between the two manuscripts and the Galen's *Commentary* on the Hippocratic *Aphorisms*, which is the source of the three questions, confirms the results of the preliminary analysis conducted by Loris Sturlese in preparation for the edition of the *Tabula quaestionum* of the books 1–7: the text contained in the *V* presents several mistakes and its quality is inferior to that of *A*.[76] The list of some significant errors of *V* is as follows:

CAE II.5,33: id est humores cholerae rubeae *natant* [: natat *V*] in ore stomachi *ebullientia* [: ebullientes *V*].

CAE II.5,33: unde abusive pustulas *istas* [: in aestas *V*] *heleni* [: helen *V*] appellant desudationes.

CAE II.5,34: et aestivarum aegritudinum *multae* [: melancholiae *V*] et febres quartanae […].

CAE II.5,34: Et phthisis, quae fit proper frigiditatem et siccitatem *et* [*om. V*] humorum *corruptionem* [: corruptorum *V*].

76 STURLESE 1987, XXVI–XXVII.

CAE II.5,34: Sciades, id est dolores in iuncturis coxarum *a scia, sciae* [: asciasde *V*] *dictos, qui* [: dictus quo *V*] fiunt […].

CAE II.5,35: Et iterum ad caput *ascendens* [: descendens *V*] facit dolores capitis et vertigines.

In a few cases, however, *V* enables us to correct the text in *A*. Apart from an omission and a "rubeae" instead of "nigrae," the variant readings of *A* are of minor importance:

CAE II.5,34: *Non sic autem de autumno in aestate* [: *om. A*]. *Nam* [: et *A*] autumnus […].

CAE II.5,34: […] et a fetulento *sanguine* [: sanguinis *A*] […].

CAE II.5,34: […] et illius temporis *frigiditates* [: frigidiores *A*].

CAE II.5,34: […] vel *ex* [: *om. A*] apostematibus […].

CAE II.5,34: Melancholiae ex abundantia cholerae *nigrae* [: rubeae *A*] fiunt.

I have classicized the orthography of the texts in the appendices A and B with the exception of a few technical terms of diseases whose peculiar non-classical form was standard in medieval medical literature (e.g. *ethica*, *effimera*, etc.). Square brackets […] indicate an addition to the text.

33.[77] Cur tempore aestatis quaedam harum aegritudinum fiunt: et febres continuae et causon et tertianae plurimae et vomitus et diarriae et oculorum et aurium dolores et oris ulcerationes et pudendorum putredines et desudationes, Hippocrates[78] aphor. 22[79]).

Responsio Galeni *ibidem*[80]:[81]) Quidam vernales morbi nascuntur in aestate. Sicut enim initium aestatis veri in aere assimilatur, sic et in infirmitatibus generandis. [*A* 88rb] Febres autem continuae, causon et tertianae et omnia, quae de cholera rubea fiunt, sunt morbi proprii aestati[82], quae est cholerae generativa et multiplicativa. Vomitus etiam tunc causatur cum cholera rubea, id est humores cholerae rubeae natant[83] in ore stomachi ebullientia[84]. Diarriae, cum[85] petunt inferiora. Ophtalmiae, cum impleantur capita. Alia autem praeter haec de capitis nascuntur plenitudine, sicut dolores aurium et ulcerationes oris [*V* 59rb] per choleram rubeam a capite ad membra descendentem. Putredines etiam nascuntur, cum aestas in humiditatem innaturalem mutetur[86] per pluvias nimias et carentiam ventorum. Tunc enim in vulneribus et pudendis[87] occasione parva putredinem gignit[88] causa[89] caloris et[90] humiditatis, quae pu-

77 33] *om. V*
78 Hippocrates] *om. V*
79 HIPPOCRATES 1487, *Aphorismi*, III, 22, f. 23ra (*recte* HIPPOCRATES 1931(1), *Aphorisms*, aph. 21, 128).
80 *ibidem*] *om. V*
81 See GALENUS 1487, *In Hippocratis Aphorismos Commenta*, III, aph. 22, f. 23ra.
82 aestati] aestatis *V*
83 natant] natat *V*
84 ebullientia] ebullientes *V*
85 cum] tamen *V*
86 mutetur] mutatur *V*
87 pudendis] pupendis [*sic*] *V*
88 putredinem gignit] *om. V*
89 causa] tam *V*
90 et] quam *V*

tredinis sunt generativa[91]. Desudationes etiam in cute nascuntur, id est parvae pustulae quasi de sudoris materia factae, et sicut vulnera cutem exasperant, quarum causa est multus sudor cholericus, unde abusive pustulas istas[92] heleni[93] appellant desudationes.

34.[94] Cur temporibus autumni et aestivarum aegritudinum multae[95] et febres quartanae et errantes et splenes et hydropes et phthisis et ulcerationes et stranguiriae et lienteriae et sciades et squinantes et anhelitus et ilei et epilepsiae et maniae et melancholiae fiunt, Hippocrates[96] aphor. 23[97]).

Responsio Galenus *ibidem*[98]:[99]) Quod plures aegritudines aestivae nascuntur in autumno, est ideo, quia chimi dominantes in aestate, id est cholerae rubeae, etiam autumno intrante remanent in corpore, unde generantur febres acutae[100] et alia aestiva. Non tamen sic se habet autumnus ad aestatem, sicut aestas ad ver. Cum enim aestas post ver veniat, purgantur humores veris in[101] aestate. Non sic autem de autumno in aestate[102]. Nam[103] autumnus portat[104] humores ab exterioribus ad interiora aestate portante eos ab interioribus ad ex[*A* 88va]teriora et purgante[105]. Quartanae fiunt in autumno proprie aut[106] ex

91 putredinis sunt generativa] causa putredinis et pestilentiae sunt generativa *V*
92 istas] in aestas *V*
93 heleni] helen *V*
94 34] *om. V*
95 multae] melancholiae *V*
96 Hippocrates] *om. V*
97 HIPPOCRATES 1487, *Aphorismi*, III, 23, f. 23ra (*recte* HIPPOCRATES 1931(1), *Aphorisms*, aph. 22, 130).
98 *ibidem*] *om. V*
99 See GALENUS 1487, *In Hippocratis Aphorismos Commenta*, III, aph. 23, f. 23ra–b.
100 acutae] *iter. V*
101 in] *om. V*
102 Non … aestate] *om. A*
103 Nam] et *A*
104 portat] per stat *V*
105 et purgante] *om. V*
106 aut] autem *V*

adusta cholera[107] aut[108] ex intensa melancholia, vel secundum Galenum fiunt tunc vel de accessione cholerae rubeae vel de grosso sanguine, quae illi tempori conveniunt. Errantes febres fiunt ab inaequalitate melancholici humoris. Fit enim melancholicus humor ex cholera rubea superadusta et a fetulento sanguine[109] et a phlegmate torrefacto[110]. Et quia dissimilium partium est humor, quandoque incitatur cottidie, quandoque tertio die, quandoque quarto. Splenes, quia splen receptaculum[111] est huiusmodi humoris, quem cum expellere nequeat, in schirosim[112] convertitur, id est in duritiem. Et hydropes, quae quandoque fiunt de mala splenis passione et curatione. Et phthisis, quae fit proper frigiditatem et siccitatem et[113] humorum corruptionem[114]. Ulcerationes ex abundantia cholerae[115] nigrae. Stranguiriae ex humorum acumine et temporis inaequalitate. Si enim subito in frigiditatem mutetur[116] eius caliditas, qua humores intus claudantur, qui aestate [*V* 59va] dissolvuntur cito, tunc ad vesicam[117] revertuntur pungentes eam. Lienteriae nascuntur semper in autumno vel ex humoribus acutis et pungitivis, qui vulnerant interiorem superficiem stomachi et intestinorum, aut ex defectione virtutis contentivae per puncturas illas deficiente[118]. Sciades, id est dolores in iuncturis coxarum a scia, sciae[119] dictos, qui[120] fiunt propter corruptos humores et illius temporis

107 adusta cholera] *inv. V*
108 aut] aliae *V*
109 sanguine] sanguinis *A*
110 torrefacto] torrefacta *V*
111 receptaculum] susceptaculum *V*
112 in schirosim] incharesim *V*
113 et] *om. V*
114 corruptionem] corruptorum *V*
115 cholerae] colore *V*
116 mutetur] mutatur *V*
117 tunc ad vesicam] ad vesica tunc *V*
118 deficiente] deficientiae *V*
119 a scia, sciae] asciasde *V*
120 dictos, qui] dictus quo *V*

frigiditates[121]. Squinantes, vel in vere vel in autumno nascuntur[122]. Et vernales sunt phlegmaticae vel sanguineae, autumnalis semper cholerica est[123]. Anhelitus fiunt ex motibus humorum [et] illius temporis frigiditatibus. Ilei vel ileon obvolutio vel corda dicitur eo, quod[124] intendantur intestina ut cordae. Fit autem[125] vel ex[126] apostematibus in[127] intestinis, vel quia humores in aestate subtiles et mobiles, qui in autumno interiora petunt, et per intestina currentes ileon faciunt. Stomachus enim et intestina multa patiuntur, cum frigidum [*A* 88vb] et siccum sit tempus. Epilepsiae fiunt[128] propter humorum plenitudinem et digestivae virtutis imbecillitatem et tempus modo calidum modo frigidum. Maniae ex subtilium humorum cholericorum corruptione. Melancholiae ex abundantia cholerae nigrae[129] fiunt.

35.[130] Cur temporibus hiemis pleuretides[131], peripleumoniae et corizi et branci et[132] tusses, [dolores] pectorum, laterum et lumborum, dolores capitis, vertigines et apoplexiae fiunt aphor. 24[133].[134])

Responsio secundum Galenum[135]:[136]) Hii proprii sunt hiemis morbi. In hieme enim phlegma generatur, quod si ad costas dirigitur, pleuresim facit. Si ad

121 frigiditates] frigidiores *A*
122 nascuntur] noscuntur *V*
123 autumnalis … est] autumnales semper cholericae sunt *V*
124 quod] *om. V*
125 Fit autem] aut *V*
126 ex] *om. A*
127 in] *om. V*
128 fiunt] *om. A*
129 nigrae] rubeae *A*
130 35] *om. V*
131 pleuretides] ploreides *V*
132 et] *om. V*
133 aphor. 24] *om. V*
134 HIPPOCRATES 1487, *Aphorismi*, III, 24, f. 23rb (*recte* HIPPOCRATES 1931(1), *Aphorisms*, aph. 23, 130)
135 secundum Galenum] Galeni aphor. 24 *V*
136 See GALENUS 1487, *In Hippocratis Aphorismos Commenta*, III, aph. 24, f. 23rb.

pulmonem, peripleumoniam, id est circa pulmonem collectiones. Si ad caput, causat descendens ad pulmonem peripleumoniam. Ad nares, corizam. Ad collum, brancos et tusses et dolores laterum et lumborum vel femorum. Et iterum ad caput ascendens[137] facit dolores capitis et vertigines. Et apoplexia[138] ex capitis est[139] phlegmatica plenitudine.

137 ascendens] descendens *V*
138 apoplexia] *add*. et *V*
139 est] *om. V*

APPENDIX B

The present edition is based on the three extant manuscripts of Book 10 of the *CAE*:

D = Cambridge, Corpus Christi College, cod. 505

P = Paris, Bibliothèque nationale de France, lat. 6444

U = Città del Vaticano, Biblioteca Apostolica Vaticana, Vat. lat. 3025

D is bipartite in two codicological units, of different age, provenance, and material. The former (ff. 1r–92v), which was probably copied in the 14th century in Germany, is in paper and preserves the two last Books of the C*AE* (9–10); the latter, in parchment, was made in Italy in the 13th century. It contains medical writings (e.g., Johannes Mesue's *De consolatione medicinarum simplicium* and the *Antidotarium Nicolai*) and juridical works.[140] *P* contains only Books 9–10 of the *CAE*. From the colophon we learn that this is the copy made in 1374 by Heinrich Herchof, canonical and treasurer of the church of St. Martin at Minden.[141] *U* contains Books 7.5,41 to 10 (ff. 1ra–215rb) and forms a unit with another Vatican manuscript (Città del Vaticano, Biblioteca Apostolica Vaticana, Vat. lat. 4310 = *V*) that contains Books 1–7. Altogether, the two manuscripts preserve Henry's entire encyclopaedia.[142] In previous work, I have gathered evidence of a close relationship between *D* and *P*, high-

140 JAMES 1912, vol. 2, 457.

141 Paris, Bibliothèque nationale de France, lat. 6444, f. 62vb: "Finitus et completus est liber iste per manus domini H[enrici] Herchof canonici et thesaurarii ecclesie sancti Martini Mindensis anno incarnationis dominice 1374, in profesto beate virginis Margarete. Benedictus sit filius Dei. Amen." On the manuscript, see SCHUMANN 1996, 66–67.

142 SCHUMANN 1996, 64.

lighting many shared mistakes.[143] The common erroneous readings identified in the text segment published here further confirms the proximity of these two manuscripts and their belonging to the same branch of the tradition. A selection of examples is as follows:

CAE X.4: *Et in universo sunt pestilentiae, febres, et de quibus primo*] *om. DP*.

CAE X.4,118 ter.: *Cur pestilentia, quaere parte V, ansa 1, quaest. 136, item ansa 2, quaest. 7, item parte I, ansa 1, quaest. 61*] *om. DP*.

CAE X.4,120: *Etiam quare effimera est causa aliarum febrium, nulla tamen febrium aliarum est causa effimerae, Rogerius tamen dicit, quod "effimera dicitur ab effimeron, quod interpretatur simplex, quia fit de simplici materia, id est de spiritu"*] *om. DP*.

CAE X.4,121: Responsio: Rogerius in Practica: *Effimera quandoque est* [: *om. DP*] symptoma *morbi* [: *add.* est effimera *DP*], ut illa, quae comitatur *apostemata* [: apostema *DP*] *vel glandulas etc.* [: *om. DP*].

CAE X.4,121: Curetur *autem* [: *om. DP*] cum balneo, *provocetur sudor sine balneo* [: *om. DP*].

CAE X.4,123: […] praeter tertianam *duplicem* [: dupliciter *DP*] causon fervet plus omnibus *aliis* [: *om. DP*] febribus putridis, quod est, quia *nutriatur* [: *om. DP*] in tertiana duplici calor duplex […].

CAE X.4,125: ut patet supra, parte V, ansa *4* [: *lac. DP*], quaest. *21* [: *lac. DP*].

CAE X.4,126: […] *et a corde ad arterias et ab illis in omnia membra corporis diffusi longam febrem faciunt et molestam: longam quidem quia materia grossa est et viscosa non oboediens digestioni vel dissolutioni, molestam autem quia ex compactione materia vix aliquam quietem admittit. Tempus enim afflictionis est 18 horarum et quietis 6, ut dicit Isaac De febribus. Unde priusquam infirmus sentiat unius vexationis di-*

143 PALAZZO 2004, XVII.

missionem, altera incipit. Quartana vero de quarta die in quartam affligit, unde patiens 24 horis tenetur, 48 horis quiescit propter materiam sui, quae est grossa et dura, unde et calorem diu tenet, quiescit autem, quia natura non tantae virtutis est, ut iterum pugnet] *lac. DP*.

CAE X.4,128: […] scilicet sudor cardiacus, *phrenesis, fluxus sanguinis in naribus, dolor frontis et capitis, singultus, pariotidis, diaforeticus sudor non dico cardiacus* [: *om. DP*] […].

CAE X.4,132: […] et dicitur erisipela, *quia litigiose et intolerabiliter et acutissime ferit* [: *lac. DP*].

Schumann hypothesized that *P* served as the basis for *D*.[144] Is *D* a *descriptus* of *P*? The fact that all omissions and order inversions of questions in *P* also appear in *D*, while several questions are omitted only in *D*, suggests a direct dependence of *D* on *P*.[145] The edition below seems to confirm that *D* is indeed a copy of *P*. While I did not find individual errors of *P*, many individual errors are present in *D*, implying that the copyist, in transcribing *D* from *P*, worsened the text by adding many mistakes. However, only future studies and future editions of the *CAE*, particularly of Book 10, will provide a definitive clarification of the relationship between *D* and *P*. A selection of individual errors of *D* is as follows:

144 SCHUMANN 1996, 62: "Ein Exemplar der *Catena aurea*, das von Heinrich von Herchof vier Jahre nach dem Tod des Dominikanergelehrten vollendete 'Autorexemplar', dürfte zunächst am Ort, d. h. also in Minden, geblieben sein und wurde dort – wohl noch vor 1400 – wahrscheinlich *Grundlage* sowohl der Erfurter *als auch der Elbinger Abschrfit*." (My Italics).

145 PALAZZO 2004, XXVI–XXVIII.

CAE X.4,120: Effimera nominatur a quadam bestia maris, *quae* [: *om. D*] non vivit nisi per *unam* [: unum *D*] diem, *sicut haec febris non manet nisi per unam diem* [: *om. D*].

CAE X.4,123: […] habet tamen humiditatem sicut frenum ex parte sanguinis, *ne calor eius duplex tantum incendatur. Unde et synochus minus his fervet, qui cum simplici calore sanguinis* [: *om. D*] […].

CAE X.4,125: […] et sic putrefactibile dissolvitur et *humectatur exterius et* [: *om. D*] tandem in pulverem resolvitur […].

CAE X.4,128: Febris plus nocet proprio symptomate quam se ipsa, *ut plus nocet phrenesi, et phrenesis plus laedit instantia vigiliarum quam se ipsa* [: *om. D*] […].

CAE X.4,131: Cur cancer si *antiquatur* [: inveteratur *D*], difficulter curatur.

CAE X.4,131: […] patet, quia plus *corrodit* [: comedit *D*] in *una* [: parva *D*] die quam 'noli me tangere' in uno mense.

CAE X.4,133: Item sumatur theriaca cum vino tepido singulis diebus et ponatur ter *in die* [: *om. D*] super anthracem.

CAE X.4,143: Medicandum est in principio cum calidis *et* [: *om. D*] humidis, quae materiam dissolvant *et* [: *om. D*] expellant. Caveatur medicina frigida, quia humores *claudit* [: congregat *D*] et congelat.

U and *P* depend on different models, as is clear from the fact that each omits or reorders questions independently of other.[146] The following is a selection of mistakes of *U* in the edition below:

146 PALAZZO 2004, XXVI–XXVIII.

CAE X.4,118 ter: *De febre igitur quaeritur primo in communi, secundo in speciali dicetur, et hoc tripliciter, quia quaedam est in spiritibus, ut effimera, quaedam in humoribus, ut putrida, quaedam in membris, ut ethica*] *om. U*.

CAE X.4,122: Synocha *autem* [: *om U*] est ex plenitudine sanguinis in maioritate, *cui contrariatur eius minoratio* [: unde eius curatio *U*], quae directe fit per phlebotomiam […].

CAE X.4,126: Affligit autem cotidiana *cotidie* [: *om. U*], quia fumi de materia putrida resoluti et *cor petentes* [: torpentes *U*] […].

CAE X.4,127: […] In secunda maior pars secundae. In tertia *maior pars tertiae, et in hac tertia* [: *om U*] tanta est consumptio […].

CAE X.4,127: *De febrium symptomatibus quaeritur* [: *om. U*].

CAE X.4,143: […] et sunt tam senibus quam iuvenibus periculosae, *et quidam evadunt lepram per variolas, quidam non* [: *om. U*].

***CAE* X.4,118 ter–149 (*D* ff. 85v–84r,[147] *P* ff. 54vb–56va, *U* ff. 199va–203rb)**

De accidentibus animae dictum est copiose parte IX, ansa 3 per totum[148]. Dicto[149] in IV[150] et in V[151] parte[152] de rebus naturalibus et in huius[153] X partis ansa 4[154] de rebus non naturalibus sed tamen necessariis. Nunc dicetur de rebus contra naturam, scilicet morbis, symptomatibus et huiusmodi[155]. Morbi autem sunt duplices, scilicet universales et particulares. Dico autem universales et[156] illos, qui simul sunt in universo corpore, et alios, qui possunt universis partibus corporis[157] divisim accidere[158], ut sunt[159] apostemata[160], morphea[161], scabies, lepra, ulcus, vulnus et adustio. Et in universo sunt pestilentiae [*U* 199vb], febres, et de quibus primo[162].

[118 ter.] Cur pestilentia, quaere parte V, ansa 1, quaest. 136[163]), item ansa 2, quaest. 7[164],[165]) item parte I, ansa 1, quaest. 61[166].[167])

147 After *CAE* X.4,16, the *folia* in *D* are bound in an incorrect order: the *folia* preserving the text edited here are 85v, 82r, 82v, 83r, 83v, and 84r.
148 totum] *add.* ansa 5 pars X C *D* ansa *P*
149 Dicto] Dicta *U*
150 IV] VIII *D*
151 V] IV *D add.* partis decime octava *P*
152 Dicto … parte] *om. D*
153 in huius] *inv. D*
154 4] 3 *DP*
155 huiusmodi] huius *P*
156 et] ad *D*
157 universis … corporis] partibus corporis universis *U*
158 accidere] accidens *D*
159 sunt] est *DP*
160 apostemata] apostema *DP*
161 morphea] morsia *P*
162 Et in … primo] *om. DP*
163 Henricus de Hervordia, *CAE* V.1,136.
164 7] *coni. ex* A *U*
165 Henricus de Hervordia, *CAE* V.2,7.
166 Cur … quaest. 61] *om. DP*
167 *forsitan* Henricus de Hervordia, *CAE* I.1,85.

De febre igitur quaeritur primo in communi, secundo in speciali dicetur, et hoc[168] tripliciter, quia quaedam est in spiritibus, ut effimera, quaedam in humoribus, ut putrida, quaedam in membris, ut ethica[169]. Igitur de febre in communi quaeritur[170]. [*P* 55ra]

[119.][171] Cur febris[172] dicitur esse calor violentus et innaturalis, cum calor naturalis numquam destruatur, nisi anima separetur a corpore, et duo accidentia solo numero differentia[173], puta duo[174] calores differentes[175] numero[176], non possunt simul[177] esse in eodem[178] subiecto.

Responsio: Dicendum, quod febris est calor naturalis mutatus in igneum[179], unde, quod dicit Iohannitius[180],[181]) quod "febris est calor innaturalis", statim exponit subiungens[182] "cursum naturae supergrediens, procedens[183] a corde in arterias[184], suoque laedens[185] effectu", et quod dicit Isaac I *De febribus*[186]), quod "febris[187] est calor praeter naturam cor in initio petens, deinde se dividens

168 hoc] *s.l. D*
169 De febre … ethica] *om. U*
170 Igitur … quaeritur] De febribus in communi sequitur *U*
171 119] 115 *U*
172 febris] febres primo *U*
173 solo … differentia] *om. DP*
174 duo] *om. DP*
175 differentes] deferentes *D*
176 differentes numero] *om. U*
177 simul] *om. DP*
178 in eodem] *om. D*
179 igneum] ignem *U*
180 quod … Iohannitius] dictum Iohanniti *U*
181 JOHANNICIUS 1978, *Isagoge ad Techne Galieni*, § 42, 160.
182 exponit subiungens] exponit subiungit *D* exponitur cum subiungit *U*
183 procedens] *om. D*
184 arterias] arteries *DU*
185 laedens] laedenda *U*
186 ISAAC ISRAELI 1515, *Liber febrium*, I, cap. 3, f. 204rb.
187 febris] frebris *D*

cum naturali calore nocet naturali actioni". Similiter exponit[188]) subiungens[189]: "Extraneo enim calore ad cor accedente naturalis egreditur a temperamento[190], quem egressum a suo temperamento[191] membra recipiunt[192], sicut est. Unde calefacit[193] et urit et nocet actioni naturali", sed[194] "ipsam tamen non destruit", ut parum infra Isaac[195]) subinfert[196]. Unde et adhuc[197] aliquantulum habet actionem naturalem[198].

[120.][199] Cur febris effimera est quandoque[200] causa febrium aliarum[201] et nulla alia est causa effimerae.

Responsio Isaac, libro II *De febribus*[202]): "Effimera nominatur a quadam bestia maris, quae[203] non vivit nisi per unam[204] diem, sicut haec febris[205] non manet nisi per unam diem[206]. Galenus[207] tamen[208] dicit se[209] vidisse, quod ad tertiam

188 Cf. Isaac Israeli 1515, *Liber febrium*, I, cap. 3, f. 204rb.
189 subiungens] subiugens *D*
190 temperamento] temperate *U*
191 temperamento] temperato *U*
192 membra recipiunt] *inv. D*
193 calefacit] calefaciat *D*
194 sed] et *D*
195 Cf. Isaac Israeli 1515, *Liber febrium*, I, cap. 3, f. 204va.
196 subinfert: subintrat DP
197 adhuc] haec *sed corr. s.l. D*
198 naturalem] *add.* Cur pestilentia etc. parte V, ansa 1, quaest. 150; item ansa 2, quaest. 7; item ansa 3, quaest. 41, 13, 14, 15. De effimera *D* Cur pestilentia etc. parte V, ansa 1, quaest. 140; item ansa 2, quaest. 7; item ansa 3, quaest. 41, 13, 14, 15 *P* De febribus febrium quaedam sunt in spiritibus, ut effimeriae, quaedam in humoribus, ut putridae, quaedam in membris solidis, ut ethica. De febribus in spiritibus, puta effemeria *U*
199 120] 116 *U*
200 est quandoque] *inv. U*
201 febrium aliarum] *inv. U*
202 Cf. Isaac Israeli 1515, *Liber febrium*, II, cap. 1, f. 205vb.
203 quae] *om. D*
204 unam] unum *D*
205 haec febris] *inv. U*
206 sicut … diem] *om. D*
207 Galenus] *del.* (*?*) *U*
208 tamen] cum *D*
209 se] *om. D*

vel[210] quartam diem processit. Sed hoc[211] est[212] rarum[213] et contingit, cum pori corporis sunt[214] clausi, maxime cum fumus fuerit grossus, quia pororum corporis oppilatio[215] naturalis vel[216] accidentalis grossum fumum[217] non sinit[218] resolvi[219], unde fit causa elongandi febrem usque ad quatuor dies[220], quae[221] si quartum[222] diem transit et sanguinem calefacit et incendit, a sua natura egreditur et mutatur in causon, et si adhuc plus morabitur, ut naturali corporis humiditati coniungatur[223], in febrem ethicam mutatur. [*U* 200ra] Ideoque diximus, quod febris effimera est causa aliarum febrium et nulla alia est causa sui". Haec Isaac.[224]

Etiam quare effimera est causa aliarum febrium, nulla tamen febrium aliarum est causa effimerae, Rogerius[225]) tamen dicit, quod "effimera dicitur ab effimeron, quod interpretatur simplex, quia fit de simplici materia, id est de spiritu"[226].

210 vel] *add.* ad *D*
211 hoc] hic *sed corr. s.l. D*
212 est] raru *sed del. D*
213 est rarum] *inv. U*
214 sunt] sint *D*
215 oppilatio] apilatio *U*
216 vel] et *D*
217 fumum] *om. D*
218 fumum … sinit] funum *U*
219 resolvi] *add.* grossum fumum *D*
220 ad … dies] in quartam diem *U*
221 quae] et *U*
222 quartum] quartam *U*
223 coniungatur] iungatur *DP*
224 Ideoque ... Isaac *om. U*
225 ROGERIUS DE BARONE, *Practica maior*, tract. III, cap. 1, Pal. lat. 1084, f. 72vb.
226 Etiam quare … spiritu] *om. DP*

[121.][227] Cur et qualiter effimerarum[228] alia est morbus, alia symptoma[229] morbi, et qualiter utraque[230] curetur.

Responsio: Rogerius[231] in *Practica*[232]): [*D* 82r] Effimera quandoque est[233] symptoma morbi[234], ut illa, quae comitatur apostemata[235] vel glandulas etc.[236] Est autem morbus per se, quando fit a calore vel[237] frigiditate aeris vel ex labore vel ex ieiunio vel ira vel coitu[238] vel medicina laxativa[239]. Curetur autem[240] cum balneo, provocetur sudor sine balneo[241]. Si autem fiat[242] ex distemperantia animalis[243] spiritus, fiat[244] inunctio[245] circa frontem et tempora. Si fiat ex passionibus animae, per[246] inductionem[247] contrariorum curetur. Si ex repletione[248] ciborum vel potuum, solvatur[249] per vomitum vel clysterem et somnum. Si fiat ex repletione[250] sanguinis, sicut in synocha, solvitur per phlebotomiam. Si autem fiat effimera symptomatica, soluto morbo solvitur effimera. Haec Rogerius.

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227 121] 117 *U*
228 effimerarum] effimeria cum *D*
229 symptoma] sicut hora *D* sint hora *P*
230 utraque] utumque *U*
231 Rogerius] Rogerii *U*
232 Cf. ROGERIUS DE BARONE, *Practica maior*, tract. III, cap. 1, Pal. lat. 1084, f. 72vb–73ra.
233 Effimera …est] *om. DP*
234 morbi] *add.* est effimera *DP*
235 apostemata] apostema *DP*
236 vel … etc.] *om. DP*
237 vel] et *D*
238 coitu] cogit *D*
239 laxativa] laxata *D*
240 autem] *om. DP*
241 provocetur … balneo] *om. DP*
242 autem fiat] fit *U*
243 animalis] animalis *sed del. et corr.* aeris *i.m. D* animali *U*
244 fiat] fiet *U*
245 inunctio] in vene *sed corr. D*
246 per] vel *D*
247 inductionem] induxionem *D* iductionem *U*
248 repletione] impletione *U*
249 solvatur] salvatur *U*
250 repletione] impletione *U*

Febrium in humoribus[251] alia sanguinea, alia[252] phlegmatica, alia cholerica, alia melancholica. Sanguinearum alia simplex, alia composita ut causon[253]. Simplicium alia ex sanguinis plenitudine[254], ut synocha inflativa, alia ex eiusdem putredine, ut synochus, quarum differentia scitur[255] per hunc versum[256]:[257]) "Synocha de quanto, sed synochus ex putrefacto"[258], ut prius dictum est[259]. De harum[260] utraque simul quaeritur[261].

[122.][262] Cur synocha inflativa directe per phlebotomiam est medicanda[263], synochus autem indirecte.

Responsio: Dicendum, quod[264] Hippocrates II partic. *Aphorismorum*, aph. 22[265]) dicit: "Ex plenitudine quaecumque aegritudines fiunt, evacuatio sanat", et Galenus *ibidem* in Commento[266]:[267]) "Cum omne contrarium suo contrario sit medicandum, ut si causa morbi sit [*P* 55rb] calor, frigiditas erit[268] curatio, et e converso[269] si vero plenitudo, servit [*U* 200rb] ad curam evacuatio". Synocha

251 humoribus] hominibus *sed del. et corr. D*
252 alia] *om. D*
253 causon] causo *DP*
254 plenitudine] plenitudinis *D* multitudine *U*
255 scitur] intelligitur *U*
256 versum] *om. sed suppl. s.l. D*
257 Cf. *Flos medicinae* 1859, pars IX, cap. 1, art. 1, 85,2889.
258 putrefacto] putrefacta (?) *U*
259 ut … est] *om. DP*
260 harum] hoc *U*
261 De… quaeritur] *om. D*
262 122] 118 *U*
263 medicanda] medicinanda *U*
264 Dicendum quod] *om. U*
265 Hippocrates 1487, *Aphorismi*, II, 22, f. 17rb (Hippocrates 1931(1), 112).
266 *ibidem* in Commento] commentando *D*
267 Cf. Galenus 1487, *In Hippocratis Aphorismos Commenta*, II, aph. 22, f. 17rb.
268 erit] fiat *U*
269 et e converso] *om. D*

autem[270] est ex plenitudine sanguinis in[271] maioritate, cui contrariatur eius minoratio[272], quae directe fit per phlebotomiam, unde et synocha directe est[273] per phlebotomiam medicinanda.

Synochus autem non ex[274] repletione sed putrefactione fit sanguinis, unde non exigitur[275] evacuatio[276], sed rectificatio eius, quae fit[277] per victoriam naturae super eum et digestionem[278]. Potentior autem est[279] natura super pauca materia, quam super nimia, unde etiam in synocho[280] conceditur phlebotomia, sed indirecte, si tamen[281] proportio materiae et naturae non est certa[282], medicus[283] consulatur[284].

[123.][285] Cur febris causon est omnium febrium ferventissima.

Responsio: Dicendum, quod[286] praeter tertianam duplicem[287] causon fervet plus[288] omnibus aliis[289] febribus putridis, quod est, quia nutriatur[290] in tertiana

270 autem] *om. U*
271 in] est *P om. D add.* a[i] *sed del. U*
272 cui … minoratio] unde eius curatio *U*
273 est] *om. D*
274 ex] fit *D*
275 exigitur] *om. D*
276 evacuatio] avacuatio (*sic*) *D*
277 quae fit] *om. D*
278 super … digestionem] quae cum cer (?) digestione *U*
279 autem est] *inv. U*
280 synocho] synocha *sed corr. s.l. D*
281 tamen] cum *D*
282 certa] t[a]t *U*
283 medicus] medicos *U*
284 consulatur] consolatur *D*
285 123] 119 *U*
286 Dicendum quod] quia *U*
287 duplicem] dupliciter *DP*
288 fervet plus] *inv. U*
289 aliis] *om. DP*
290 nutriatur] *om. DP*

duplici calor duplex, scilicet cholerae[291] intra vasa et cholerae[292] extra vasa, nullum frenum habet sed[293] duo calorem[294] ipsum[295] acuentia, scilicet siccitatem et[296] in hac et in illa cholera[297]. Causon autem, qui generatur in compositione[298] sanguinis cum cholera[299], et[300] si habeat siccitatem[301] acuentem ex parte cholerae, habet tamen humiditatem sicut frenum ex parte sanguinis, ne calor eius duplex[302] tantum[303] incendatur. Unde et synochus minus his fervet[304], qui cum simplici calore sanguinis[305] superfervente[306] quasi frenum habet humiditatem eius. Istis si[307] detur aqua frigida in summo fervore et sufficienter offeratur[308], multum valet et liberavit multos secundum Isaac[309].[310])

De febribus phlegmatica[311], cholerica[312] et[313] melancholica, puta cotidiana et quartana, quaeritur simul[314].

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291 cholerae] calore *U om. sed suppl. i.m.* calore (?) *D*
292 cholerae] calore *U*
293 sed] licet *D*
294 calorem] *add. sed del.* habent *D*
295 calorem ipsum] *inv. U*
296 et] *om. U*
297 cholera] collera *U*
298 in compositione] expositione expositione *D*
299 cholera] collera *U*
300 et] *om. U*
301 siccitatem] *add. sed del.* et *D*
302 duplex] dupliciter *P*
303 tantum] *add. sed del.* talis (?) *U*
304 his fervet] frnt (?) *U*
305 ne calor … sanguinis] *om. D*
306 superfervente] superveniente *D* fervente *U*
307 si] *om. D*
308 offeratur] *om. U*
309 Isaac] *om. sed suppl. i.m. D*
310 Cf. ISAAC ISRAELI 1515, *Liber febrium*, IV, cap. 1, f. 210va.
311 febribus phlegmatica] *inv. D*
312 phlegmatica cholerica] *inv. U*
313 et] *om. U*
314 simul] *om. U*

[124.][315] Cur medicina laxativa in nulla istarum dari debet tempore afflictionis, sed tantum tempore interpolationis.

Responsio Rogerius in quaestionibus *Practicae*[316]:[317]) Huius duplex est ratio, quae posita est supra in hac ansa quaest. 99[318].[319])

[125.][320] Cur cotidiana et[321] tertiana et [*U* 200va] quartana febres putridae dicuntur, cum nullius earum materia sit[322] calida et humida, quae[323] proprie putrefieri[324] dicuntur, ut patet supra[325], parte V, ansa 4[326], quaest. 21[327].[328])

Responsio: Hoc est[329], quia[330], licet[331] putrefactio fiat[332] per hoc, quod[333] calidum continentis[334] evocat[335] calidum interius propter similitudinem et illud evocatum trahit[336] secum humidum et sic putrefactibile[337] dissolvitur et humectatur exterius et[338] tandem in pulverem resolvitur, ut patet in arbore pu-

315 124] 120 *U*
316 Practicae] *post corr. P*
317 *non inveni*.
318 quaest. 99] *om. D* | 99] *lac. P*
319 *recte* HENRICUS DE HERVORDIA, *CAE* X.4,94.
320 125] 121 *U*
321 et] *om. U*
322 sit] est *U*
323 quae] que *U*
324 putrefieri] ultra fieri *U*
325 supra] super *D*
326 4] *lac. DP*
327 21] *lac. DP*
328 HENRICUS DE HERVORDIA, *CAE* V.4,21.
329 Hoc est] *om. U*
330 quia] quod *D*
331 licet] *om. D*
332 fiat] fiet *U*
333 hoc quod] *om. U*
334 continentis] etinentis (*?*) *D*
335 evocat] evacuat *U*
336 trahit] *add. sed del.* evocatum *D*
337 putrefactibile] putrefactibiliter *U*
338 humectatur … et] *om. D*

trefacta, et[339] ideo, quod[340] non habet calorem nec humorem, non est[341] putrefactibile, et phlegma quidem[342] non habet calorem, cholera[343] vero non habet[344] humorem, et melancholia caret utroque, et ideo videtur, quod putrefieri non possint, tamen[345] quia semper aliis humoribus[346] immixti sunt, et, ut dicit Averroes in[347] V *Colliget*[348]), "humores sunt in maiori parte in sanguine in potentia"[349]. "Item certificatum est per omnes medicos et[350] experientia[351] scitur, quod scammonea, si quantitas eius fuerit[352] maior debito[353], purgata cholera[354] postea fortiter purgat phlegma, melancholiam[355] et sanguinem"[356], et infra: "et[357] non est remotum, quin[358] omnes humores[359] habeant proprietatem in uno genere". Haec Averroes. Ideo[360] sicut sanguis, sic et alii humores possunt putrefieri, et ex[361] eis febres putridae generari.

339 et] *om. U*
340 quod] quasi *U*
341 est] *om. D*
342 quidem] quidam *U*
343 cholera] collera *U*
344 habet] *om. D*
345 tamen] cum *D* tum *P*
346 semper … humoribus] aliis humoribus semper *U*
347 in] *om. DU*
348 Cf. AVERROES 1562, *Colliget*, V, cap. 21, ff. 92vbL–93rdD.
349 in potentia] imposita *U*
350 et] quia *U*
351 experientia] expergen[a] *U*
352 fuerit] fuerat *U*
353 debito] debite *U*
354 cholera] colora *U*
355 melancholiam] melancholiam *sed del. D*
356 sanguinem] *add.* sanguinem *D*
357 et] etiam *D*
358 quin] quoniam *U*
359 humores] remotum q *sed del. D*
360 Ideo] etiam *U*
361 ex] *om. sed suppl. s.l. D*

[126.][362] Cur tertiana distinguitur sic, quod quaedam[363] est[364] continua, quaedam interpolata[365]. Similiter et cotidiana et quartana.

Responsio: Dicendum, quod[366] hoc[367] est eo, quod materia febrium harum quandoque est intra[368] vasa, et tunc dicuntur continuae, quandoque extra, et tunc dicuntur[369] interpolatae. Et continuae sunt acutiores interpolatis, sicut in[370] tertiana, quae sic dicitur, quia de tertia die in[371] tertium affligit et aliis diebus[372] habet falsam quietem, continua[373] quidem[374] occultam, interpolata vero manifestam.

Affligit autem cotidiana cotidie[375], quia fumi de materia putrida [*P* 55va] resoluti et cor petentes[376] [*D* 82v] et a corde ad arterias et ab illis in omnia membra [*U* 200vb] corporis diffusi longam febrem faciunt et molestam: longam quidem[377] quia materia grossa est et viscosa non oboediens digestioni vel dissolutioni, molestam autem, quia ex compactione materia vix aliquam quietem[378] admittit. Tempus enim afflictionis est 18 horarum et quietis 6, ut dicit Isaac *De febribus*. Unde priusquam infirmus sentiat unius vexationis dimissionem, altera incipit.

Quartana vero de quarta die in quartam affligit, unde patiens 24 horis tene-

362 126] 122 *U*
363 quod quaedam] que[a] *D*
364 est] sunt *D*
365 interpolata] imposita *D*
366 Dicendum quod] quia *U*
367 hoc] *om. D*
368 intra] inter *DU*
369 dicuntur] sunt *DP*
370 sicut in] ut teria *sed del.* teria *U*
371 in] *add. sed del.* 3 (?) *U*
372 diebus] horis *DP*
373 continua] cottidiana *sed del. et suppl.* continua *i.m. U*
374 quidem] quidam *U*
375 cotidie] *om. U*
376 cor petentes] torpentes *U*
377 quidem] *coni. ex* quidam *U*
378 quietem] *coni. ex* quietam *U*

tur, 48 horis quiescit propter materiam sui, quae est grossa et dura, unde et calorem diu tenet, quiescit autem, quia natura non tantae virtutis est, ut iterum pugnet[379].

Curetur autem cotidiana sic. Detur ante[380] accessionem pondus duorum denariorum de pulvere laureolae cum ovo sorbili vel cum pulcibus[381] et liberabitur, expertum est. Item semen sinapis comestum ante accessionem confert. Item abrotanum tritum et cum aqua distemperatum[382] et bibitum confert. Item succus marrubii et vinum forte ana[383], simul[384], bulliant[385] et dentur[386] ante accessum[387].

Contra tertianam vero[388] da patienti succum capitis monachi ante horam accessus[389] ter vel quater, et[390] confert. Item materia digesta fiat[391] phlebotomia in quarta[392] vel quinta die, si virtus permittit. Ante accessionem[393] hanc[394] digesta materia[395] fiat emplastrum super pulsus brachiorum de urtica minore[396] trita cum sale, et cessabit febris.

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379 et a corde… pugnet] *lac. DP*
380 ante] autem *U*
381 pulcibus] pulambus (*sic*) *U*
382 distemperatum] disparatum *D*
383 ana] an[a] *DP*
384 simul] animal *DP*
385 bulliant] bibatur bullitum *U*
386 dentur] detur *U*
387 accessum] accessionem *D*
388 vero] *om. D*
389 acessus] accessum *P*
390 et] *om. U*
391 fiat] fiet *U*
392 quarta] tertia *U*
393 accessionem] accessum *U*
394 hanc] autem *sed corr.* habet *i.m. P* ac *U*
395 digesta materia] *inv. D*
396 minore] minori *U*

Contra quartanam foveant splen ex oleo, in quo cocta sint capparis, absinthium, scolopendria et anetum. Item Paulinum[397] ante horam accessionis[398] tribuetur[399]. Item recipiant[400] theriacam per intervalla. Iohannes Mesue[401]).

De febre[402] in membris simul[403] et ethica.

[127.][404] Cur ethica male curabilis est.

Responsio secundum Rogerium[405]): Ethica dicitur ab 'ethis', quod est habitudo, quia, postquam corpori supervenit, vertitur in habitum, quod fit[406] vitio[407] membrorum, quae[408] tarde recipiunt immutationem et eam receptam tarde deponunt. [*U* 201ra] Sunt autem tres species eius. In prima consumitur maior pars primae humiditatis. In secunda maior pars secundae. In tertia maior pars tertiae, et in hac tertia[409] tanta est consumptio, ut dicunt auctores, ut, si elevetur[410] cutis, non revertitur, nisi manu deprimatur[411]. Et prima quidem[412] curabilis est[413], secunda vix et[414] difficulter, tertia vero non curatur. Abstineat

397 Paulinum] Paulineam *U*
398 accessionis] accessionem *U*
399 tribuetur] trituratur *D lac. sed suppl.* trituratur *i.m. P*
400 recipiant] accipiant *D*
401 *non inveni*.
402 febre] *add*. et *D*
403 simul] *om. D*
404 127] 123 *U*
405 Cf. ROGERIUS DE BARONE, *Practica maior*, tract. III, cap. 2, Pal. lat. 1084, f. 73ra–b.
406 quod fit] et sic *U*
407 vitio] vitium *U*
408 quae] quia *D*
409 maior … tertia *om. U*
410 elevetur] elevatur *sed. corr. s.l. D*
411 manu deprimatur] manum deprimat *U*
412 quidem] quidam *U*
413 est] *om. DP*
414 et] vel *U*

ethicus ab amaris, acutis, salsis et multum calidis et siccis, ab[415] acetosis, frixis[416], vetustis et generaliter[417] ab omnibus desiccantibus[418] corpus. Offeruntur[419] electuaria resumptiva, sicut dragagantum[420] frigidum infusum restaurativum humiditatis.

De febrium symptomatibus quaeritur[421].

[128.][422] Cur morborum[423] symptomata quandoque morbis ipsis sunt plus molesta.

Responsio secundum Rogerium[424]): "Febris plus[425] nocet proprio symptomate quam se ipsa, ut plus nocet phrenesi, et phrenesis[426] plus laedit instantia vigiliarum quam se ipsa"[427], quod est, quia et morbo laedit, cuius accidens est[428], et[429] se ipso, unde plus molestum est. Maius enim[430] vel plus est, quod tantumdem et amplius est[431]. Sunt autem febrium multa symptomata, scilicet sudor cardiacus, phrenesis, fluxus sanguinis in naribus, dolor frontis et

415 ab] *om. U*
416 frixis] friccis *U*
417 generaliter] specialiter *U*
418 desiccantibus] desiccatibus *D* dissecantibus *U*
419 Offeruntur] auferuntur *U*
420 dragagantum] dagrag^{m} *D* dragagm *P* dyagredium *U*
421 De … quaeritur] *om. U*
422 128] 124 *U*
423 morborum] membrorum *U*
424 Cf. ROGERIUS DE BARONE, *Practica maior*, tract. III, cap. 16, Pal. lat. 1084, f. 77ra; cap. 17, Pal. lat. 1084, f. 77rb.
425 plus] *om. U*
426 phrenesis] febris *P*
427 ut plus … ipsa] *om. D*
428 accidens est] *inv. D*
429 et] a *U*
430 enim] est *sed add.* enim *s.l. D*
431 est] *om. D*

capitis, singultus, pariotidis[432], diaforeticus[433] sudor non dico cardiacus[434], urinae suffocatio, instantia vigiliarum, excoriatio tracheae arteriae et[435] linguae et palati, tremor membrorum, syncopis et huiusmodi, quorum curae secundum consilium medici studiosius est intendendum[436]. Haec[437] Rogerius[438]).

Dicto de morbis universalibus, qui simul universo corpori accidunt, dicendum est[439] de universalibus, qui[440] non simul accidunt, sed nunc uni membro, nunc alteri, ut contingit in corpore universo[441].

De[442] apostemate quaeritur[443].

[129.][444] Cur apostema[445] generatur in corpore.

Responsio Rogerii[446]): Quia alimentum membrum[447] nutriens quandoque[448] superfluit et dirigitur ad[449] aliud membrum, quia nutritiva non potens ipsum incorporare membro eicit[450] [*U* 201rb] extra et facit ibi crescere, quia non ex

432 pariotidis] panthoythides *U*
433 diaforeticus] deforeticus *U*
434 phrenesis … cardiacus] *om. DP*
435 et] *om. U*
436 est intendendum] intendendo *D*
437 Haec] *om. DP*
438 Cf. ROGERIUS DE BARONE, *Practica maior*, tract. III, cap. 17–28, Pal. lat. 1084, f. 77rb–79ra.
439 est] *om. D*
440 qui] quae *D*
441 corpore universo] *inv. U*
442 De] *praem.* Primo *U*
443 quaeritur] apostema *U*
444 129] 125 *U*
445 apostema] aposma *sed add.* te *s.l. U*
446 *non inveni.*
447 membrum] membra *U*
448 quandoque] quando *DP*
449 ad] in *U*
450 eicit] eius sit dextro *sed corr. U*

toto innaturale[451] est, unde generatur apostema. Est autem apostema tumor membri magnus, quia pustulae[452] vel[453] bothor[454] vel formica vel sacer ignis, impetigines, Persicus ignis, variolae, morbilli, tumores quidem[455] sunt, sed apostemata non[456] sunt[457] [*P* 55vb]. Avicenna vult, quod in omni apostemate ponenda sunt repercussiva, sed quia multa[458] sunt multum venenosa, hoc nullatenus expedit, sed ipse intelligit ut plurimum. Secundum diversitatem autem earum[459] diversa[460] remedia sunt adhibenda. Rogerius[461].

[130.][462] Cur apostema[463] quoddam[464] dicitur[465] 'noli me tangere'.

Responsio secundum Eundem[466]): "Istud apostema fit[467] a mento[468] superius[469] et est cholericum et est de morbis contagiosis, unde vocatur sic[470], vel ideo, quia, si[471] tangeretur, magis fluerent ad ipsum humores, et ita morbus augmentaretur". Istud apostema inveteratum difficilis curationis est[472].

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451 innaturale] innaturali *U*
452 pustulae] postillae *U*
453 vel] *om. U*
454 bothor] bachus (?) *U*
455 quidem] quidam *U*
456 non] *om. U*
457 sunt] *add.* sed *U*
458 multa] opilata *DP*
459 earum] corporis *U*
460 diversa] *om. DP*
461 Rogerius] *om. U*
462 130] 126 *U*
463 apostema] apostemata *D*
464 quoddam] quaedam *D* quodam *U*
465 dicitur] dicuntur *D*
466 ROGERIUS DE BARONE, *Practica maior*, tract. II, cap. 2, Pal. lat. 1084, f. 65ra.
467 fit] *lac. DP*
468 mento] vitio *U*
469 superius] *add.* dicto *U*
470 sic] *om. DP*
471 quia si] quia *D*
472 est] *om. D*

[131.][473] Cur cancer si antiquatur[474], difficulter[475] curatur.

Responsio Eiusdem[476]): "Generalis regula est, quod omnis corrosio[477] vel in 'noli me tangere' vel in cancro vel in fistula, si est inveterata, difficile curatur, cum cancer sit[478] de magis ignita cholera, quod[479] patet, quia[480] plus corrodit[481] in[482] una[483] die quam 'noli me tangere' in uno mense". Secundum veritatem tamen est de[484] melancholia adusta. Unde caveantur omnes cibi et potus[485] choleram nigram[486] generantes et quaerantur generantes bonum[487] sanguinem. Item allium, urina[488], auripigmentum et atramentum[489] bene pulverizatum[490] aspersum super[491] cancrum et fistulam confert. Rogerius[492]) dicit, quod, "sicut large omne apostema cholericum dicitur[493] erisipela[494] et stricte id[495], quod fit ex[496] ignita cholera cum ulcere[497] et combustione, ita omne [*U* 201va]

473 131] 127 *U*
474 antiquatur] inveteratur *D*
475 difficulter] difficile *U*
476 Cf. ROGERIUS DE BARONE, *Practica maior*, tract. II, cap. 2, Pal. lat. 1084, f. 65ra.
477 corrosio] turrosio (*sic*) *U*
478 sit] fit *DP*
479 quod] hoc *U*
480 quia] *om. U*
481 corrodit] comedit *D*
482 in] *om. U*
483 una] parva *D*
484 de] *om. U*
485 et potus] *om. D*
486 nigram] magnam *U*
487 generantes bonum] *inv. D*
488 allium urina] calcem vivam *U*
489 et atramentum] *om. U*
490 pulverizatum] *add.* et *U*
491 super] *om. D*
492 Cf. ROGERIUS DE BARONE, *Practica maior*, tract. II, cap. 5, Pal. lat. 1084, f. 65vb.
493 dicitur] *om. sed suppl. s.l. U*
494 erisipela] ausipola *U*
495 id] illud *U*
496 ex] *om. DP*
497 ulcere] ulcera *U*

apostema[498] factum de melancholia dicitur cancer larga[499] significatione, sed[500] stricte dicitur id[501], quod fit de melancholia innaturali cum[502] ulcere et corrosione"[503].

[132.][504] Cur "erisipela[505] membrum, cui insidet[506], corrodit et comburit[507].

Responsio: Rogerius[508]) dicit, quod[509] hoc, ideo fit, quia[510] de ignita cholera generata est"[511], et ignis Persicus vel sacer ignis[512] vocatur[513], et est morbus [*D* 83r] habens pruritum et fervorem intolerabilem membri patientis[514] cum ampullis et aqua subtili, et dicitur erisipela[515], quia litigiose et intolerabiliter et acutissime ferit[516]. Cura eius prima est minutio. Item ampullae rumpendae sunt et totum virus expellendum. Item loca patientia farina hordei cataplasmanda[517]. Item scarpello[518] sunt scarificanda[519]. Iohannes de Sancto Paulo[520]).

498 apostema] *om. D*
499 larga] largi *D* latiga *U*
500 sed] *om. U*
501 id] illud *U*
502 cum] tamen *U*
503 corrosione] quadam corusione *U*
504 132] 128 *U*
505 erisipela] erisipola *U*
506 insidet] inscidit *U*
507 corrodit et comburit] *om. U*
508 ROGERIUS DE BARONE, *Practica maior*, tract. II, cap. 4, Pal. lat. 1084, f. 65va.
509 quod] *om. DP*
510 quia] quod *U*
511 est] sit *U*
512 vel … ignis] *om. DP*
513 vocatur] *om. U*
514 patientis] percutientis *D add.* et *U*
515 erisipela] erisipola *U*
516 quia … ferit *lac. DP*
517 cataplasmanda] cataplasmantur *U*
518 scarpello] scarpelio *D*
519 scarificanda] fricanda *U*
520 *non inveni.*

[133.][521] Cur in membro, quod premit anthrax, sentitur pondus et aggravatio, ac si membrum sit[522] plumbeum.

Responsio Rogerii[523]): Hoc est propter gravedinem melancholiae. Est[524] enim[525] anthrax apostema compositum ex triplici materia, scilicet sanguinea, cholerica et melancholica[526]. Unde habet irregulatam formam, unam scilicet lineam[527] rubeam, aliam citrinam et aliam[528] nigram. Primo[529] apparet ad quantitatem parvae lenticulae cum parva nigredine in superficie, et summitas apostematis videtur trahi quasi cum filo[530] ad profundum. Consilium ergo est, ut[531] particularibus concurrentibus fiat minutio a parte patiente, ne, si[532] fieret a parte opposita, materia traheretur ad aliquod membrum nobile et fieret causa symptomatis gravioris. Utamur autem in anthrace dissolutivis et aperitivis[533] non[534] repercussivis. Item sumatur theriaca cum vino tepido singulis diebus et ponatur ter in die[535] super anthracem.

521 133] 129 *U*
522 sit] sint *P*
523 Cf. ROGERIUS DE BARONE, *Practica maior*, tract. II, cap. 3, Pal. lat. 1084, f. 65rb.
524 Est] cum *D*
525 enim] autem *U*
526 sanguinea … melancholica] sanguinea cholera et melancholia *D* sanguine cholera et melancholia *U*
527 lineam] linea *D*
528 aliam] *om. U*
529 Primo] prima *U*
530 filo] filio *U*
531 ut] *add.* in *D*
532 si] *om. DP*
533 aperitivis] apperitivis *P*
534 non] ne *U*
535 in die] *om. D*

[134.][536] Cur lupus dicitur herpes estiomenus[537].

Responsio Rogerii[538]), quia quasi se ipsum[539] comedit, [*U* 201vb] quod sonat 'herpes estiomenus[540]'. Fit enim quandoque ex erisipela praecedente, quandoque ex humore ad aliquod membrum transmisso et corrodente membrum, cui[541] insidet[542]. In principio partibus convenientibus fiat[543] phlebotomia. Item accipe mel et hordeum et sal commune in aequali pondere et comburantur[544] in olla[545] rudi et fiat inde pulvis subtilis et super aspergatur[546].

[135.][547] Cur in scabie utendum est resolutivis.

Responsio Iohannis de Sancto Paulo[548]), quia resol[*P* 56ra]vunt grossas humiditates et expellunt, unde aer calidus valet eis et exercitium forte, quia etiam resolvit et consumit. Balneum etiam valet eis eadem ratione et cibi[549] boni sanguinis generativi et digestibilis[550]. Est autem scabies pustulae parvae et multae in superficie corporis coniunctae, quae fiunt de humoribus corruptis virtute naturae pro[551] interiori[552] mundificatione transmissis ad cutem et eam corrumpentibus et ulcerantibus, ut dicit Rogerius[553]).

536 134] 130 *U*
537 estiomenus] estiomeus *U*
538 ROGERIUS DE BARONE, *Practica maior*, tract. II, cap. 6, Pal. lat. 1084, f. 66ra–va.
539 se ipsum] sepm *U*
540 estiomenus] estiomeus *U*
541 cui] *om. sed suppl. s.l. U*
542 insidet] coincidet *sed corr.* incidet *U*
543 fiat] fiet *U*
544 comburantur] comburentur *U*
545 olla] ollo *U*
546 aspergatur] spergatur *D*
547 135] 131 *U*
548 *forsitan* JOHANNES DE SANCTO PAULO 1515, *Liber de virtutibus simplicium medicinarum*, cap. 37, f. 188rb.
549 cibi] ter *U*
550 digestibilis] digressibiles *U*
551 pro] eis *U*
552 interiori] interioribus *U*
553 Cf. ROGERIUS DE BARONE, *Practica maior*, tract. II, cap. 8, Pal. lat. 1084, f. 67ra.

[136.][554] Cur dicit Avicenna[555]), quod[556] lepra est infirmitas mala proveniens ex sparsione melancholiae innaturalis incineratae[557] sive[558] putrefactae[559] per membra.

§ Responsio Matthaei *Super Viacitum*[560]): Hoc est, quia in lepra sunt omnia tria genera[561] morborum: consimile, quia ibi est complexio calida et sicca; officiale, quia ibi est oppilatio[562] intrinseca[563] occulta, primo et ultimo[564] etiam manifesta oppilatio meatuum; commune, quia ibi est occulta solutio continuitatis sub cute, et hoc[565] a sicco humore findente[566] membra, et ultimo etiam[567] manifesta solutio membrorum exteriorum. Unde[568] lepra dicitur[569] et est cancer universalis, cuius causa coniuncta est proiectio vel sparsio melancholici humoris in porositates[570] membrorum et eius ibidem conglutinatio et[571] per adustionem sive[572] putrefactionem incineratio. Est etiam[573] infirmitas mala quia[574] incurabilis. [*U* 202ra]

554 136] 132 *U*
555 Cf. AVICENNA 1507, *Liber canonis*, IV. fen 3. tract. 3. cap. 1, f. 442vb.
556 quod] *om. U*
557 incineratae] in *lac. U*
558 sive] et *U*
559 putrefactae] putredine *D*
560 *non inveni*.
561 genera] membra *D*
562 oppilatio] apilatio (*?*) *U*
563 intrinseca] interminata *U*
564 primo … ultimo] prima et ultima *U*
565 hoc] hic *D*
566 findente] findendo *D*
567 etiam] et *U*
568 Unde] ut *U*
569 dicitur] *om. D*
570 porositates] porositatem *D*
571 et] *om. D*
572 sive] et *U*
573 Est etiam] et est *D* | etiam] et *U*
574 quia] et *U*

[137.][575] Cur inhabitantes montana et alia[576] loca sicca[577] plus aliis leprantur.

§ Responsio Matthaeus[578] ubi supra[579]): Quia ex causis primitivis[580] lepram generantibus est aer calidus et siccus et plus siccus.

[138.][581] Cur venatores et cursores ut plurimum incurrunt[582] lepram.

§ Responsio: Quia[583] exercitium etiam est[584] ex causis primitivis[585] leprae, si sit calefaciens et desiccans. Idem *ibidem*[586]).

[139.][587] Cur multi inter Francigenas[588] sunt leprosi.

§ Responsio *ibidem*[589]): Quia condimenta[590] calida[591] ut alliatae et salsae[592] et similia lepram generant; sanguinem enim et humores incendunt et incinerant.

[140.][593] Cur in maris litoribus[594] et in locis palustribus degentes frequenter leprantur.

575 137] 133 *U*
576 alia] alta *U*
577 sicca] *om. D*
578 Matthaeus] Matthaei *D* Metheus *U*
579 *non inveni*.
580 primitivis] princitivis *U*
581 138] 134 *U*
582 incurrunt] incurrant *U*
583 Quia] *om. sed suppl. s.l. D*
584 etiam est] *inv. U*
585 ex … primitivis] de primitivis causis *U*
586 *non inveni*.
587 139] 135 *U*
588 Francigenas] frontienas *U*
589 *non inveni*.
590 condimenta] admenta *U*
591 calida] *om. DP*
592 salsae] salie *D*
593 140] 136 *U*
594 maris litoribus] *inv. U*

§ Responsio Eiusdem *ibidem*[595]:[596]) Quia per salsedinem maris humores in eis accenduntur et per palustria corrumpuntur et incinerantur[597] et leprantur. Diaeta omnium, ut[598] allevientur[599]. Incurabilis est lepra. Vitent[600] carnes vaccinas[601], caprinas, cervinas, bubalinas, leporinas; vitent caseum, caules, milium, lentes et similia; vitent somnum multum, vigilias multas; non commorentur cum leprosis propter fumos venenosos ab eis[602] resolutos[603], quibus aer corrumpitur, quia[604] ab aliis intractus[605] corrumpit[606] apparatos.

[141.][607] Cur bonum est leprosis, si cum sanis commorantur[608].

§ Responsio *ibidem*[609]): Quia spiritus leprosorum a spiritibus sanorum ad bonum alteratur et temperatur, quando eum sibi attrahunt ad pulmonis et cordis interiora, et adhuc[610] melius est, si cum sanis dormiant et maxime pueris, quia calore eorum temperantur et[611] siccitas eorum humectatur. Pueri enim multum humidi [*U* 202rb] sunt, unde et difficile leprantur, nec etiam si sic[612],

595 Eiusdem *ibidem*] *om. D*
596 *non inveni.*
597 incinerantur] ricreantur (*?*) *U*
598 ut] tot *U*
599 allevientur] alleviantur *U*
600 Vitent] vitet *U*
601 vaccinas] faccinas *U*
602 eis] ea *D*
603 resolutos] resolutus *U*
604 quia] qui *U*
605 intractus] intractos *sed corr. P*
606 corrumpit] corrupit *D*
607 141] 137 *U*
608 commorantur] commorentur *U*
609 *non inveni.*
610 adhuc] ad hoc *U*
611 et] in *U*
612 si sic] *om. U*

in eis manifestatur nisi raro et[613] post tricesimum annum[614]. Bonum est etiam[615] eis[616], si puellae cum eis iaceant, sed tamen coire cum eis non debent, cum[617] hoc eis summe nocivum sit[618].

[142.][619] Cur *Viaticus*[620]) sub nomine vulneris tractat de ulcere.

§ Responsio: Eo quod[621] ulcus [*D* 83v] vulnus sit non quidem[622] ab extra illatum, sed a corruptis humoribus et virulentis[623] natum et[624] secundum Hugutionem cap. "Oleo"[625]) dicitur "ulcus quasi olcus eo, quod oleat, et est vulnus corporis recens plaga, ulcus inveteratum vulnus. Vulnus est, quod ferro vel fuste vel lapide fit. Ulcus per se nascitur in cute, unde ulcerosus[626], ulcerose". Sido[*P* 56rb]nius[627]): "Impositum sacerdotalis nomen officii confugere me[628] ad precum vestrarum praesidia[629] compellit, ut adhuc ulcerosae conscientiae nimis hiulca[630] vulnera vestro saltem cicatrizentur oratu"[631]. Bernardus[632]): Membra siquidem principalia, cum fortiora sint[633] aliis, omnes humo-

613 et] *om. U*
614 tricesimum annum] triginta annos *U*
615 est etiam] *inv. U*
616 eis] *om. DP*
617 cum] quia cum *D* quia *U*
618 sit] est *U*
619 142] 138 *U*
620 Cf. CONSTANTINUS AFRICANUS 1515, *Viaticum*, VII, 22, f. 170va.
621 quod] *add.* etiam *U*
622 quidem] *om. D*
623 virulentis] virilentis *U*
624 et] *om. U*
625 Cf. HUGUTIO 2004, *Derivationes*, O18 "Oleo" §§ 7–9, 866.
626 ulcerosus] *om. U*
627 SIDONIUS APOLLINARIS 1970, *Epistulae*, VI, epist. 7, 1.
628 me] ut *U*
629 praesidia] praesidium *D*
630 nimis hiulca] nimio hyaltu *DP sed corr.* nimis hyalta *i.m. P*
631 oratu] *add.* et *U*
632 *non inveni.*
633 sint] sunt *U*

res virulentos[634] a se propellunt[635] ad exteriora et maxime ad crura et ad brachia. Si igitur[636] de sanguine sit vel[637] cholera, primo phlebotomandus est, post cum proprio laxativo purgandus[638], post supponenda resolutiva et desiccativa, sicut est litargirum[639], cerussa, calx[640] et[641] chelidonia, quae[642] summe valet.

[143.][643] Cur "in variolis est prurigo in naribus et punctura in superficie corporis".

Responsio: *Viaticus*[644]) dicit, quod hoc est, quia "materia virulenta[645] quaerens exitum[646] pungit[647] [*U* 202va] carnem et cutem separans iuncturas earum ad exeundum[648]. Medicandum est in principio cum calidis et[649] humidis, quae[650] materiam dissolvant et[651] expellant. Caveatur medicina frigida, quia humores claudit[652] et congelat". Bernardus[653]:[654]) Sunt autem variolae pustulae[655] parvae aliquantulum elevatae vel in toto corpore vel in parte ex putredine sanguinis

634 virulentos] virilentus *U*
635 propellunt] propellit *D*
636 igitur] etiam *U*
637 vel] et *U*
638 purgandus] purgandum *P*
639 litargirum] litargium *D*
640 calx] clax *D*
641 et] *om. U*
642 quae] que *U*
643 143] 139 *U*
644 Cf. CONSTANTINUS AFRICANUS 1515, *Viaticum*, VII, 8, f. 168vb.
645 virulenta] virilenta *U*
646 exitum] exitus *DP*
647 pungit] punget *U*
648 exeundum] existendum *D* exeundem *U*
649 et] *om. D*
650 quae] que *U*
651 et] *om. D*
652 claudit] congregat *D*
653 Bernardus] Brancardus *U*
654 *non inveni*.
655 pustulae] postulae *U*

provenientes. Sunt et aliae pustulae valde citrinae sine[656] elevatione cutis et dicuntur morbilli[657], quae[658] plus de putredine sunt[659] cholerae. Proveniunt autem etiam[660] ex hoc, quia[661] fetus[662] menstruo nutritus in utero aliquid corruptionis[663] retinet natus, quod[664] natura expellere non potuit, unde purgatur[665] in pueris vel in mense septimo vel in anno septimo vel in[666] anno quarto decimo vel etc.[667], et sunt tam senibus quam iuvenibus periculosae, et quidam[668] evadunt lepram per[669] variolas, quidam[670] non[671].

[144.][672] "Cur vulnus quoddam[673] antiquatum in corpore[674] fistulae nomen accepit.

Responsio Rogerii[675]) propter similitudinem, quia sicut fistula a parte superiori angustum habet meatum et in alia parte extenditur in latum, ita fistula orificium habet strictum et in profundo corrodit in latum". In primis igitur[676] aperiatur orificium fistulae, ut mundificari possit et post[677] tandem cura-

656 sine] super *U*
657 morbilli] morbi illi *U*
658 quae] qui *U*
659 sunt] *om. U*
660 etiam] est *U*
661 ex … quia] ad hoc quod *U*
662 fetus] vetus *U*
663 aliquid corruptionis] aliquas corruptiones *U*
664 quod] quas *U*
665 purgatur] purgantur *U*
666 in] *om. U*
667 vel etc.] *om. U*
668 et quidam] quidem *D*
669 per] pro *D*
670 quidam] quidem *D*
671 et quidam … non] *om. U*
672 144] 140 *U*
673 quoddam] quodam *U om. sed suppl. i.m. D*
674 antiquatum … corpore] in corpore antiquatum *D*
675 Cf. ROGERIUS DE BARONE, *Practica maior*, tract. II, cap. 7, Pal. lat. 1084, f. 66vra.
676 igitur] autem *U*
677 post] *om. U*

ri. Item fistula saepe cum urina propria est lavanda. Item album[678] coctum cum aceto et superpositum[679] multum[680] confert. Item ranam aquaticam[681] lacera per medium ventrem et cum interiori parte[682] liga super fistulam, quousque putrescat ex[683] malitia fistulae, qua[684] amota alia[685] superapponatur[686], quousque[687] curetur.

[145.][688] Cur in tremore, iectigatione et[689] paralysi[690] duplex motus est[691] alter alteri[692] contrarius, scilicet motus morbi et naturae.

Responsio: *Viaticus*, libro I, cap. ultimo[693]): "Tremor et iectigatio[694] sunt morbi compositi ex natura[695] et morbo[696], quorum morborum unus sursum[697], alter movet[698] deorsum[699]. [*U* 202vb] Similiter et paralysis[700]. Causa tremoris defectio est[701] virtutis lacertos moventis, quae[702] vel a semet ipsa deficit causa malae

678 album] animal *sed del. et corr.* albani *D* albani *P*
679 superpositum] suprapositum *D*
680 multum] rivultum (?) *U*
681 aquaticam] aquaticum *U*
682 interiori parte] interioribus *U*
683 ex] et *U*
684 qua] que *U*
685 alia] alius recens *U*
686 superapponatur] supponatur *D* superponatur *U*
687 quousque] donec *U*
688 145] 141 *U*
689 et] *om. U*
690 paralysi] paralasi *U*
691 motus est] *inv. D*
692 alteri] altri *D*
693 Cf. CONSTANTINUS AFRICANUS 1515, *Viaticum*, I, 25, f. 148rb.
694 iectigatio] iectatio *U*
695 natura] *add*. motus *U*
696 morbo] morbi *U*
697 sursum] *add*. movet *U*
698 movet] *om. U*
699 deorsum] *add*. Natura sursum morbus deorsum *U*
700 paralysis] paralasis *U*
701 defectio est] *inv. U*
702 quae] que *U*

complexionis vel ex accidentibus animae sicut timore vel ex motus voluntarii[703] gravitate[704] vel ex gravitate[705] ponderis virtutem vincentis". De aliis dicatur ex his[706].

[146.][707] Cur "dormitatio membrorum composita est inter naturam et morbum".

Responsio Eiusdem *ibidem*[708]): "Huius causa est frigiditas substantiam nervorum coagulans et infrigidans et constipans, ne virtus sensibilis eam penetrare[709] possit. Quorum omnium", scilicet[710] tremoris, iectigationis, paralysis[711] et dormitationis, "medicina est una: donemus[712], quae calefaciant[713], dissolvant et superfluitatem minuant, sicut theodoricon ierologodion[714], et similia unguenta et olea superioribus fiant similia[715], et haec omnia fiant post balnea sulphurea" etc.[716]

703 voluntari] *add.* p *U*
704 gravitate] gni^te^ *D*
705 gravitate] gravedine *U*
706 De … his] *om. D*
707 146] 142 *U*
708 Cf. CONSTANTINUS AFRICANUS 1515, *Viaticum*, I, 26, f. 148rb.
709 penetrare] praesentare *P*
710 scilicet] *om. U*
711 paralysis] paralasis *U*
712 donemus] danenus (*sic*) *U*
713 calefaciant] calefacient *U*
714 Ierologodion] Geralogodium *U*
715 unguenta … similia *om. DP*
716 sulphurea etc.] sulphurearum *U* | etc.] *om. D*

[147.][717] Cur morsus scorpionis, vesparum[718] et[719] muscarum omnium secundum genus suum, apum[720], pulicum[721], pediculorum et similium uno modo generali[722] curabilis [*P* 56va] est.

Responsio Bernardi[723] *Super Viaticum*[724]): Venenosa ponimus[725] intrinsecus[726] in his, ut[727] gratia similitudinis extrahant[728] venenum, sicut mures mortuos, scorpiones mortuos vel oleum, in quo mortificati sunt scorpiones, quia illud viscositate sua venenum in se retinet et ex[729] hoc adtrahit. Similiter in[730] araneis fit[731]. Musca etiam extrahit venenum et numquam ullam[732] muscae[733] praeter hanc utilitatem[734] inveni[735]. Bertholdus[736].[737])

[148.][738] Cur circa[739] puncturam pulicis membrum contrahit rubedinem[740].

Responsio Idem *ibidem*[741]): Vel quia per[742] puncturam sanguis exsugitur et

717 147] 143 *U*
718 vesparum] vesperarum *U*
719 et] *om. D*
720 apum] apium *U*
721 pulicum] pullicum *ante corr. U add.* et *P*
722 generali] *om. D*
723 Bernardi] Bernardo *U*
724 *non inveni.*
725 Venenosa ponimus] venona posita *U*
726 intrinsecus] extrinsecus *U*
727 ut] *om. U*
728 extrahant] extrahunt *U*
729 ex] ad *U*
730 in] de *U*
731 fit] sit *U*
732 numquam ullam] numquam nullam *D* nullam unquam *U*
733 muscae] *om. U*
734 utilitatem] *add.* habere muscae *U*
735 inveni] dinoscitur *U*
736 Bertholdus] *om. U*
737 *non inveni.*
738 148] 144 *U*
739 circa] cira *D*
740 contrahit rubedinem] contrahitur rubedo *U*
741 *non inveni.*
742 per] *om. D*

alius[743], ne vacuum sit, cum[744] calore subsequitur et partem illam, scilicet[745] puncturae propinquam, replens[746] rubificat, vel quia pungendo[747] venenum immittit[748], quod[749] quasi a centro per circumferentiam diffusum, cum calidum sit, membrum colorat. Quod autem venenum illud calidum sit, patet per arsuram puncturae et celeritatem[750] pulicis et nigredinem eius et etiam [*U* 203ra] eius stercoris.

[149.][751] Cur sordes ab interioribus collectae circa cutem[752] in[753] interscapilio[754] plus multiplicantur[755].

Responsio dicit[756], quod[757] sordes istae sunt[758] reliquiae quarundam[759] superfluitatum quartae digestionis, scilicet aqueae[760] et cinereae, quae virtute cordis ad cutem propulsae ibi miscentur et sordes generant, quae et condensantur et per fumos alios[761] primis consimiles inspissantur, conculcantur et inviscantur[762], ut, qui in sordibus est, sordescat[763] adhuc. Est enim triplex superfluitas

743 alius] alios *U*
744 cum] *iter. D*
745 scilicet] quae *U*
746 propinquam replens] *om. sed suppl.* replens propinquam *i.m. D*
747 pungendo] pinguedo *sed corr. i.m. P*
748 immittit] emittit *U*
749 quod] quia *U*
750 celeritatem] sceleritatem *U*
751 149] 145 *U*
752 circa cutem] *om. U*
753 in] *om. D*
754 interscapilio] interscapulium *U*
755 multiplicantur] multiplicatur *D*
756 dicit] dic *DU*
757 quod] ut *U*
758 istae sunt] *om. D* | sunt] *om. P*
759 quarundam] quorundam *U*
760 aqueae] aquae *U*
761 per … alios] pustulaba[as] *U*
762 inviscantur] invitantur *U*
763 sordescat] sordescunt *U*

quartae digestionis. Prima necessaria est ad conservationem speciei, scilicet semen, quod est superfluum alimenti[764]. Aliae duae[765] sunt ad purgationem individui, scilicet humida sudoralis[766] et sicca cinerea, quae sordes has generant. De quibus bene dictum est parte VIII, ansa 8[767], quaest. 359 et 358[768].[769]) Diriguntur[770] autem superfluitates istae plus ad partes quasdam vel propter vicinitatem[771] earum ad cor, quod est fons caloris fumos expellentis, ut ad interscapilium[772], quod est spatium inter scapulas in summitate[773] dorsi intra[774] cervicem, ut[775] dicit[776] Isidorus XI [*D* 84r] *Etymologiarum*, cap. 1[777],[778]) vel propter pororum[779] largitatem, qui ibidem largiores sunt, quod ostendit grossities[780] pilorum in dorsis brutorum vel propter earum situationem, quia prompte defricari non possunt[781], sicut partes anteriores, ut mundificentur. Cooperantur ad hoc[782] vestes non bene mundae, ab eisdem superfluitatibus in poris pediculi generantur: rubei quidem a sanguineis et cholericis; albi vero a phlegmaticis; sed nigri et parvi a melancholicis[783]. Purgetur ergo[784] corpus et lavetur[785], mundae vestes adhibeantur.

764 superfluum alimenti] nutrimenti superfluum *U*
765 duae] *om. U*
766 sudoralis] subdoralis *U*
767 ansa 8] *om. D*
768 et 358] *om. D*
769 *forsitan* HENRICUS DE HERVORDIA, *CAE* VIII.10,11–12.
770 Diriguntur] digeruntur *U*
771 vicinitatem] vini^{tem} (*sic*) *D*
772 interscapilium] interscapulium *DPU*
773 in summitate] et summitatem *U*
774 intra] inter *D* infra *U*
775 ut] et *U*
776 dicit] *om. D*
777 1] *add.* propter earum situationem *D*
778 Cf. ISIDORUS 1911, *Etymologiae*, XI, cap. 1, §§ 91–93.
779 pororum] puerorum *U*
780 grossities] grossitias *U*
781 defricari … possunt] desiccari non possunt *sed del. et add.* siccari non possunt *D*
782 ad hoc] adhuc *D*
783 a melancholicis] amenan^{tis} (?) *U*
784 ergo] igitur *P*
785 lavetur] *add.* et *D*

Post morbos universales quaerendum est de particularibus, qui[786] sunt quadripartiti. Sunt enim vel circa partes animales, quibus principatur cerebrum, vel circa partes vitales, quibus cor, vel circa partes naturales, quibus hepar, vel circa partes genitales, quibus testiculi principantur, et circa[787] partes[788] unicuique[789] [*U* 203rb] istarum[790] vicinas.

786 qui] quae *D*
787 circa] circas *sed corr. D*
788 partes] *om. D*
789 unicuique] unique *D* uniuscuiusque *U*
790 istarum] istorum *U*

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INDICE DEI MANOSCRITTI

Quaderni di Noctua, volume 7, 2024, ISBN 9788875903183

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INDICE DEI NOMI

Quaderni di Noctua, volume 7, 2024, ISBN 9788875903183