Taming an epidemic

The 'Praagse Brief' and its reflections in late medieval municipal legislation

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Introduction[1]

> '*De vijftiende eeuw nu is een tijd van ontzettende depressie en grondig pessimisme. […] de eeuwige beklemming van onrecht en geweld, hel en oordeel, pest, brand en honger, duivel en heksen, waaronder die eeuw leeft.*'[2]

This quote phrased by Johan Huizinga in his monumental work *Herfsttij der Middeleeuwen* (1919) embodies the general mental image which has for a long time filled the minds of many people when the fifteenth century was discussed. It paints the picture of a lethargic, depressed population that underwent the Black Death without any resistance or attempts at curing the disease. Over the course of the century that has passed since the publication of Huizinga's study, this view has continuously been challenged and altered. In fact, medicine played an important role in the general fight against the Black Death. Though the effectiveness of the measures may be doubtful to modern eyes, it was generally not doubted by contemporary medics. Exploring several plague tracts, it is immediately noticeable that its writers had a great deal of faith in the effectiveness of their medication. If the person who read the tracts followed the author's instructions to the letter, the patient would regain their health. This displays a strong belief in medical theories and their effectiveness.

The effects of the Black Death have often been researched, as well as the various responses to the plague. However, plague responses in Dutch cities have not received lots of scholarly attention. Many works concerning plague epidemics in specific Dutch cities were written by historical societies and are of a descriptive nature. This lack of academic interest may be due to the reputation the Black Death has acquired in the study of the medieval Low Countries, especially for the area that would later become the Netherlands, the northern Low Countries. Many medievalists in the twentieth century have argued that the Low Countries were mostly spared when the Black Death raged across Europe. A prime example of this trend is Hans van Werveke, whose work was backed up by William H. McNeill and Jean-Noël Biraben. They argue that most areas in the Low Countries were largely passed by and that only the fringe areas were affected.[3] During the last quarter of the twentieth century this viewpoint was challenged and slowly

[1] My deepest gratitude goes out to all those who have read and commented on earlier versions of this thesis and to all those who have supported me during the process of researching and writing.

[2] J. Huizinga, *Herfsttij der middeleeuwen. Studie over levens- en gedachtenvormen der veertiende en vijftiende eeuw in Frankrijk en de Nederlanden* (27 edition, after the revised edition of 1997; Amsterdam 1919), 331. Translation by the author: 'The fifteenth century is one of tremendous depression and pessimism. […] the eternal constriction of injustice and violence, hell and judgment, plague, fire and hunger, devil and witches, which burden that century'.

[3] H. van Werveke, 'De Zwarte Dood in de Zuidelijke Nederlanden (1349-1351)', *Mededeelingen van de Koninklijke Vlaamsche Academie voor Wetenschappen, Letteren en Schoone Kunsten van België. Klasse der Letteren* 12:3 (1950); J.N. Biraben, *Les hommes et la peste en France et dans les pays européens et méditerranéens* (2 volumes, Paris-Den Haag 1975); W. McNeill, *Plagues and peoples* (Garden City 1976).

adjusted. Based on demographic and socioeconomic data, Wim Blockmans and Dick de Boer have shown that these arguments cannot be held.[4] Most recently, Joris Roosen and Daniel Curtis have stated that urban sources cannot be used to offer conclusive arguments on the entire population.[5] Urban areas had entirely different demographics than rural areas, meaning that urban source material does not reflect the situation in the countryside correctly.

Most current research has therefore been focused on the socioeconomic effects that the epidemics had on the Low Countries. This can be partly attributed to the scarce amount of available source material, but it leaves a vast number of interesting fields of research undisclosed. Plague tracts, for instance, have not been thoroughly researched for the Low Countries, nor for other geographical areas in the Middle Ages. Most studies on plague tracts, such as Samuel Cohn's *Cultures of Plague* (2010) or Colin Jones' 'Plague and its metaphors' (1996) for instance, focus on different geographical areas and mostly use Early Modern tracts.[6] Other studies that do use medieval tracts are mostly focused on different geographical areas, such as Dominick Palazzotto's dissertation (1973), which studies Italian plague tracts in their historical contexts.[7] Surprisingly, most works show a remarkable lack of Middle Dutch sources. One of the most comprehensive studies on plague tracts to date, Christiane Nockels Fabbri's dissertation (2006) does not discuss a single plague tract written in Middle Dutch.[8]

However, this neglect in historiography is not to be blamed entirely on a lack of vernacular sources. Karl Sudhoff, who has been crowned '*the father of the history of medicine*' by some, has compiled an overview of plague tracts that has become a cornerstone of the study of plague medicine.[9] In this overview he describes ten plague tracts written in a local vernacular originating from Lower Germany, which includes the Low Countries.[10] However, this overview was revised and added to by Ria Jansen-Sieben. In 1989, she published a repertory of Middle Dutch *artes*-literature conserved in libraries all over the world, which also contains a comprehensive list of plague literature.[11] Without casting any doubt on the usefulness of these repertories, it must be

[4] W.P. Blockmans, 'The social and economic effects of plague in the Low Countries. 1349–1350', *Belgisch tijdschrift voor filologie en geschiedenis* 58:4 (1980) 833-863; D. de Boer, *Graaf en grafiek. Sociale en economische ontwikkelingen in het middeleeuwse 'Noordholland' tussen ± 1345 en ± 1415* (Leiden 1978) 30-39.

[5] J. Roosen and D. Curtis, 'The 'light touch' of the Black Death in the Southern Netherlands: an urban trick?', *The Economic History Review* 72:1 (2019) 32-56.

[6] S.K. Cohn Jr., *Cultures of Plague. Medical thinking at the end of the Renaissance* (Oxford 2010); C. Jones, 'Plague and its Metaphors in Early Modern France' in: *Representations* 53 (1996) 97-127.

[7] D. Palazzotto, The Black Death and Medicine: A Report and Analysis of the Tractates Written Between 1348 and 1350 (PhD-dissertation University of Kansas, Lawrence 1973).

[8] C. Nockels Fabbri, Continuity and Change in Late Medieval Plague Medicine: A Survey of 152 Plague Tracts from 1348 to 1599 (PhD dissertation Yale University, New Haven 2006).

[9] K. Sudhoff, 'Pestschriften aus den ersten 150 Jahren nach der Epidemie des „schwarzen Todes" 1348' in: *Archiv für Geschichte der Medizin* 17:5/6 (1925) 241-291. For the quote, see J.M. Riddle, 'Theory and Practice in Medieval Medicine' in*: Viator* 5 (1974) 157-184, 158*.*

[10] Sudhoff, 'Pestschriften', 264.

[11] R. Jansen-Sieben, *Repertorium van de Middelnederlandse Artes-literatuur* (Utrecht 1989).

said that they are only repertories, meaning that they cannot offer any in-depth research on the manuscripts they indicate. This research has mainly been done by Willy Braekman, who is an expert on medieval Dutch medicine. His works span virtually the entire spectrum of medieval medicine, including magic.[12] His discovery of and subsequent publications on a previously unknown manuscript containing various plague tracts have been important additions to the research on Middle Dutch plague tracts.[13] Researching the various medicinal remedies produced by learned physicians that were used to cure the plague can partly indicate the degree to which medieval society had taken notice of learned medical knowledge, as these tracts were mostly written by academics. Yet despite their academic origins, Samuel Kohn argues that plague tracts had become one of the earliest forms of popular literature in the West at the beginning of the fifteenth century, which he bases on research on Italian plague tracts.[14] This makes them an excellent bridge between academic medicine and popular medicine, which in turn makes them an interesting genre to study when researching the interaction between learned science and medieval society. This thesis will study three separate plague tracts that all have similar theoretical bases, which will be explained further in the first chapter. These particular tracts are written in the form of a letter in which the author, most likely a learned medic, offers the reader several medical measures which should cure the plague. The addressed reader represents both the patient and the medical professional, as the tracts discuss all aspects of treatment. Both the measures that should be taken by the medical professional and those that should be taken by the patient are represented, encompassing all aspects of medical treatment.

This thesis aims to contribute to a better understanding of the interaction between learned medicine and medieval society. In order to do so, it will compare sources that were produced by municipal councils of Dutch cities to theoretical plague remedies and defences that were produced by scholars. To what degree do their bylaws, ordinances and statues in response to the fifteenth-century plague-epidemics match the theoretical medical responses formulated by contemporary scholars? Is it possible to distinguish dissimilarities in responses between the different cities and if so, how can these dissimilarities be explained?

The sources studied here in addition to the plague tracts are ordinances produced by the municipal councils of several Dutch cities and are written in Middle Dutch. These cities are located in the county of Holland and the duchy of Gelre. These sources, combined with sources of learned response to the Black Death, will offer a picture of the way city councils responded to the

[12] W.L. Braekman, *Middeleeuwse witte en zwarte magie in het Nederlands taalgebied. Gecommentarieerd compendium van incantamenta tot einde 16de eeuw* (Gent 1997).
[13] W.L. Braekman, 'Een Hattems handschrift: belangrijke aanwinst voor de Middelnederlandse artes-literatuur' in: *Volkskunde. Tijdschrift voor Nederlandsche Folklore* 84 (1983) 301-331.
[14] S.K. Cohn Jr., 'The Black Death: The End of a Paradigm' in: *The American Historical Review* 107:3 (2002) 703-738, 737.

outbreaks. Comparing this data to the specific theories mentioned in plague tracts should indicate the degree to which city councils were aware of these theories and let themselves be guided by them. The choice for these specific cities has been a rather pragmatic one, since the sources available for these cities fit both the time frame chosen for this research, the 15th century. They also include various responses to the epidemics that regularly hit these cities, making them very suitable case studies for this research. The studied cities are Amsterdam, Dordrecht, Gouda, Tiel.

The theories that the cures discussed in the plague tracts are based upon are mostly remnants of classical medicine which were enhanced and added to in the Middle Ages. This classical knowledge was supplemented with Arabic medical knowledge, thus creating a new standard for medical knowledge and refining the available classical knowledge. Arabic scholars composed large encyclopaedias of classic Greek medical knowledge, supplemented with their own medical knowledge. Some of the most important works in this genre were the *Canon* by Avicenna (973/980 – 1037), as well as the works of Rhazes (al-Razi, 865 – 925). These works were based on many classical Greek authorities, most of all on Galen (129 – 199). The object of his medical theories and practices was to achieve and, when necessary, restore the balance in the body.[15] The three components of his most influential theory are the *non-naturales*, the humors and the human complexion. These theories are all interlinked, and they build upon each other. The human complexion was linked to the proportionate presence of the four elements in the human body (earth, wind, fire and water) and their respective qualities (hot, cold, dry and moist).[16] This complexion varied from person to person and also shifted with age, influencing both the physical and mental health of the patient.[17] If the ratio between the different qualities were to become unbalanced, the patient would fall ill and the physician had to balance them out again. He could do so by ordering a regimen or medication that featured the quality opposite to the one that was in excess in the patient, since opposite qualities could cancel each other out.[18]

These qualities are closely linked to the humors, the four bodily fluids that were deemed essential for nutritious intake. These fluids were blood, phlegm, yellow bile and black bile. Though very similar to the qualities and complexion, they are not to be deemed mutually replaceable. The humors were assigned their own place in the human physiology and held their own function. An imbalanced proportion between the humors could also lead to diseases, both mental and physical, because it indicated an imbalanced complexion.[19] As they were mainly believed to be essential for

[15] See J. Kaye, *A History of Balance: The Emergence of a New Model of Equilibrium and its Impact on Medieval Thought* (Cambridge 2014) 128-240 (chapter 3 and 4) for an extensive study on the concept of balance in medieval medicine.
[16] N.G. Siraisi, *Medieval & Early Renaissance Medicine. An Introduction to Knowledge and Practice* (Chicago 1989) 101.
[17] Ibid., 101-103.
[18] Ibid., 145.
[19] Ibid., 106.

the absorption of nutrition from food, diet was the most effective way to repair the balance between the humors. Diet in itself was an important tool for the medieval physician, as it was one of the six *non-naturales*. This term is used to indicate the six pairs of external factors that influenced human health: air and environment, food and drink, sleep and waking, exercise and rest, excretion and secretion, and lastly the state of mind. Though the origins of this theory are likely to be formulated by Hippocrates, its adapted version formulated by Galen has become the standard formulation of this theory.

Medieval medication was designed around this theory, its ingredients carefully chosen for their humoral qualities. Medication often consisted of multiple ingredients, most of which were herbs with medicinal properties.[20] With their combined humoral qualities, these drugs could restore the humoral balance and thus balance out the patient's complexion, healing the body. Yet the physician could also use food with similar qualities to keep the body healthy, which leans more to the side of preventive medicine. Prevention was extremely important in medieval medicine. Diseases could be prevented by following a strict regimen, which governed all aspects of life, as illustrated by the *non-naturales*.

An important aspect of theoretical medicine concerns air and water. 'Corrupted' air or water could make a patient ill and spread diseases. This phenomenon is termed 'miasma'. The corrupted air or water would enter the patient's system via the skin and go on to disturb the humoral and complexional balances. This then in turn lead to illness in the patient. Even more important for this research is the way this theory describes the spread of diseases. Corrupted air was believed to be recognisable by its smell. Foul smells would indicate corruption, while pleasant smells were believed to chase away the foul-smelling corrupted air and strengthen the patient's health.

In the Classical period, a distinction was made that divided medicine into two separate parts: that of medicine as an art and medicine as a science.[21] The side representing medicine as an art or craft focused on medicine as a practice, a skill that could be learned in various ways and was mostly passed on from tutors to student or acquired in practice.[22] Surgeons were mostly counted in this group, as their profession was a rather practical one that did not require years of study to master. The theoretical camp was to be made up by physicians, who focused on internal medicine that could be treated with therapy (mostly drug therapy). Some historians claim that all Early Medieval medicine was in fact practical, since it could not be studied theoretically for various

[20] M.R. McVaugh, *Medicine before the Plague: Practitioners and Their Patients in the Crown of Aragon, 1285 – 1345* (Cambridge 1993) 153.
[21] Riddle, 'Theory and Practice', 161.
[22] E. Huizenga, *Tussen autoriteit en empirie: de Middelnederlandse chirurgieën in de veertiende en vijftiende eeuw en hun maatschappelijke context* (Hilversum 2003) 222.

reasons, erasing the distinction between theoretical doctors and practical surgeons.[23] However, most scholars place more emphasis on the distinction between educated physicians and surgeon on one side and illiterate practitioners of folk medicine on the other side. The greatest competition physicians and surgeons had were barbers, untrained and often illiterate men who performed surgeries and medicine.[24] Their lack of training and education makes it most likely they were not aware of the current standard of academic and learned medicine, though it does not exclude the possibility that they did have a bit of medical knowledge. Given that barbers treated most of the public's illnesses during the late medieval period, it is likely that plague medicine that was developed at universities did not reach the public through barbers. To study the availability and benefits of learned plague medicine for the common people, a different angle must be chosen. Plague tracts and recipes can give interesting insights in the learned opinions on plague medicine and the various theoretical remedies for it, but they do not offer hard evidence on whether they were actually used or not. They must be combined with a different type of source, hence the municipal sources.

In order to understand their context, the composition of city councils must be discussed first. Most municipal councils in Holland were made up of *schout, burgemeesters*, and *schepenen*.[25] The *schout* represented the count of Holland in the city council, acted as the prime distributor of justice and was responsible for the maintenance of the public order. It was not uncommon for this office to be held by knights.[26] The *schepenen* supported the *schout* in the execution of his duties and were charged with judicial and administrative duties, such as holding court and passing judgment. Financial and legislative matters were also part of their job descriptions. The *schepenen* also acted as notaries and until halfway through the fifteenth century they also fulfilled some diplomatic duties. These duties were then largely taken over by the *burgemeesters*, who played similar roles. Together, these three offices formed city councils and the daily administration of the cities. Its members were often chosen from both aristocracy and the urban patriciate. This patriciate consisted of dwellers of high stature who did not necessarily had to have noble blood.[27] However, the separation between the two groups was very diffused and fluent. Bearing all this in mind, it is first time to discuss the plague tracts.

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[23] Riddle, 'Theory and Practice', 160, 161.
[24] Huizenga, *Tussen autoriteit en empirie*, 227; D. Jacquart, 'Theory, Everyday Practice, and Three Fifteenth-Century Physicians' in: *Osiris* 6 (1990) 140-160, 160.
[25] A. van Steensel, 'Het personeel van de laatmiddeleeuwse steden Haarlem en Leiden, 1428-1572' in: *Jaarboek voor middeleeuwse geschiedenis* 9 (2006) 191-252, 194; A. Janse, 'Een in zichzelf verdeeld rijk. Politiek en bestuur van de tiende eeuw tot het begin van de vijftiende eeuw' in: T. de Nijs and Eelco Beukers eds., *Geschiedenis van Holland. Deel 1: tot 1572* (Hilversum 2002) 69-102, 93, 94. These terms are difficult to translate, the most fitting English terms would be warden, mayors and aldermen.
[26] A. Janse, *Ridderschap in Holland. Portret van een adellijke elite in de late Middeleeuwen* (2nd edition, Hilversum 2009) 394.
[27] Janse, 'Een in zichzelf verdeeld rijk', 94.

Chapter 1: The *Sendbrief* and its readers

Plague tracts are preserved today in many shapes and sizes. Though the plague tract is a genre in itself, a type of tract stands out within this genre: the *Sendbrief*. This chapter will explore this genre in several ways. First of all, the terminology will be explained and discussed, as well as the availability of *Sendbriefe* in the Low Countries. It will examine what this genre entails, its characteristics and flaws, and the remedies it advises. Most importantly, it will examine the theoretical bases of these remedies, exploring the medical paradigm in which the tracts were written.

Terminology and sources

The sources that are examined in this chapter are all examples of the *Praagse brief*, which translates to 'the letter from Prague'. This letter is named as a specific type of plague tract in Ria Jansen-Sieben's *Repertorium*. All tracts she categorises as Prague regimens share the same incipit: '*Desen raet hebben die meisters ghevonden teghens die nye zuycten Ende die paues seynde desen brief den coninc van Vrankryc*', or a variation on this.[28] This is a vital part of the tracts and also partly what defines it as a category: it was allegedly sent by the pope to the French king. Some plague tracts contain a dedication in which the author addresses his patron, who could have commissioned the work, or other practitioners, while others address their tract to their lords, kings, emperor, or the pope himself.[29] These dedications are most likely to be included to please the author's patron but also to strengthen the tract's authoritative status. The Prague regimen is a little different, as it is not addressed by the author himself, but rather an anonymous tract that was sent from one authoritative figure to the next. Mentioning both the pope and the French king would strengthen its authority. However, this does not have to mean that the letter was actually sent to these authorities.

As mentioned above, the term *Praagse brief* was coined by Ria Jansen-Sieben in her *Repertorium*. The precise origins of the term remain uncertain, as Jansen-Sieben neglects to provide an explanation for the term in her *Repertorium*. In an essay criticising Jansen-Sieben's *Repertorium*, Gundolf Keil assesses this problem.[30] He claims the term was derived from Willy Braekman's works and that these tracts were based on no less than four different East-Middle German tracts, of which it has the most familiarity with the tracts that the term was derived from:

[28] Jansen-Sieben, *Repertorium*, 466. Translation by the author: 'This advice has been found by the masters against the new disease And the pope sends this letter to the king of France'.
[29] Nockels Fabbri, Continuity and Change, 32.
[30] G. Keil, 'Habent sua nomina libelli' in: W.P. Gerritsen, A. van Gijsen and O.H.S. Lie eds., *Een school spierinkjes: kleine opstellen over Middelnederlandse artes-literatuur* (Hilversum 1991) 100-103.

the '*Prager Sendbrief*'.[31] This Latin tract was created in 1371 and some scholars attribute it to Gallus of Prague, while others treat it as an anonymous tract.[32] It is often referred to as the '*Missum imperatori*', using the tract's incipit. The *Praagse brief* is also quite similar to the '*Brief an die Frau von Plauen*' and its precursor, a different *Sendbrief*.[33] Aside from this, it was also heavily influenced by the '*Sinn der höchsten Meister von Paris*', a tract that had a major impact on plague tracts in general and was widely spread throughout Europe.[34] These origins provide a major problem in establishing the uniformity of the tracts in the category. Since they are all based on different texts, it is difficult to establish the degree to which the similarities of the described information are a characteristic feature of the *Praagse brief*, rather than a shared basis of medical theories.

However, it is not uncommon for plague tracts in general to be similar to each other, especially the vernacular tracts. Most of them are partly translations of tracts that were originally produced in different languages, such as Latin, French or German. The translator could add his own interpretations of the original tracts, or only copy the parts that he deemed necessary, which makes every tract unique in its interpretation. This indicates the extent to which the manuscripts in the category *Praagse brief* differ from each other. Based on the selected sources and the German literature by Keil, I therefore intend to use a different term for these sources and refer to them as a *Sendbrief*. This term is derived from the German concept of *Sendbriefe*, tracts that were addressed to authoritative figures and spread throughout Europe. The nature of these tracts is different than that of other plague tracts, since they were written in order to be disseminated across Europe. This has consequences for their contents and structure but also lends them perfectly for this research. Samuel Cohn Jr. has argued that over the course of the sixteenth century, plague tracts spanned a greater range of subjects as they began incorporating advice to city councils on the containment and treatment of the disease.[35] If *Sendbriefe* show signs of a similar sense of communal engagement, this would indicate that the trend analysed by Cohn could have grown from the *Sendbriefe*, amongst other reasons. They were produced with the intention of being sent to an authoritative figure, to aid in their struggle against the Black Death. Yet this address also served to strengthen the tract's authority, confirming the view of these tracts as part of popular medicine.[36] Deeper research will have to prove whether this also means that they were intended to improve public health, which will be discussed in greater detail later on.

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[31] Keil, 'Habent', 101. See also: W. Stammler e.a. eds., *Die deutsche Literatur des Mittelalters Verfasserslexikon* (2nd revised edition, published online 2010) vol. II, 1068, 1069. Incipit: '*Missum Imperatori*'.
[32] Keil, 'Habent', 100-103. Keil also attributes it to Gallus of Prague, but Nockels Fabbri refers to it as an anonymous tract: Nockels Fabbri, Continuity and Change, 32.
[33] W. Stammler e.a. eds., *Die deutsche Literatur des Mittelalters Verfasserslexikon* (2nd revised edition, published online 2010) vol. I, 1035, 1036.
[34] W. Stammler e.a. eds., *Die deutsche Literatur des Mittelalters Verfasserslexikon* (2nd revised edition, published online 2010) vol. VIII, 1281-1283.
[35] Cohn, *Cultures of Plague*, 295.
[36] For instance Braekman, 'Een Hattems handschrift', 308.

This chapter will examine three examples of this genre. One is a part of a book of hours and is combined with a prayer to Saint Anthony, the patron saint of Plague, fires and veterinary diseases.[37] It is dated around 1440 and is most likely to have been produced in Utrecht. Its embellishments are outstanding, incorporating several intricate miniatures that were most likely produced by a well-known miniaturist, the Meester van Zweder van Culemborg.[38] Combining this with the quality of the parchment, it is likely that its original owners or commissioners were wealthy. The *Sendbrief* contains knowledge produced by the masters of Paris and mentions that it was sent from the pope to the French king, in accordance with Jansen-Sieben's finds. However, this is not the incipit of the *Prager Sendbrief*, illustrating the difficulties surrounding the term. Throughout the thesis, this source will be referred to as U270, following the categorisation provided by Jansen-Sieben in her *Repertorium*.

The second source used is an excerpt of a manuscript owned by a bibliophile knight, Lodewijk van Brugge.[39] He lived in fifteenth-century Flanders (died 1492), was lord of Gruuthuse and a member of the illustrious order of the Golden Fleece. Following the example of his king, Philip the Fair, he put together a quite sizable library that included some medical recipes. Amongst these recipes is a *Sendbrief* displaying knowledge found by the masters of the Roman King (*'Rooms sconijncx'*) and sent to the Queen of France. This addressing differs somewhat from the one mentioned in the first source, underlining the need for a broader term. This source will be referred to as P40 from here on.

The final source discussed in this chapter is part of a manuscript that was only quite recently 'discovered' by Willy Braekman in 1983.[40] This manuscript contains several medical treatises that were not known before, making it an enormous asset to the study of Middle Dutch medical literature. The background of the manuscript is a bit vague, since its various components show different signs in language. Braekman suggests that it might have been owned by the hospital located in the town where the manuscript had been preserved, but he neglects to offer any arguments supporting this.[41] The contents of the tract studied here closely resemble that of the *Frau von Plauen*, though it also mentions that its contents were published by the pope. From here on, it will be referred to as source H220. These three tracts will complement and supplement each other, providing an overall view of the *Sendbrief*-genre.

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[37] M.H. Hulshof, 'Gebed en voorschriften tegen de pest in een Utrechts getijdenboekje uit 1440' in: *Nederlands Tijdschrift voor Geneeskunde* 83 (1939) 533–535, 534.
[38] K. van der Horst e.a. ed., *Handschriften en oude drukken van de Utrechtse Universiteitsbibliotheek* (Utrecht 1984) 249.
[39] W.L. Braekman and G. Dogaer, 'Laatmiddelnederlandse pestvoorschiften' in: *Verslagen en mededelingen van de Koninklijke Academie voor Nederlandse taal- en letterkunde* (1972) 98-122, 100.
[40] Braekman, 'Een Hattems handschrift', 301-331.
[41] Ibid., 303.

An important remark that must be made on these sources is that they were most likely intended for members of the Dutch elite. For source P40, this can be defended easily enough. Not only has the name of its original owner survived, it is also known that he was a knight of the Golden Fleece. Source U270, the book of hours, must have been commissioned by a wealthy owner, as described above. However, source H220 proves to be somewhat subversive. It is described by Braekman as a '*volks pesttraktaat'*, a plague tract for the public.[42] This argument is strengthened somewhat by the fact that it was written on paper, though not proven beyond doubt. As the original owner is unknown, his social status cannot be determined. Given the status of the original owners of the first two sources, it is likely that he *Sendbriefe* were mostly available to the upper social classes, rather than the common dwellers.

Contents and remedies

Yet which elements do these *Sendbriefe* incorporate? What remedies do they advise and why? The general structure of the three sources is quite uniform. They all start with a confirmation of their authority. Source U270 mentions that '*die meisters*' developed these remedies against the 'new disease', which was then sent to the king of France by the pope. These lines are quite similar to source P40, which mentions that its contents were created by the '*meisters*' of the Roman king (the Holy Roman emperor) and then sent to the Queen of France. Yet closer examination of the letter reveals that its contents also strongly resemble that of the third source, the *Frau von Plauen* (H220). According to Braekman and Dogaer, the Prague *Missum imperatori* and the *Frau von Plauen* somehow merged and an amalgamation of these two texts entered the Middle Dutch *artes*-literature.[43] They suggest that the tracts must have passed through East Middle German before arriving into Middle Dutch literature, which would explain the mentioning of such faraway places as Prague and Plauen in the Low Countries. Judging by the characteristics of the language in the tracts, this option seems plausible. As Cohn stated for the Italian case, plague tracts had become the very first literary expression that is seen as popular literature in Italian sources.[44] Cohn does not elaborate on the precise intention of the word 'popular', his argument revolves around public acceptation of medical theories. He argues that by the end of the fifteenth century, the public looked to the medical professionals for guidance in times of plague, which he supports by mentioning the popularity of Italian plague tracts.[45] The invocation of worldly authorities rather than medical authorities such as Galen or al-Razi also points in this direction. This aspect also problematises the addresses in two of the sources used in this chapter. Whilst it is not unlikely

[42] Braekman, 'Een Hattems handschrift', 308.
[43] Braekman and Dogaer, 'Laatmiddelnederlandse pestvoorschriften', 116.
[44] Cohn, 'The Black Death', 737.
[45] Ibid., 737, 738.

that the general public would have great respect for the pope and to a lesser extent the king of France, it is not that likely that mentioning the lady of Plauen would have a similar effect. This aspect is also addressed by Braekman and Dogaer, who connect this issue to the dissemination of the original manuscripts.[46] If these manuscripts were fused into Middle German plague tracts, it is not unlikely that scribes copied the address as well as the recipes, explaining the presence of these authorities in Middle Dutch tracts.

Treatment as described in the sources consists of at least three components: plasters, drinks and a regimen. The plasters are a mixture of herbs, leaves and roots of healing plants, and liquids with healing qualities. These ingredients would be mashed up to make a paste which would act as a plaster, or poultice. The sources all describe a plaster made of the same ingredients, though some minor dissimilarities do occur between the different manuscripts.

Poultices and potions

The key ingredients in these plasters are different types of leaves. Source U270 and H220 mention leaves of the elder tree, the *Sambucus Nigra,* yet P40 does not recommend them for plasters.[47] Even though all parts of the tree had medical qualities, the leaves were most suitable for use in plague medicine, because of their mildly purgatory function.[48] Source P40 recommends the usage of willow leaves, leaves of the *Salix Alba L.*, instead of the elder leaves. The willow tree is still hailed today for its pain-relieving properties.[49] They are also mentioned in H220, which also provides an alternative recipe for plasters. In the alternative recipe, the willow leaves were to be mashed together with blackberry leaves. One key ingredient all sources support are the seeds of the *Sinapis alba L.* or mustard tree, or a paste of these seeds.[50] Whichever variation on these ingredients the sources choose, the method of preparation remains identical. The ingredients were to be mixed in a mortar, mashing up the various leaves into a thick paste, which would serve as a poultice. This paste had to be spread over all the pustules the patient had and left there for an extended period of time. This period was not described specifically, which means it varies per version of the *Sendbriefe* and was open to interpretation by the scribes or translators. Sources H220 and P40 do not give an indication as to the time these plasters had to remain applied to the pustules, but U270 provides some more detail. It states that at least a half hour after the initial poultice was applied, a second paste had to be used. This second application was made of leaves of the common rue, the *Ruta Graveolens*, mashed together with wine vinegar, and should be applied on top of the initial poultice. Despite these minor differences, the sources all prescribe the

[46] Braekman and Dogaer, 'Laatmiddelnederlandse pestvoorschriften', 116.
[47] U270, 535; H220, 307; P40, 106.
[48] L.J. Vandewiele ed., *De "Liber magistri Avicenne" en de "Herbarijs". Middelnederlandse handschriften uit de XIVe eeuw (Ms. 15624–15641 Kon. Bibliotheek te Brussel)* (Brussel 1965) 444-446.
[49] T. Mount, *Dragon's Blood and Willow Bark: The Mysteries of Medieval Medicine* (Stroud 2015) 89.
[50] U270, 535; H220, 307; P40 106.

usage of these poultices for the same reason: to cure the pustules. However, neither of the sources mention any kind of proportions, leaving it up to their readers to guess the right proportions. This would further enhance the diversity in different remedies that would have circulated in the Low Countries due to the differences between manuscripts.

Medicinal drinks were an equally important part of plague medicine and they receive a lot of attention in the sources. All sources provide at least one recipe for a medicinal drink that would either cure the patient, immunise him or her against the plague, or both. As with the poultices, the sources disagree on the precise list of ingredients for this drink. Source H220 prescribes a curative mixture of '*donderbare, naschade ende vliendre*', a mixture of houseleek, nightshade and elder leaves.[51] In turn, source U270 takes a different approach and opts for a mixture of '*weghebrede bladere ende vlieder blader*', plantain leaves and elder leaves, both in equal quantities.[52] This one of the very few occasions on which one of the authors mentions quantities, underlining the importance of getting the proportions right when preparing this drink. The leaves were to be mashed together with white ginger and then mixed with clear wine. The patient was ought to take this drink every morning for nine days, which would cure him.[53] A similar recipe is found in source P40, which also emphasises that the drink should be taken in the mornings, before the patient left his house.[54] It calls for a drink made by mashing up elder leaves and sage leaves, which should be sieved with '*gueden wine die claer es*', good and clear wine.[55] To finish it off, some good, mashed ginger should be added. However, this recipe is described solely as a preventive measure, as is the alternative recipe the tract provides. This alternative recipe is more intricate and detailed than the other recipes, which indicates that it was added by the translator. This suspicion is strengthened by the ingredients the recipe uses: figs, rue leaves and common nuts, which are not found in other sources.[56] The recipe is quite clear about the proportions and methods that should be used when preparing this electuary. First, all ingredients should be mashed in a mortar separately, after which they should be mixed together. This increased precision distinguishes this specific recipe from the others.

This preventive element is also found in source H220. One recipe states that its readers should mash up sage leaves, blackberry leaves and elder leaves with white wine, after which the mixture should be sieved through a linen cloth, after which white ginger should be added.[57] This drink should be taken every morning for nine days straight, which should grant the patient a year-long immunity against the plague and enable him to go as he pleases.

[51] H220, 308.
[52] U270, 535.
[53] Ibid.
[54] P40, 106.
[55] Ibid.
[56] Ibid.
[57] H220, 307.

Regimens and other remedies

The last element that all sources have in common are the advice of regimens. As has been discussed in the introduction, regimens consisted of a number of guiding rules by which the patient could maintain their health and prevent himself from falling ill.

Source U270 lists several ways in which the patient could prevent unbalancing his humors by controlling his *non-naturales*. First of all, patients should not eat '*albome vrucht*', any fruits produced by trees.[58] It also states that the patients should be wary of unrest, consuming too much fluids and eating filthy, slimy or mucky foods.[59] Instead, they should eat '*lichte spise*', light foods mixed with wine vinegar, their drinks should be of high quality and they should not fast over extended periods of time but rather eat three times a day. Overall, meals should be consumed in moderation. The patient was not allowed to bathe, since this could expose them to corrupted water. The tract prohibits visiting people who had fallen ill with the plague, as well as prostitutes, in order to protect the patient from bad airs. Lastly, the author recommends washing both the forehead and the hands with wine vinegar, after which the patient should regularly smell his hands. This emphasis of the use of vinegar is also found in source P40, which recommends washing the skin under the eyes with vinegar on an empty stomach, though the patient should carefully avoid getting vinegar in his eyes.[60] Not only should the vinegar be applied to the skin, it should also be incorporated into every meal the patient ate.

Though the regimen in source P40 is less extensive than the regimen in source U270, the source fills this omission with advice on a different type of remedy: bloodletting.[61] This element is not found in any of the other sources, which again indicates an addition made by the scribe. It recounts at length which veins should be let, according to the different locations of the pustules. Pustules in different locations should be treated with the letting of different veins, which would cure the pustules. Since bloodletting was mainly carried out by barbers (or in some cases doctors), the purpose of this section in regard to the rest of the source seems unclear.[62] However, the wording of the source might give an indication. It advises that the patient, upon discovering a pustule, '*die sal hem stappans doen laten*'.[63] This implies that the patient was urged to seek medical help but also instruct the barber or doctor on which vein should be let.

In addition, it was of prime importance that the patient would be bled as soon as possible. If a pustule appeared on the body and the patient would go to sleep without taking immediate action, bloodletting would not be effective. In general, P40 states that keeping the patient awake

[58] U270, 535. Hulshof incorrectly translates this to 'foolish fear', or something similar to this, but since the same phrase is mentioned in source P40 referring to fruits of trees, it is more likely that it refers to 'all trees'.
[59] Ibid. The word used by the source is '*slimige*'.
[60] P40, 106.
[61] Ibid., 104, 105.
[62] McVaugh, *Medicine before the plague*, 152, 153.
[63] P40, 104. Translation by the author: 'he should have himself bled immediately'.

was the most important aspect of treatment. Christiane Nockels Fabbri suggests that sleeping before or after being bled might be deemed dangerous because the patient might slip into a comatose state.[64] Otherwise, she argues that prohibiting sleep served no other obvious purpose than to save time.[65] The sooner the patient would be let after discovering a pustule, the better.

Surprisingly, source H220 does not include a regimen. Its focus lies solely in the curing of the disease, rather than maintaining good health. A measure it recommends is the regular intake of '*triakle*', theriac.[66] Present in medical theory since classical times, this compound medicine was thought to be a virtually universal antidote, which would help in the treatment of any disease. This medicine was composed of a long list of ingredients, which varied with each version of the recipe, but viper flesh and opium seem to have been constant factors in its preparation.[67] Its status as universal antidote also made it a good option in preventing and curing the plague.

Theoretical foundations

All these different treatments are seated in the framework of medieval medicine and build upon them. Most notably, the theories discussed in the introduction are used and combined in new ways to combat this new disease. Galenic medicine was not discarded but rather adapted to fit the new challenges presented by the plague. Treatments such as the drink discussed above show that reinstalling a balance between the humors was an important part of treatment. Most ingredients used in these drinks are very similar to each other and are used in all three of the sources. For instance, mustard seeds or plain mustard are used in each of the sources, though not in the same recipes. Mustard had hot and dry humoral qualities.[68] This should balance out the moistness of the plague, which was believed to be both hot and moist.[69] Yet its hotness would only be strengthened by the use of solely mustard seeds, which means it had to be combined with another simplica with dry humoral qualities. Plantain leaves were the perfect fit, since they were deemed cold and dry.[70] Yet ginger was also a common ingredient, which was thought to be hot and moist, the exact same qualities as the plague itself.[71] Its use in its place of origin is described as being similar to the use of the common rue in the Low Countries, indicating it was a universal medicine.[72] The combination of different simplica with contradicting qualities indicates a movement in medieval medicine away from using simplica with opposite qualities to cancel out the qualities of

[64] Nockels Fabbri, Continuity and Change, 113.
[65] Ibid.
[66] H220, 307.
[67] Siraisi, *Medieval & Early Renaissance Medicine*, 118.
[68] Vandewiele, "*Liber magistri Avicenne" en "Herbarijs"*, 474.
[69] Siraisi, *Medieval and Early Renaissance Medicine*, 250.
[70] Vandewiele, "*Liber magistri Avicenne" en "Herbarijs"*, 185.
[71] M.W. Anderson, *Food in Medieval Times* (Westport 2004), 17, 18.
[72] Vandewiele, "*Liber magistri Avicenne" en "Herbarijs"*, 493.

the disease towards a heavier use of 'wonder drugs'. These drugs were deemed universally applicable and curative. This also becomes clear in the case of theriac, to which warm and dry qualities were ascribed.[73] Following the standard scheme of opposite qualities that cancel out each other's effects, theriac would not be an effective treatment for the plague, yet it is mentioned in all three sources. This shows that medieval medicine was a developing field that chose a therapy or drug with a proven effectivity over a theoretical model, such as the opposing qualities.

Another point of interest lies in the regimens. The presence of these regimens in two out of the three sources implies that the Galenic concept of controlling the *non-naturales* through regimens was an important part of medical treatment. However, the regimen in source P40 is far less extensive than the regimen in source U270, which might be related the original collection the manuscript was produced for. Source U270 was produced for a book of hours, which contained a scheme of monastic prayers for laypeople to follow and live by. Perhaps the tract focuses more on the regimen because it was intended for lay use, to be bound in a book that was intended as a guiding line for day-to-day life. Yet the lesser focus on the regimen does not imply that source P40 does not incorporate the controlling of the *non-naturales*. It clearly states that the patient should be kept awake, which would influence the effectivity of the treatment. This illustrates that the *non-naturales* represent an important part of the treatments in source P40. Both sources also advise against eating fruit, encourage the use of vinegar in both food and in hygiene and the regular usage of theriac. This plays into the food and drink aspect of the *non-naturales*, though it might also be related to the miasma theory, which will be discussed later on. The core of these measures lies in the concept of moderation. Every aspect of the *non-naturales* should be approached in moderation, as source U270 illustrates. It warns against '*onruste*' and '*overdranck*', unrest and excessive drinking, among others.[74] Every excessive action would upset the humors and unbalance them, making the patient increasingly vulnerable to disease. Not just unbalanced humors would lead to disease, the plague is often described in the sources as '*ziechede*', '*die plaghe*' and '*die nye zuycten*'. Especially the introduction to source H220 gives an interesting image of the way the disease was seen:

> '*Van welker ziechede menich duzentich menschen ghestoruen zijn diere niet off en zouden hebben ghestoruen hadden zij deze boete in tijts dair yeghen ghedaen*.'[75]

This indicates that the plague was no ordinary disease which could be combatted by regular methods but rather an epidemic that called for a different type of action. Stating that the victims

[73] C. Nockels Fabbri, 'Treating Medieval Plague: The Wonderful Virtues of Theriac' in: *Early Science and Medicine* 12 (2007) 247–283, 266.
[74] U270, 535.
[75] H220, 307.

would not have perished had they used these remedies is remarkable, given that the tract does not include a regimen. Instead, it places more emphasis on the prophylactic medical treatments. This distinguishes the treatment of the plague from that of other types of diseases.

The spread of the disease is not explicitly stated in the tracts, but a frame of thought on its spread can be discerned within the various guidelines and treatments. An element that keeps recurring in the two sources containing regimens is the use of vinegar ('*edik*' or '*azyn*'). Source P40 gives some quite concise instructions for the use of vinegar, limiting itself to advising the patients to wash the skin under the eyes with vinegar on an empty stomach, though careful not to let any vinegar touch the eyes.[76] The reasoning behind this method lies in the theory of miasma. As has been explained in the introduction, this theory states that disease spread through corrupted air and water and that disease could enter the body through the pores of the skin. Any contact with corrupted air would result in disease. Patients could recognise corruption through smell: the corruption would give the air a repulsive smell. Washing the skin with vinegar would drive away the bad smell and thus drive away the corruption. Its esteemed cold and dry qualities made vinegar an excellent simplica to combat a hot and moist disease, such as the plague.[77] It was also known for its antiseptic properties and was therefore often used to treat infected wounds.[78] All these combined qualities made it a good component to use in the herbal aspects of treatment, as well as its ability to drive away corrupted airs.

Source U270 is more explicit on the aspect of miasma, advising the patient to wash his hands and forehead with vinegar and regularly smell his hands.[79] This would protect the patient against the corrupted airs. The tract is very clear on further protection: the patient was to guard himself against bad airs, bad breath and generally stay well clear of anyone suffering from the plague. A hint of this avoidance is also seen in source H220, which states that anyone who followed its advice and took the drink mentioned above for nine mornings straight, '*mach hij vrielic gaen daert hem ghelieft*'.[80] The prescribed drink would immunise the patient against these bad airs, enabling them to be around those suffering from the disease.

However, air was not the only medium the disease could spread through. Water was also an important medium. Again, source U270 elaborates the most on the dangers of water. The washing of the hands has been mentioned several times in the sections above, but washing with vinegar would also mean that the patient did not have to wash his hands with water. More

[76] P40, 106.
[77] Nockels Fabbri, Continuity and Change, 71.
[78] Mount, *Dragon's blood*, 96; Nockels Fabbri, Continuity and Change, 71; Anderson, *Food in Medieval Times*, 28.
[79] U270, 535.
[80] H220, 307.

explicitly, the tract states that '*ommer en saltu niet baden*'.[81] The patient should not bathe, under no circumstance. Bathing would expose the skin to the disease-carrying water, which would in turn lead to the disease being absorbed into the humors through the pores of the skin. Furthermore, bathing was also seen as a component of one of the *non-naturales*, concerning exercise and the hygiene of bodily waste. In some cases, bathing could be used to dispose of harmful substances and excretions.[82] In other instances it was not advised to take hot baths, because the steams would open up the pores in the skin, facilitating an uncomplicated absorption of the corrupted water or other harmful substances in the body.[83] This example shows how closely all contemporary medical theories were entwined, building a coherent paradigm. Another advice found in the sources refers to miasma in a different manner, the warning against eating the fruits or nuts from trees. This remedy is found in both the sources incorporating a regimen, U270 and P40.[84] This consistency between the two sources could indicate trees and their fruits were thought to absorb the corruption from either water or air, which would expose the patient's body to the corruption upon ingestion.

Summing up, it is evident that plague medicine operated in a paradigm of medical theories that underwent some major changes. While it relied heavily on Galenic medicine, the sources studied here also show signs of other types of therapies. These therapies utilised drugs and simplica that were ascribed with the same humoral qualities as the plague but had other properties that would make them effective in herbal treatments. Regimens receive less attention in the tracts than originally expected, contradicting the statement made by Christiane Nockels Fabbri that plague medicine placed a strong emphasis on regimens.[85] Given that this article is an extension of her PhD-dissertation, which did not incorporate Middle Dutch plague tracts, this lack of regimens might be a characteristic of the Middle Dutch tracts and therefore of the plague regulations in the Low Countries. This will be an interesting point of comparison in the following chapter on municipal plague regulations.

Concern for the community?

Sources H220 and P40 both state that their methods were '*gheproeft*' and proven to be effective. Yet how effective were they for the population of the Low Countries? To what extent do these

[81] U270, 535.
[82] V. de Frutos González and A.L. Guerrero Peral, 'Neurology in medieval *regimina sanitatis*' in: *Neurología* 26:7 (2011) 416-424, 420.
[83] Mount, *Dragon's blood*, 21.
[84] U270, 535; P40, 106.
[85] Nockels Fabbri, 'Treating the medieval plague', 248.

Sendbriefe provide remedies for the general public? Were the authors and scribes concerned with public health or not so much?

An important element in answering these questions is the availability of the ingredients mentioned in the recipes. An interesting example would be theriac and ginger. Originating in the Far East, most likely in India, ginger quickly became one of the most important spices that Italian merchants imported into Europe in the Late Middle Ages.[86] So even though the tracts seem to mix commonly found simplica that were native to the area, such as the common rue or the elder tree, with exotic ingredients which were unattainable for the common public, these spices were present in medieval Europe. The same can be said for theriac, though on a more complicated level. This so-thought panacea was composed of at least dozens of ingredients, in some extreme cases up to 400 different ingredients.[87] These ingredients were mostly quite exotic ingredients, such as viper's flesh, cinnamon and opium.[88] In comparison to ginger, a relatively easily obtained simplica, theriac seems to be out of reach for nearly the entire population, since all these exotic ingredients had to be imported somehow. So why would the authors of these *Sendbriefe* incorporate such an exotic electuary when the tracts were most likely written with the intention of being sent to local rulers in order to protect them and their subjects from the plague? The spread and notoriety of theriac are paramount aspects in answering this question. These medicines could be obtained through several canals. The fabrication of medicine was only monopolised by apothecaries around the sixteenth century, meaning that most physicians, doctors and surgeons prepared their own medicine.[89] Yet an intricate composite such as theriac was most often bought from an apothecary, making it available to the classes of society that could afford it.[90] For those with lesser financial means, there was often a version of this medicine in which some extremely expensive and exotic ingredients were replaced with more common ingredients.[91] The omitted ingredients were substituted with locally found plants or herbs with similar humoral qualities, such as the common rue or willow. This increased its attainability, though modified were deemed less refined than the original medicine and possibly harmful over extended periods of use.[92]

This all indicates that most medicine would become available to the public through physicians and doctors. Had they taken notice of the information displayed in the *Sendbriefe*, then it would be available to their patients as well. However, the tone of the tracts indicates that it was

[86] E.S. Hunt and J.M. Murray, *A History of Business in Medieval Europe, 1200-1500* (Cambridge 1999), 229.
[87] F. Brévart, 'Between Medicine, Magic, and Religion: Wonder Drugs in German Medico-Pharmaceutical Treatises Thirteenth to the Sixteenth Centuries' in: *Speculum* 83:1 (2008) 1-57, 50 (note 165).
[88] Nockels Fabbri, 'Treating the medieval plague', 252.
[89] Huizenga, *Tussen autoriteit en empirie*, 230.
[90] Nockels Fabbri, 'Treating the medieval plague', 268.
[91] C.A. Stanford, 'Illness and Death' in: A. Classen ed., *Handbook of Medieval Culture* vol. 2 (Berlin/Boston, online publication in 2015) 722-739, 731.
[92] Ibid.

addressed to the patient himself, rather than at learned physicians or other practitioners. For instance source U270: '*Item voortaen hoe gi u houden sult in gesonden live*'.[93] This speaks directly to the recovered patient, as it explains how he should keep his health after recovering from the plague. However, this does not alter the availability of the ingredients that much. Patients themselves could also visit an apothecary and ask for the remedies described in the tract, though this heavily depends on the presence of apothecaries in area. The population living in the countryside would have limited access to apothecaries or medicine.

The remedies portrayed in the *Sendbriefe* are rather individualistic, they focus on the health of the individual patient rather than on the wellbeing of the general public. Out of the three sources, only source H220 does not explicitly state to avoid those who had fallen ill with the plague, indicating that belief in the theory of miasma prevailed over the idea of mutual solidarity and spreading medical knowledge amongst the population.

Conclusion

Overall, it can be said that plague medicine operated on the cutting edge of empiricism and dogmatic medicine. On the one hand, it was deeply embedded in Galenic medicine, embracing its theories. Remedies consisted of simplica with humoral qualities opposing those of the plague, aiming to restore the humoral balance. Another remedy for the humoral imbalance caused by the plague is found in bloodletting, which would drain the excess blood. However, this remedy is only found in one out of the three sources studied in this chapter.

On the other hand, plague medicine also shows strong signs of other approaches to medicine. Many measures and medical approaches studied here were intended to refine classical medicine and add to it. The use of theriac, the wonder drug, is a clear example of this. Present in all three sources studied here, it was an important part of medieval medicine. However, its humoral qualities do not oppose those of the plague, which means it does not follow the laws of Galenic medicine. Its results in combatting the plague, which were probably due to the amount of symptom-relieving opium present in the compound drug, made that it was still hailed as one of the most effective remedies against the plague. This preferring of an empirically tested drug with the same humoral qualities as the targeted disease over a drug with the opposing qualities, thereby discarding this aspect of Galenic medicine to a degree, indicates a shift in attitude towards medicine. However, these two aspects are not mutually exclusive. They are united in a single genre of medical writings, the plague tracts.

[93] U270, 535.

The remedies in the tracts display an understanding of the concept of miasma and act on it. The tracts advise their readers to avoid anyone infected with the plague, which would contain the spread of the disease. This displays a concern for public health, even though it is not mentioned explicitly. The ingredients mentioned in the recipe were available to the public, most ingredients were common and native to the area. Should any complex compounds (such as theriac) be out of bounds for the poorer members of society, there is still the possibility of the existence of a 'poor man's version' of the medicine which substituted exotic ingredients with more common ones. However, these ingredients were mostly likely purchased at an apothecary, either by the doctor or by the patient, meaning that the upper classes of city dwellers probably had easier access to these medicines. This would prove more difficult for the poorer dwellers, who would have had to rely on substitutes.

Yet it seems that even though the tracts do not explicitly mention their concern for public health, the very existence of their genre does exactly that. The idea of writing a plague tract and purposely addressing it to a local ruler implies that either the author and/or the commissioner of the tracts intended to spread the current state of medical knowledge in order to contain and prevent the disease. Naturally, this is problematised to a degree by the uncertainty of the addresses: were they only for show, to enhance the authoritative position of the tract, or were they actually sent? It is most likely a little bit of both, to varying degrees throughout the lifespan of the tracts. Yet the main question still remains: to what degree was this knowledge available to the public, knowing that the tracts themselves were not particularly concerned with their wellbeing? Did their city council have knowledge of these remedies, theories and practices and did they act on it? The following chapter will examine this.

Chapter 2: Caring for the community

Having examined the various aspects of theoretical plague responses in the first part of this thesis, the second part will now examine several decrees made by city councils in response to the plague. However, some context on the general sanitary measures and healthcare are required, enabling the plague measures to be viewed in their contexts within the established measures.

Public sanitation and communal healthcare

The degree to which municipal authorities were present in the daily lives of the city dwellers was influenced to a degree by a specific political theory: the body politic. This theory argued that communities resembled a human body. The ideal community 'was temperate in its complexion, and in which each part performed its allotted role smoothly, without friction, in the service of the whole', as Carole Rawcliffe describes it.[94] Within this frame of thought, the hierarchy within the body was reflected in society. The Galenic school of thought argued that the heart, brain and liver governed a group of functions and organs and were therefore referred to as the principal members.[95] In the urban body, these principal members were mainly associated with royalty, aristocracy and prelates.[96] The need for harmony and peace within the urban body necessitated the adoption of a peace-keeping role by the municipal authorities, for conflict amongst the body's members would endanger the community's health.[97] As in medicine, balance was seen as the urban body's desired state.[98] Though this theory is not specifically named in the sources, they can be related to the care for the common good: the '*bien commun*' or '*gemenebest*'. This theory states that every action taken should benefit the common good of the community.[99] Balance would benefit the urban body because the community would thrive when balanced, therefore municipal authorities pursued balance for the good of the community.

An important part of communal healthcare was comprised of public sanitation. Keeping the city clean diminished the possibility that the dwellers would be exposed to harmful smells or diseases, making it an important factor in disease prevention. Municipal interference in matters of sanitation and healthcare spanned a broad range of measures, which were not limited to responsive measures in the wake of the outbreak of a contagious disease. In her dissertation, 'In

[94] C. Rawcliffe, *Urban Bodies: Communal Health in Late Medieval English Towns and Cities* (Suffolk 2013) 78.
[95] Siraisi, *Medieval and Early Renaissance Medicine*, 107.
[96] Rawcliffe, *Urban Bodies*, 78.
[97] Ibid., 88.
[98] See Kaye, *A History of Balance* for an extensive study on this subject.
[99] See M. Boone and J. Haemer 'Bien commun: bestuur, disciplinering en politieke cultuur' in: A. van Bruane, B. Blondé and M. Boone eds., *Gouden Eeuwen. Stad en samenleving in de Lage Landen, 1100-1600* (Gent 2016) 121-164.

Pursuit of a Healthy City: Sanitation and the Common Good in the Late Medieval Low Countries', Janna Coomans argues that measures concerning sanitation provided city councils with a vehicle for constant physical governmental presence in the city.[100] The councils appointed several layers of officials concerned with the enforcement of their detailed regulations, which enabled them to control several aspects of the daily lives of the city dwellers. These institutions preceded the advent of the Black Death, meaning that plague measures were created within an earlier institution.[101] This is an important factor in the debate on the effectiveness of municipal legislation and the degree to which the plague measures ordered by the municipal authorities were actually executed. New measures in response to unprecedented outbreaks that were issued within an existing system of law-enforcing agents would have had a better chance of execution than measures created in a city without such a system. This means that new plague measures were not all necessarily issued as a direct response to an outbreak, which is important to keep in mind regarding the sources studied in this chapter.

Public sanitation was mostly a cooperation of the municipal authorities and the dwellers themselves. Most cities expected their inhabitants to clean the street in front of their houses, dispose of their waste and empty cesspits.[102] The dwellers were also implored by the city to participate in the upkeep of gutter cleanliness and the maintenance of waterways.[103] Despite this emphasis on the participation of the dwellers in the upkeep of public sanitation, most cities employed officials to oversee and aid the disposal of waste. Ghent's 'king of dirt' and Deventer's 'brink brigade' paint the image of a number of city-employed sanitary agents with several duties.[104] These agents were not exclusively appointed for sanitary purposes but also acted as guards or messengers. A similar civil servant was appointed in Gorinchem, who was to keep both the market and any streets leading to the gates free of any dirt.[105] These different aspects of municipal interference in the city were therefore not rigid offices limited to specific civil servants but rather a fluent set of tasks performed by the totality of civil servants. This indicates that even though a city might not have employed a 'brigade' of sanitary agents, this does not mean that municipal authorities were not involved in the sanitation of the city and therefore the upkeep of communal health.

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[100] J. Coomans, In Pursuit of a Healthy City: Sanitation and the Common Good in the Late Medieval Low Countries (unpublished PhD-Dissertation University of Amsterdam, 2018) 71.
[101] Coomans, In Pursuit, 71.
[102] R. van Oosten, *De stad, het vuil en de beerput: De opkomst, verbreiding en neergang van de beerput in stedelijke context* (Leiden 2015) 103; Coomans, In Pursuit, 72,73.
[103] Coomans, In Pursuit, 73, 74.
[104] J. Coomans, 'The King of Dirt: Public Health and Sanitation in Late Medieval Ghent', *Urban History* 46:1 (2018) 82-105; Coomans, In Pursuit, 79-101.
[105] M.A. van Andel, 'Public hygiene in a mediaeval Dutch town' in: *Janus. Archives internationales pour l'Histoire de la Médecine et la Géographie Médicale* 18 (1913) 626-634, 628.

It was also quite common for cities to appoint medical professionals, who were paid by the city and obliged to care for the sick. Both surgeons and physicians would be eligible for these functions. Again, the separation between the two professions seems to have been quite fluent.[106] These city-appointed surgeons and physicians were a common phenomenon, Italian cities contracted them as early as the thirteenth century.[107] At the beginning of the fifteenth century, the city of Gouda appointed a surgeon to take care of the poor patients in the city, as well as to aid those injured in accidents or fights.[108] This city surgeon is referred to as a barber in a treasurer's account preceding his appointment to the office of city surgeon, which again indicates the diffusing line between the medical professions. Some cities also tasked their surgeons with the treatment of those staying in the hospitals, for which they generally did not receive any extra salary, though exceptions do occur.[109] The city of Kampen made such an exception in the dire times when the plague reigned in the city, offering its surgeons some extra salary per patient.[110]

Besides caring for the sick, physicians and surgeons were also admitted to various health boards. Italian cities appointed them to health boards as early as the fifteenth century.[111] Even though this seems to indicate that these boards were an expression of concern for public and communal health, Samuel Cohn Jr. argues that this was not the case for times of plague. He argues that plague responses by medical professionals were mostly limited to the patients' bedsides, as they were not concerned with anything other than medicine.[112] This also includes public health and community control. Though Cohn's sources might support this claim for the Italian cities, this does not necessarily mean that this is also the case for the Low Countries. As discussed in the first chapter, the sources used for this thesis do not suggest a blatant disregard for communal health. The tracts discussed in the first chapter do advise their audience to quarantine themselves in order to contain and stop the spread of the disease, which displays a regard for public health. Coomans argues that for the Low Countries, the involvement of medical professionals in the establishment of a 'public health agenda' is not traceable. [113] She therefore concludes that there is no evidence to suggest municipal authorities systematically involved medical professionals in this task but rather made use of their skills on a more ad hoc basis.

Yet as Coomans indicates, it is rather difficult to assess the extent to which these appointed medical professionals influenced the actions taken by the city councils in prevention and curation

[106] Huizenga, *Tussen autoriteit en empirie*, 221-223.
[107] McVaugh, *Medicine before the Plague*, 190, 191.
[108] J.G.W.F. Bik, *Vijf eeuwen medisch leven in een Hollandse stad* (Assen 1955) 15.
[109] Huizenga, *Tussen autoriteit en empirie*, 234, 235.
[110] Ibid.
[111] Cohn, *Cultures of Plague*, 94.
[112] Ibid.
[113] Coomans, In Pursuit, 64.

of contagious diseases.[114] This subject goes to the heart of the problem: the relation between theoretic medicine and communal health practices. While she proposes to shift the focus of research to the prophylactic aspect of municipal sanitation and healthcare, this thesis takes a different approach. Supplementing elite medical sources with those produced by municipal authorities should shed light on the degree in which authorities, such as city councils, implemented elite scientific knowledge and thus put medical theory into practice.

Communal healthcare on an informal level

Besides this wide range of (semi-)professional caregivers, medieval Dutch cities also had a wide range of caregivers that were not regulated by municipal councils and thus operated on an informal level. Many of these institutions operated out of a religious worldview, though this is certainly not a prerequisite.

In 1472, Pope Sixtus IV issued three bulls in which he granted several privileges to a new religious order: the *Cellebroeders* (Cellites or Alexians).[115] The early history of this order remains obscure, since there is no knowledge of a founder, nor any written sources on its formative years.[116] The main knowledge on the early history of the order is derived from the larger movement of the 'voluntary poor'.[117] This label was given to many groups with similar interests, such as the Beghards and the Lollards. Their adherents were laypeople who had chosen a life of apostolic poverty and thus formed a lay order, which means that they were not bound by a monastic rule. The similarities to the Beghards and Lollards, as well as their similar origins, explains why the Alexians were often referred to as Beghards or Lollards by contemporary sources. Halfway through the fifteenth century, the Alexians adopted the rule of St. Augustine.[118] By this time, the order had expanded rapidly. At the eve of the Reformation, the order had established 54 convents across the Low Countries and Rhineland.[119] All cities studied in this thesis were home to one of these convents. The convent in Tiel was arguably the first convent the Alexians founded in the Low Countries, which would have been halfway through the fourteenth century.[120] Gouda saw the foundation of a new convent not much later, it was first mentioned in

[114] Coomans, In Pursuit, 64.
[115] C.J. Kauffman, *Tamers of Death* vol. I, *The History of the Alexians brothers from 1300 to 1789* (New York 1976) 86-90.
[116] Ibid., 10.
[117] Ibid.
[118] Ibid., 84 85; J.J. van Dalen, *Geschiedenis van Dordrecht* part 2 (Dordrecht 1931-1933) 754; F. van der Pol, 'Het voormalige St. Anna-convent van de Cellezusters te Kampen. Van Klooster tot Theologisch Instituut' in: *Kamper Almanak 1977* (Kampen 1977) 185-207, 187.
[119] Kauffman, *History*, 57.
[120] Van der Pol, 'Cellezusters', 185.

1395.[121] The convents in Dordrecht and Amsterdam were first mentioned in 1441 and 1440 respectively, which means that they had to have been founded sometime before 1440.[122]

Amongst the many names the order has been given, 'hospital-Lollards' seems very telling.[123] Before the advent of the Black Death, the Alexians were virtually indistinguishable from Lollards. The brethren were extremely poor and often lived near local hospitals, hence the name 'hospital-Lollards'. This name later evolved into 'Cellites', most likely because it referred to the Latin *cella*, which referred to the monastic cells the Alexians lived in. However, this term could also loosely be interpreted as referring to the graves they dug. Given that the order is frequently described as having risen from the needs of the plague victims of the fourteenth century, this seems to be a fitting description. The order mostly concerned itself with the care for the sick, which evolved into the care for plague victims following outbreaks of the Black Death. Both nursing, which included preparing the patient for his death, and participating in funerals were part of the Alexians' activities. The nature of the care they provided should be explained a bit further. The order not see their activities as a response to a social need, nor were the '*bien commun*' or charitable works their desired objects. The care provided by the Alexians centred around religion: it was a religious response to a religious need, which means that their medical activities were of secondary importance. Regardless of their motives, the Alexians were often deployed by municipal bodies to care for the plague victims and dispose of the infected bodies in exchange for certain privileges.[124] This can be illustrated using bylaws produced in Sint-Truiden, a city in the Southern Netherlands. This city passed several bylaws in which contracts were made between the Cellites and the city council. The council would reward the order with a salary for every service they provided.[125] The precise amount of this salary varied according to the type of service the order provided: if the brethren had prepared the victim's remains for burial, held a funeral procession and then buried the victim, they would receive a higher payment than they would for burying a poor man or woman without preparing the body or a procession. Keeping vigil with victims was also a part of their contract, for which the city council also provided a salary. In addition to these rewards for its services, the order was also allowed to beg within the city walls for their livelihood two days a week. If the order were to refuse to carry out their duties, the council would stop paying out the salaries.

Not only did the council provide the order with means for earning a livelihood, it also took measures to ensure the order could fulfil their tasks undisturbed. In 1519, the council passed a

[121] Bik, *Vijf eeuwen*, 129, 130.
[122] Van Dalen, *Geschiedenis*, 754; W. Moll, *Kerkgeschiedenis van Nederland vóór de Reformatie* part 2 (Arnhem 1867) 161.
[123] The description of the activities of the order is largely based on Kauffman, *History*, 54-57.
[124] For instance: C.H. Vernède, *Geschiedenis der ziekenverpleging* (Haarlem 1927) 225, 226.
[125] F. Straven, *Inventaire analytique et chronologique des archives de la ville de Saint-Trond* vol. I (Saint-Trond 1886) 460, 461.

bylaw proclaiming that any person who would call on the order without any need would be punished.[126] This bylaw shows the esteem city councils had for the Alexians and their work. The position the order held in the various cities that housed their convents is clearly reflected in the testimonies many city councils gave on the works of the Alexians at the beginning of the fifteenth century. Before their recognition as a religious order, the Alexians had faced charges of heresy from time to time.[127] Several cities provided testimonies on the activities of the order in their cities, which were offered to one of the cardinals of the pope.[128] Many of these testimonies defended the Alexians and underlined their good works and value to the city, which implies that the order was held in high regard in most cities.

Another institution that concerned itself with the care for plague victims was the *pesthuis*. These houses were devised as a place to contain and isolate plague victims, rather than attempting to cure them.[129] Municipal governmental bodies would be the main initiators for the building of these houses, but the municipally funded houses would not appear on a large scale until halfway through the sixteenth century.[130] The *pesthuizen* resembled the objectives of the Alexians to the point where the possessions of the convent the Alexians had in Dordrecht were yielded to the *pesthuis* when it was closed in 1572.[131]

Though the earliest *pesthuis* recorded was presumably founded in Geertruidenberg in 1365, Dordrecht followed not much later.[132] Despite the uncertainty around the precise year of their establishment, Dordrecht had not just one but two *pesthuizen* at the end of the fourteenth century.[133] These houses cooperated with the Alexians in the care of the plague victims, ordering the Alexians to take care of the sick while the houses quarantined them.[134] Amsterdam seems to have had a small *pesthuis* from 1422 onwards, though some parts of hospitals were also designated for the plague victims.[135] The *Chronicon Tielense*, a comprehensive chronicle of the city which ends in 1449, does not describe the building of a *pesthuis*.[136] However, a nineteenth-century source describes it as being demolished before the end of the seventeenth century, meaning it

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[126] F. Straven, *Inventaire analytique et chronologique des archives de la ville de Saint-Trond* vol. II (Saint-Trond 1886) 333.
[127] See Kauffman, *History*, 72-81.
[128] Ibid., 75, 76.
[129] L. Noordegraaf and G. Valk, De Gave Gods. De pest in Holland vanaf de Late Middeleeuwen (2nd. Edition, Amsterdam 1996)197.
[130] Ibid.
[131] Van Dalen, *Geschiedenis*, 755.
[132] Noordegraaf and Valk, *De Gave Gods*, 196.
[133] A.G. de Vos, *Het Heilige Geest- en Pesthuis ter Nieuwerkerk binnen Dordrecht* (Dordrecht 1869), 41-43, specifically the footnotes on these pages.
[134] De Vos, *Heilige Geest- en Pesthuis*, 43.
[135] G. Hellinga, 'De Amsterdamsche pesthuizen' in: *Nederlands Tijdschrift voor Geneeskunde* 72 (1928) 5912-5938, 5912-5913.
[136] J. Kuys e.a. eds., *De Tielse kroniek. Een geschiedenis van de Lage Landen van de Volksverhuizingen tot het midden van de vijftiende eeuw, met een vervolg over de jaren 1552-1566* (Amsterdam 1983).

could have operated somewhere between the second half of the fifteenth century and the seventeenth century.[137] More than a century passed before Gouda would see the foundation of a *pesthuis* within its city walls. The city did not have a *pesthuis* until 1614, even though the city council began planning for the house in 1514.[138]

Plague measures

As discussed above, plague measures were created within a pre-existing system of governance of sanitation and communal health, directed by municipal authorities. This system has produced many sources, though many sources preserved today date from the sixteenth century. In the course of the sixteenth century, it is notable that the bylaws, ordinances and other forms of legislation produced by municipal authorities become lengthier and more detailed. Due to a greater volume of the sources, most historiography has focused more on the sixteenth century and onwards. An important article by M.A. van Andel, 'Plague regulations in the Netherlands', discusses a multitude of sources regarding plague measures, though he mainly focuses on later centuries.[139] He argues that one of the most common measures was that of marking infected persons and houses with respectively a white rod and a bundle of (sometimes white) straw.[140] The sources studied here predate his research somewhat, since they were all created in the second half of the fifteenth century. Amsterdam and Tiel both have sources dating from 1493, whereas the source for Gouda dates from 1488.[141] The eldest sources were created in Dordrecht and date from 1450, 1452 and 1458.[142]

Most sources do not elaborate on the origins of the plague and the manner in which the city was first infected, only Amsterdam gives a brief introduction. It recounts how some dwellers had been taken ill by the plague, which led to the drawing up of the bylaw. In order to contain the outbreak and prevent an epidemic, the council proclaimed a set of laws. An interesting addition the source makes is the mention of visitors from outside the city in regard to preventing the spread of the disease.[143] The council recognised its responsibility in contaminating the disease because these visitors would spread the plague to other towns and villages. In this case, these laws

[137] E.D. Rink, *Beschrijving der stad Tiel* (Tiel 1836) 189, 190.
[138] Bik, *Vijf eeuwen*, 107-112.
[139] M.A. van Andel, 'Plague regulations in the Netherlands' in: *Janus. Archives internationales pour l'Histoire de la Médecine et la Géographie Médicale* 21 (1916) 410-444.
[140] Van Andel, 'Plague regulations', 413.
[141] J.C. Breen ed., *Rechtsbronnen der stad Amsterdam*, Oude Vaderlandsche Rechtsbronnen s. 2 vol. IV (The Hague 1902), 278, 279; J.S. van Veen ed., *Rechtsbronnen van Tiel,* Oude Vaderlandsche Rechtsbronnen s. 2 vol. III (The Hague 1901), 86; L.M. Rollin Couquerque and A. Meerkamp van Embden eds., *Rechtsbronnen der stad Gouda,* Oude Vaderlandsche Rechtsbronnen s. 2 vol. XVIII (The Hague 1917), 170-174.
[142] J.A. Fruin ed., *De oudste rechten der stad Dordrecht en het baljuwschap van Zuidholland* vol. I, Oude Vaderlandsche Rechtsbronnen s. 1 vol. IV (The Hague 1882), 294, 297, 313, 314.
[143] Breen, *Rechtsbronnen Amsterdam*, 278.

are both a reaction to the outbreak as a prophylactic set of measures to contain the outbreak and prevent a new contamination, as well as protecting the uninfected dwellers.

Another implementation is found in the ban on visiting places of worship, which can be found in all sources studied here, except Dordrecht.[144] In Tiel infected worshippers were to remain standing in the doorway, Gouda quarantined them in one specific church, but Amsterdam banned them entirely. This radical ban was also extended to services in hospitals and chapels. An extension on this matter is found in the policy on taking in patients in exchange for money, this could only be done if the owner of the house would consent to this.

The measures described by Van Andel are found in three of the four sources studied here. They serve the purpose of quarantining the infected dwellers, protecting the uninfected and contaminating the disease. The concept of miasma plays a large role in these measures. Whereas Amsterdam, Tiel, and Gouda order their dwellers to mark infected houses and persons for a period of six weeks, Dordrecht does not follow this path. The rod and bundle of straw only appear in municipal sources from 1509 onwards, which unfortunately exceeds the demarcation in time set for this thesis.[145] Even though Amsterdam, Tiel and Gouda all order the carrying of a white rod, there are some disparities in the specification of the measure. Whereas Tiel speaks of a '*roycken*', a small stick, Amsterdam orders a rod of at least three feet long.[146] Municipal authorities in Gouda took the measure even further by ordering a rod of a *'vaem lanck*', which would span about 1.80 meters.[147] Similarly, the bundle of straw is described in various terms. Amsterdam again specifies that it should hanging from a stick and the bundle should be at least three feet long, Gouda only states that it should be a large bundle, and Tiel does not specify any size.[148] These discrepancies indicate that even though these cities take similar measures, they all interpret the underlying concept in slightly different ways.

Many cities forbade their dwellers to conduct business within a house where a patient had died, an embargo that should last at least a month or six weeks. The marking of the houses in which infected persons lived or died indicates that infection was also believed to spread objects, such as the house and anything in it. This is the case for Dordrecht, Amsterdam and Gouda.[149] Amsterdam specifies that only the door of the house could be opened, not the windows. This could be to ensure that the corrupted air would not escape the house through open windows. Gouda

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144 Breen, *Rechtsbronnen Amsterdam*, 278; Van Veen, *Rechtsbronnen Tiel*, 86; Rollin Couquerque and Meerkamp van Embden, *Rechtsbronnen Gouda*, 173.
145 Fruin, *Rechtsbronnen Dordrecht*, 341, 342.
146 Van Veen, *Rechtsbronnen Tiel*, 86; Breen, *Rechtsbronnen Amsterdam*, 278.
147 Rollin Couquerque and Meerkamp van Embden, *Rechtsbronnen Gouda*, 173. This ordinance was repeated on a later date.
148 Breen, *Rechtsbronnen Amsterdam*, 279; Rollin Couquerque and Meerkamp van Embden, *Rechtsbronnen Gouda*, 170; Van Veen, *Rechtsbronnen Tiel*, 86.
149 Fruin, *Rechtsbronnen Dordrecht*, 297, 313; Breen, *Rechtsbronnen Amsterdam*, 279; Rollin Couquerque and Meerkamp van Embden, *Rechtsbronnen Gouda*, 170, 173.

places a different emphasis and declares that quarantine should only be considered when a person was to die of the plague within a fortnight. Dordrecht highlights a different aspect: trade from door to door. '*Uutdraechsters*', persons who would sell objects that had belonged to the deceased, were no longer allowed to sell clothes and jewellery door to door, limiting their business to the boundaries of their own house. The ban on items that had touched the deceased's body indicates that this measure was intended to counteract the spread of the disease and that clothes and jewellery were seen as important vehicles for the infection.

The same reasoning can be identified in another measure Dordrecht takes: the disposal of bedstraw. Dwellers were not allowed to take bedstraw out of their house and dispose of it somewhere within the city, they were ordered to take it outside the city walls.[150] This again concerns material that would have been close to the body of the patient, which was seen as another vehicle for infection. In a broader sense, cleanliness was held in high regard. Whereas Gouda implored its dwellers to clean out the gutters surrounding their houses, Amsterdam describes specific measures regarding bloodletting.[151] Barbers were not allowed to let the blood they extracted from their patients stand outside of their doors, only empty pans were allowed. Furthermore, the blood could not be disposed of within the rivers or canals inside the city.[152] Dordrecht and Gouda also aimed to regulate burials of plague victims. In both cities only the smallest group of mourners was allowed to attend the funeral.[153] In Dordrecht, plague victims were to be buried halfway after being brought into the church, given a funeral and then hastily buried in full. The law was a little less strict when it came to burials in the churchyard, the physical remains were not to be covered until after the funeral.

The final measure discussed here is found in the sources for Gouda and Amsterdam. Both cities highlight the importance of fish, dairy and meats as vehicles for infection. Gouda banned farmers who came from infected areas from entering the city and selling their dairy products. They were to stay outside of the city walls for a period of at least six weeks. If someone were to break this law and sell their wares on the usual marketplace, they were fined and forced to carry around a white rod. This ordinance was repeated on a later date, indicating its importance for the plague measures in this city.[154] Amsterdam was less strict, it only banned those who had been exposed to the disease were banned from visiting the meat and fish markets. Instead, they should ask their unexposed friends or neighbours to do their shopping for them.[155]

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[150] Fruin, *Rechtsbronnen Dordrecht*, 313.
[151] Rollin Couquerque and Meerkamp van Embden, *Rechtsbronnen Gouda*, 173.
[152] Breen, *Rechtsbronnen Amsterdam*, 279.
[153] Fruin, *Rechtsbronnen Dordrecht*, 294; Rollin Couquerque and Meerkamp van Embden, *Rechtsbronnen Gouda*, 173.
[154] Rollin Couquerque and Meerkamp van Embden, *Rechtsbronnen Gouda*, 185.
[155] Breen, *Rechtsbronnen Amsterdam*, 278, 279.

Theoretical foundations

Now that the overall content of the sources is clear, many questions arise. Which elements are omitted and for what reason? Why are these specific measures taken, what underlying medical theories can be recognised? Most importantly, do these measures show any resemblance to those recounted in the *Sendbriefe*?

A common omission in the sources is the mention of religion and religious measures. Only Dordrecht and Amsterdam briefly mention religion, not as a separate means to combat the plague. Dordrecht introduces a set of measures by stating '[…] *tegens deser pestilency, die nu, God betert, hier bynnen der stede regniert*'.[156] The phrase '*God betert*' has evolved into an expletive in modern Dutch, but its original meaning lies closer to 'God improve it' or 'God better it'. Hence, the correct translation of this sentence would be: '[…] against the plague, which nowadays, God better it, reigns within the city'. Even though divine interference is briefly mentioned in the source, it is not expanded upon, nor regarded as a means of combatting plague that should be utilised by municipal authorities in Dordrecht. However, Amsterdam reserves a larger role for divine interference. It introduces the measures by stating there is a great need for them, as discussed above, because the city attracted many visitors from outside of the city which exposed it to the plague. This would lead to an epidemic,

> '*tenzy by de voirsienicheit van God almachtich ende goede ordonnancie, die men daerup maken ende keuren sal mogen ende in geliken werck tot andere eerliken steden gebruict ende gehantiert wordt.*'[157]

The ordinance then continues to stress the importance of municipal measures and their enforcement. In this case, religion is combined with the measures taken by municipal authorities. It is mentioned briefly, without being elaborated upon, and immediately followed by a long argument on the importance of the other measures. This all shows that even though divine providence may have been regarded as an important factor in warding off the plague, it was not incorporated into municipal records. This omission shows that there is a possibility that it was not seen as part of the mandate of the municipal authorities to venture into the field of religion and incorporate religious measures into their legislation. Perhaps this could be extended to the field of medicine. In the wake of an outbreak municipal authorities could have taken medical actions, such as handing out pills that patients had to ingest, which would cure and ward of the plague. These pills were a popular component of plague medicine and were reasonably well

[156] Fruin, *Rechtsbronnen Dordrecht*, 313.
[157] Breen, *Rechtsbronnen Amsterdam*, 278. Translation by the author: 'unless by the providence of God almighty and good ordinance, which one should make and establish accordingly, and in the same manner be used and imposed by other fair cities'.

available at apothecaries.[158] The assumption that the sources do not show any sign of active governance through medical measures can indicate that this was also seen as not yet fitting the mandate of municipal government. This would shed some light on the role municipal authorities played in the daily lives of the dwellers in their cities. However, more research should be done on a greater number of municipal records from multiple angles to provide a clearer view on this role. Even though religious measures are not incorporated into the sources, they do show signs of the attempted assertion of authority by the city councils and other municipal authorities. As Coomans describes and as was mentioned above, sanitation and the managing of public health could provide an opportunity for municipal authorities to be represented in the daily lives of the dwellers. Establishing and further strengthening the authoritative status of the community's governmental organ could be achieved by implementing the measures described in the sources. Given that many of them are spatial measures, they would have a direct effect on the dwellers in a physical sense, since they could no longer go wherever they pleased.

An important characteristic is the responsive nature of the sources, which correlates with an important omission. By their own testimony, the sources are all either written in the early phases of an outbreak, or as a guide to follow when an outbreak might occur. This responsive attitude disregards the prophylactic components of the *Sendbriefe*, omitting half of their contents. The first chapter highlighted the prominent role of the regimen in the Middle Dutch *Sendbriefe* and Middle Dutch plague tracts in general. This prominence is not reflected in the sources studied in this chapter. Even though the regimen plays an important role in theoretical plague medicine, it does not have a place in municipal legislation.

The sources do not offer any kind of other reassurance for the audience that the methods used were sound, nor do they offer any explanation why these particular measures would be the right measures and should therefore be implemented. Some of the sources in the first chapter mention that the remedies were tried and tested, which lent them another sense of authority. It becomes clear that the municipal legislative sources were not deemed to be in need of another confirmation of their authority, the fact that they were created by municipal councils seems to be enough authorisation. This again indicates that these ordinances and by-laws seem to be utilised as a means to assert and strengthen the municipal councils' authority.

Herbal medicine and drug therapy are not at all present in the sources mentioned. None of the recipes recounted in the first chapter are referred to, nor any of the other methods or a reference to the medical profession as a whole. The literal curing of the urban body is scarcely represented in the sources. Though the sources do not refer to herbal medicine, they do display some signs of other medical theories. As discussed in a previous paragraph, Amsterdam banned

[158] Nockels Fabbri, *Continuity and Change*, 104, 105; McVaugh, *Medicine before the Plague*, 117-123.

Barbers from leaving out blood extracted from their patients, as well as disposing of it in the canals and rivers in the city. This indicates that the council was aware that the blood extracted from those who had been exposed to the plague was corrupted. Therefore, it should not be allowed to stand outside doorways, because the corrupted humor would corrupt the air in the city. The same can be said for the disposing within the city's waterways, the corrupted blood would corrupt the water, as well as any person who would come into contact with the water. All these considerations indicate a knowledge of the concept of miasma. As has been mentioned by Van Andel, among others, the marking of the infected persons and houses also displays a knowledge of this theory and therefore a basic understanding of medieval medicine. Even though Dordrecht did not incorporate these markings into its laws, it did endeavour to regulate the burials of plague victims. This indicates that the council was convinced that the physical remains of the victims would corrupt the air surrounding them, which is also an aspect of miasma.

Not only the attempted regulation of bloodletting is of importance, it is an extremely interesting point in itself too. Since it was not promoted in two out of the three *Sendbriefe* discussed in chapter one, it seems as though theoretic medicine did not presume bloodletting to be an important aspect of plague medicine. Only source P40 mentions it, though be it in great detail, pointing out which veins needed to be let when a pustule would appear on a specific part of the body. The inclusion of regulations regarding bloodletting in legislative sources testifies to its widespread use in practical medicine.

The source for Gouda mentions some interesting criteria for several plague measures to enter into force. It mentions that patients had to have died within a fortnight after displaying symptoms of the plague, after which the house should be marked within a day.[159] This exhibits a distinctive knowledge of pathology, since the disease would be recognised by its symptoms and the short timespan between infection and death. Though the outbreaks are all labelled as the plague in the other sources, only Gouda describes a pathology that could be used to recognise the plague. The need for this distinction indicates that the municipal authorities understood that the plague was not a mere imbalance of the humors but rather an epidemic disease which required immediate action, hence the marking of the house within a day.

The apparent lack in display of medical theories also reflects on the role of the medical professionals employed by the city. Their opinions are not reflected in the sources, which indicates that their role in the protection of communal healthcare through plague measures seems minimal. As mentioned in the first paragraph, Cohn argued that the Italian medical professionals did not participate in municipal healthcare but rather focused on the treatment of their patients. Based on the sources studied here, this seems to be a plausible situation for the discussed cities.

[159] Rollin Couquerque and Meerkamp van Embden, *Rechtsbronnen Gouda*, 170.

City surgeons and doctors did not leave any trace in these sources, which in turn seems to indicate that they did not fulfil an advisory function to the municipal authorities, or at least that their input was neglectable. The idea that city surgeons formed a link between learned medicine and both the municipal authorities and the city dwellers is not supported by the sources studied here. However, it is possible that traces appear in sources of a financial nature, such as the municipal accounts. The salary of city surgeons and doctors would have to be accounted for in these records, which means the service they provided could be recorded within these accounts. It would be an interesting study to compare these accounts to the legislative sources studied here.

Furthermore, the wide range of informal caregivers present in medieval Dutch cities should be considered. As discussed in the first section of this chapter, both the *pesthuizen* and the Alexians played an active part in the fight against the plague and the care for plague patients. As the case of Sint-Truiden illustrated, many city councils employed the Alexians to take care of the plague victims. All cities studied here were home to Alexian convents that were founded some decades before the bylaws were issued, which indicates that the order had become well-established in the cities by the time the bylaws were created. It is possible that the cities studied here had made contracts with the Alexians similar to those the city council of Sint-Truiden had made with the order. This would diminish the need for bylaws regulating the care for plague victims, because this would have been outsourced to the order.

Mirrors of reflection?

Now that the content of the sources and their contexts are clear, the main points of deviation should be named. First of all, a comparison of the metadata of the sources is in order. Most noticeably is the varying length of the sources. As mentioned before, the source for Tiel is very short and only spans a paragraph, whereas the other sources are much lengthier. Gouda's source contains four different bylaws, similar to the length of Amsterdam's source. The most sizeable source is the one from Dordrecht, which contains 3 bylaws with several sections each. Though the sources for Dordrecht, Amsterdam and Gouda do differ in length somewhat, the extent to which they differ is not that dramatic as the discrepancy between Tiel and the other cities.

Substantively, the sources also show some variation. Dordrecht did not mention the marking of the infected persons or houses, whereas the other sources all mention this common practice. Half of the sources mention some kind of sanitary measure, the sources for Dordrecht and Amsterdam. Where Amsterdam provided instructions for the disposal of blood drawn from patients, Dordrecht ordered the dwellers to dispose of their bedstraw outside of the city. The measures of containment are relatively uniform: only in Dordrecht were infected dwellers not banned from attending religious services. The ban on conducting business within the infected house was implemented in all cities, except for Tiel. Finally, both Gouda and Dordrecht specified

some laws for the burial of the victims. It is worth noting that even though the length of the sources from Amsterdam, Dordrecht and Gouda are quite similar in size, they do show some variation in contents, where each city emphasises a different aspect of plague measures.

Compared to the *Sendbriefe* discussed in the first chapter, there is not a great degree of similarity in vocabulary or terms used. Since the legislative sources do not include herbal medicine and the *Sendbriefe* mainly propagate herbal medicine, an overlap would not be expected. The same can be said for the regimens proposed in the *Sendbriefe*. The only aspect in which both types of sources overlap is that of quarantine. The *Sendbriefe* propagate quarantine from the part of the patient, as well as prophylactic drinks to protect the unexposed, which would override the need for quarantine.

When comparing the sources' vocabulary, no immediate similarities stand out. Though many measures are similar, the way they are formulated is not identical. For instance, the white rod that should be carried around is described in three out of the four sources in three various ways. The word used for rod differs between the sources and the length of the rod itself varies; it seems as though the cities only agree on the white colour of the rod. The vocabulary used in the other measures shows similar discrepancies, which argues against the existence of a regional consensus in plague responses.

Conclusion

Since the conclusion following this chapter will elaborate more broadly on this subject, the conclusion for this chapter is bound to brevity. The chapter has concerned itself with the study of several municipally produced sources in response to outbreaks of the plague. First of all, it has given a short overview of the various aspects of healthcare and sanitation generally present in the medieval Dutch towns and the role municipal authorities played in keeping the community healthy and the city clean. Key factors in this paragraph have been medical professionals appointed by municipal authorities to treat the sick, disposal of waste and general municipal sanitation. The body politic proves to have been an important concept within the theoretical framework that laid at the foundation of these measures. The community was represented as a body, which should be kept healthy by following the same conceptual regimens that should keep the physical body healthy.

The plague measures studied had similarities and discrepancies according to the cities in which they were produced. Common ground was found in several measures of marking the patients and isolating them and their houses from the rest of the community, aiming for quarantine and containment of the disease. This measure is closely related to the isolating measures advised in the *Sendbriefe* discussed in the first chapter, which warned their readers not

to go near any patients, or at the very least not without protecting themselves by drinking a potion. Some cities describe their measures in greater detail than other cities, others emphasise cleanliness, whereas others provide an insight into practical plague measures by regulating the barbers in their practice of bloodletting. Whether this can be attributed to regional influences is debatable. The sources differ quite substantially from one another, without any clear deviations per region. One aspect worth noting is that Tiel's source is markedly smaller than those of the other cities, only mentioning the basic measures for isolation without defining any specifics. Whether this is due to regional differences cannot be determined with this set of data.

The sources do not explain why they use their specific set of measures and not another. Validation of the measures through the mentioning of medical authorities was also not deemed necessary. Though the sources clearly indicate knowledge of miasma, they do not display any hints of herbal medicine. The apparent lack of practical curative measures in the sources may be due to an already present infrastructure of care accessible for those struck by the plague. Both the order of the Alexians and the *pesthuizen* have played a major role in this matter, though they cannot be seen as a uniform formula present in all cities. The *pesthuizen* were certainly a factor, but they were not necessarily active in the same period in which some of the bylaws were written. The main object of the Alexians, easing the patients' suffering and providing religious comfort, could have overshadowed their medical activities. Their main intentions were religious, which means that medically curing the disease would not have been their top priority. Despite their intentions, the order has most likely played a key role in the care for the plague victims. This assumption is confirmed by historiographical sources but not by the sources studied here.

Conclusion

The object of this thesis has been to define the relationship between theoretical medicine and municipal legislation regarding the Black Death. In order to complete this task, two sets of primary sources have been studied and compared. The focal points in the study of both sets of sources has been to identify the various medical theories the sources base themselves on, as well as the degree in which the sources refer to one another. This has been done on multiple levels: the contents, underlying theories and vocabulary used in the sources have been studied to uncover the measure and manner in which municipal councils were aware of medical theories. In the combination of these two sources this thesis aims to add to the debate on plague measures in medieval Dutch cities, as well as to research the practical reflections of medical theories in medieval Dutch society. The use of the two types of sources separates this thesis from the current historiography on plague measures in the Low Countries. A large sum of the existing historiography focuses on one particular city, disregarding the available healthcare and medical theories in the city. The article written by Van Andel, which was mentioned in the second chapter, puts more emphasis on description of the measures taken in Dutch cities, rather than comparing them to theoretical medicine.

In order to answer the main research question of the thesis, both categories of sources have been discussed separately, after which they have been compared in the second chapter. First of all, the genre of the *Sendbriefe* has been scrutinised, its contents and placing within theoretical medical writings. The origins of the terms *Sendbriefe* and *Praagse brief* have been explained, especially in their connections to the sources. The characteristics of the *Praagse brief* can be traced back to several German sources, which makes the use of the term problematic because the uniformity of the sources is compromised. The three sources studied in the first chapter are all examples of the *Praagse brief*, but given their mixed origins the term *Sendbriefe* has been used throughout the thesis to refer to them.

The general layout of the *Sendbriefe* consist of two components: a prophylactic component and a curative one. The sources studied here do not all incorporate a regimen, only one out of the three sources advises a set of curative measures. However, it must be noted that in the other two sources the curative measures are not strictly separated from the prophylactic ones. Herbal medicine is strongly recognisable in the curative measures, the poultices and medicinal drinks were made from herbs or other natural ingredients with medical properties and humoral qualities. Balancing the humors by using simplica with humoral qualities opposing those of the plague was seen as a solid method of treatment, as was bloodletting to drain the body of excess blood. However, bloodletting is only advised in one out of the three sources studied in the first chapter. A changing view on theoretical medicine can be seen in the plague tracts as well. The field

of medieval medicine was in constant development, refining classical medical theories and methods and using them as foundations to build new methods on. As has been discussed, the use of theriac as a wonder drug is a clear example of this. However, these two uses of classical medicine are not mutually exclusive, as they are united in the plague tracts.

The tracts display a comprehensive knowledge and use of contemporary medical theories as described in the introduction. Most importantly, the tracts provide several measures to rebalance the humors within the body, as well as driving out the corruption from the pustules by covering them with healing poultices. In addition to this, the concept of miasma is visible in the sources. Many of the measures advised in the regimens were intended to isolate the infected from the uninfected and thus containing the disease. Even though the tracts do not mention it explicitly, this implies a concern for public health. The same can be said for the genre as a whole: the idea of writing a plague tract and purposely addressing it to a local ruler implies that either the author or the commissioner of the tracts intended to spread the current state of medical knowledge in order to contain and prevent the disease.

The second chapter focused on municipal legislation regarding the plague and the presence of theoretical medical thought within these sources. Legislative sources of four cities were studied: Amsterdam, Dordrecht, Gouda and Tiel. First, it introduced the wide range of formal and informal providers of healthcare and sanitation. These agents operated within a municipally regulated system of healthcare and sanitation, complete with law-enforcing agents. This indicates that the plague measures were issued within this pre-existing system, which could benefit their effectiveness to some degree.

The measures display several approaches to plague regulation, though they are all based on a single aspect of medical theory: miasma. Most measures aimed to contain the infection by quarantining the infected persons and houses. Combining both social and spatial quarantine, the well-known marking of infected persons with a white rod and infected houses with a bundle of straw was intended to contain the spread of the disease, which implies knowledge of miasma. A similar measure bans those exposed to the plague from attending religious services or limiting them to a single church or chapel where they could attend services with other exposed dwellers. This would contain the disease but also interfere with the religious aspects of the dwellers' lives. Sources for Gouda display a knowledge of pathology, ordering the dwellers to take plague measures when a person would die within a fortnight. This knowledge is also reflected in the ban on the sale of dairy products, fish and meats produced in infected areas outside the city walls, a variation on which can also be found in the sources for Amsterdam. In addition to knowledge of pathology, this also underlines the knowledge the cities had on miasma.

Herbal medicine, drug therapy, balancing humors, plasters for the pustules: none of these treatments appear in the legislative sources, nor do they use a theoretical medical vocabulary. The

vocabulary used in the sources differs from city to city, contradicting the idea that the measures were uniformly disseminated across the Low Countries in a way similar to the *Sendbriefe*. However, in the *Sendbriefe* differences in vocabulary do occur, which implies that the measures do not necessarily had to have been created independently from each other. Even though they differ on a vocabular basis, the measures are relatively uniform. For instance, the rod and bundle of straw occur in three out of four sources. The cities each have a different focal point, but many of the measures overlap. This does hint to the existence of a general set of known measures throughout the northern Netherlands, but this cannot be determined based on this particular set of data.

An interesting issue found in the legislative sources is the absence of certain measures, such as the supply of plague pills, deployment of city surgeons in plague measures, and the absence of religious measures. Why are these subjects not mentioned in the sources? An explanation could lie in the mandate the municipal authorities had and its boundaries. The sources for Amsterdam and Dordrecht briefly mention religion but do not incorporate it into their measures, nor do they express a belief in divine interference as a probable solution to the epidemic. Even though divine providence might be considered a viable solution by society or the individual members of city councils, it was not incorporated into municipal records.

The same can be said for practical medicine. The sources do not advise any practical medical measures, nor do they attempt to regulate any of the informal plague treatments practiced in the city. An exception must be made for the source for Amsterdam, which attempts to regulate the disposal of blood extracted during bloodletting. This regulation indicates that many medical treatments were available in the city but were not reflected in municipal legislation. Combined with the lack of distribution of plague pills or other drugs and the deployment of city-appointed medical professionals reflected in the sources, this indicates that these measures could not be incorporated into legislation. This does not have to mean that the city did not or could not provide medical care but merely that it could not be forced onto the dwellers by law. Municipal authorities could not force their dwellers to seek or accept medical help if they did not want it themselves, which is why these measures do not appear in legislative sources. However, they could appear in financial sources. Both the distribution of medicine and the aid of medical professionals would have to be accounted for in the financial accounts of the cities.

Even though municipal authorities were unable to force medical measures onto their dwellers, they were able to control the dwellers on a spatial and social level, to some extent. The plague measures limited the dwellers from going where they pleased, as well as isolate the infected from the rest of society. Combined with sanitary measures and restrictions on the religious services held by the dwellers, this would have had an impact on the personal lives of the dwellers. As described by Janna Coomans, some municipal authorities attempted to assert their

authority over the dwellers by enforcing sanitary measures. A similar mechanism can be seen in the plague measures identified here, since they interfered with the daily lives of the dwellers. Whether this tactic was effective cannot be deduced from the sources themselves. An interesting addition to the research conducted in this thesis would be to research the number of fines issued for violations of these measures, since this would give an indication of the effectiveness of these measures.

This political use of medical theories seem to testify a 'top-down' political situation in medieval Dutch cities: municipal councils used every possibility to oppress the dwellers and discipline them into obedience. This must be nuanced, because the sources studied here do not confirm this claim beyond doubt. Even though traces of attempted assertion can definitely be seen in the sources, the councils did not produce legislation on all aspects of life, such as religion and practical medicine. The measures discussed in the second chapter do restrict the dwellers in a spatial sense by limiting their freedom of movement, but they did not interfere with the daily practice of these elements. Though the dwellers that had been exposed to the plague were not allowed to enter all churches, they were not ordered to take specific religious measures, nor to neglect their religious duties. In this sense, the view of an all-mighty city council has to be adjusted.

As for the relation between theoretical medicine and medieval society, and therefore the relation between theory and practice, the sources studied here do not give a clear picture of the spectrum of practice. The *Sendbriefe* offer an opportunity to study theoretical medicine in a practically oriented narrative, intended to benefit public health. In this sense, these sources are ideal for the research carried out here. However, the legislative sources only represent one aspect of the practical implementation of these medical theories: its incorporation into law. As this was the object of this thesis, the legislative sources fit the description. Throughout the thesis, the limitations of this perspective have been identified and the need for supplementary sources has been voiced. Despite these limitations, the relation between legislation and theoretical medicine can be enlightened somewhat. As has been discussed above, the legislative sources present a limited amount of medical measures, building on the same theory. Within these measures there is no reference to the *Sendbriefe* or other forms of theoretical medical literature, which implies that theoretical medicine had no explicit place in legislative measures. The sources imply that medical theory was only marginally put into legislative practice.

In sum, this thesis can benefit the research on the relation between municipal councils and theoretical medicine. The distinction between the medical theories that were incorporated in the legislative sources and those that were discarded is diffuse and unclear. Researching the circumstances and particularities of the legislative sources that do incorporate these theories can shed a light on the conduct of municipal councils and the relation between municipal councils and theoretical science in general. In a broader sense, it can add to the debate on the practical

implementation of theoretical medicine in medieval society. Secondly, this research has shown that not all terms used in historiography on Dutch *artes*-literature are functional. This has been illustrated with the term '*Praagse brief*', but the possibility exists that many other terms may be equally challengeable. Without aiming to discredit the immense amount of work done by Ria Jansen-Sieben in any way, this thesis has shown that a re-evaluation of the terminology used in the study of medieval Dutch literary sources could greatly benefit current research. Clear terminology a more transparent overview of available sources could make this small field of research more easily accessible to new scholars or scholars working in different disciplines.

However, the subject definitely allows for extensive research. It would be interesting to supplement the legislative sources with financial sources, as well as other types of sources produced by municipal authorities. A broader geographical scope would open up the possibility of identifying and clarifying regional differences within the Low Countries. All in all, there are many possibilities for further research on these rich sources.

Bibliography

Published sources

Braekman, W.L., 'Een Hattems handschrift: belangrijke aanwinst voor de Middelnederlandse artes-literatuur' in: *Volkskunde. Driemaandelijks tijdschrift voor de studie van het volksleven* 84:3 (1983) 301-331.

Braekman, W.L. and G. Dogaer, 'Laatmiddelnederlandse pestvoorschiften' in: *Verslagen en mededelingen van de Koninklijke Academie voor Nederlandse taal- en letterkunde* (1972) 98-122.

Breen, J.C. ed., *Rechtsbronnen der stad Amsterdam*, Oude Vaderlandsche Rechtsbronnen s. 2 vol. IV (The Hague 1902).

Fruin, J.A. ed., *De oudste rechten der stad Dordrecht en het baljuwschap van Zuidholland* vol. I, Oude Vaderlandsche Rechtsbronnen s. 1 vol. IV (The Hague 1882).

Hulshof, M.H., 'Gebed en voorschriften tegen de pest in een Utrechts getijdenboekje uit 1440' in: *Nederlands Tijdschrift voor Geneeskunde* 83 (1939) 533–535.

Rollin Couquerque, L.M. and A. Meerkamp van Embden eds., *Rechtsbronnen der stad Gouda,* Oude Vaderlandsche Rechtsbronnen s. 2 vol. XVIII (The Hague 1917).

Straven, F., *Inventaire analytique et chronologique des archives de la ville de Saint-Trond* vol. I (Saint-Trond 1886).

Idem, *Inventaire analytique et chronologique des archives de la ville de Saint-Trond* vol. II (Saint-Trond 1886).

Veen, J.S. van ed., *Rechtsbronnen van Tiel,* Oude Vaderlandsche Rechtsbronnen s. 2 vol. III (The Hague 1901).

Secondary literature

Andel, M.A. van, 'Public hygiene in a mediaeval Dutch town' in: *Janus. Archives internationales pour l'Histoire de la Médecine et la Géographie Médicale* 18 (1913) 626-634.

Idem, 'Plague regulations in the Netherlands' in: *Janus. Archives internationales pour l'Histoire de la Médecine et la Géographie Médicale* 21 (1916) 410-444.

Anderson, M.W., *Food in Medieval Times* (Westport 2004).

Bik, J.G.W.F., *Vijf eeuwen medisch leven in een Hollandse stad* (Assen 1955).

Biraben, J.N., *Les hommes et la peste en France et dans les pays européens et méditerranéens* (2 volumes, Paris-Den Haag, 1975).

Blockmans, W.P., 'The social and economic effects of plague in the Low Countries. 1349–1350', *Belgisch tijdschrift voor filologie en geschiedenis* 58:4 (1980) 833-863.

Boer, D. de, *Graaf en grafiek. Sociale en economische ontwikkelingen in het middeleeuwse 'Noordholland' tussen ± 1345 en ± 1415* (Leiden 1978).

Boone, M., and J. Haemer 'Bien commun: bestuur, disciplinering en politieke cultuur' in: A. van Bruane, B. Blondé and M. Boone eds., *Gouden Eeuwen. Stad en samenleving in de Lage Landen, 1100-1600* (Gent 2016), 121-164.

Braekman, W.L., *Middeleeuwse witte en zwarte magie in het Nederlands taalgebied. Gecommentarieerd compendium van incantamenta tot einde 16de eeuw* (Gent 1997).

Brévart, F., 'Between Medicine, Magic, and Religion: Wonder Drugs in German Medico-Pharmaceutical Treatises Thirteenth to the Sixteenth Centuries' in: *Speculum* 83:1 (2008) 1-57.

Cohn, S.K., Jr., 'The Black Death: The End of a Paradigm' in: *The American Historical Review* 107:3 (2002) 703-738.

Idem, *Cultures of Plague. Medical thinking at the end of the Renaissance* (Oxford 2010).

Coomans, J., In Pursuit of a Healthy City: Sanitation and the Common Good in the Late Medieval Low Countries (unpublished PhD-Dissertation University of Amsterdam, 2018).

Idem, 'The King of Dirt: Public Health and Sanitation in Late Medieval Ghent', *Urban History* 46:1 (2018), 82-105.

Dalen, J.J. van, *Geschiedenis van Dordrecht* part 2 (Dordrecht 1931-1933).

Frutos González, V. de, and A.L. Guerrero Peral, 'Neurology in medieval *regimina sanitatis*' in: *Neurología* 26:7 (2011) 416-424.

Hellinga, G., 'De Amsterdamsche pesthuizen' in: *Nederlands Tijdschrift voor Geneeskunde* 72 (1928) 5912-5938.

Horst, K. van der, e.a. eds., *Handschriften en oude drukken van de Utrechtse Universiteitsbibliotheek* (Utrecht 1984).

Huizenga, E., *Tussen autoriteit en empirie: de Middelnederlandse chirurgieën in de veertiende en vijftiende eeuw en hun maatschappelijke context* (Hilversum 2003).

Huizinga, J., *Herfsttij der middeleeuwen. Studie over levens- en gedachtenvormen der veertiende en vijftiende eeuw in Frankrijk en de Nederlanden* (27 edition, after the revised edition of 1997; Amsterdam, 1919).

Hunt, E.S. and J.M. Murray, *A History of Business in Medieval Europe, 1200-1500* (Cambridge 1999).

Jacquart, D., 'Theory, Everyday Practice, and Three Fifteenth-Century Physicians' in: *Osiris* 6 (1990) 140-160.

Janse, A., 'Een in zichzelf verdeeld rijk. Politiek en bestuur van de tiende eeuw tot het begin van de vijftiende eeuw' in: T. de Nijs and Eelco Beukers eds., *Geschiedenis van Holland. Deel 1: tot 1572* (Hilversum 2002) 69-102.

Idem, *Ridderschap in Holland. Portret van een adellijke elite in de late Middeleeuwen* (2nd edition, Hilversum 2009).

Jansen-Sieben, R., *Repertorium van de Middelnederlandse Artes-literatuur* (Utrecht 1989).

Jones, C., 'Plague and its Metaphors in Early Modern France' in: *Representations* 53 (1996) 97-127.

Kauffman, C.J., *Tamers of Death* vol. I, *The History of the Alexians brothers from 1300 to 1789* (New York 1976).

Kaye, J., *A History of Balance: The Emergence of a New Model of Equilibrium and its Impact on Medieval Thought* (Cambridge 2014).

Keil, G., 'Habent sua nomina libelli' in: W.P. Gerritsen, A. van Gijsen and O.H.S. Lie eds., *Een school spierinkjes: kleine opstellen over Middelnederlandse Artes-literatuur* (Hilversum 1991) 100-103.

Kuys, J. e.a. eds., *De Tielse kroniek. Een geschiedenis van de Lage Landen van de Volksverhuizingen tot het midden van de vijftiende eeuw, met een vervolg over de jaren 1552-1566* (Amsterdam 1983).

McNeill, W., *Plagues and peoples* (Garden City 1976).

McVaugh, M.R., *Medicine before the Plague: Practitioners and Their Patients in the Crown of Aragon, 1285 – 1345* (Cambridge 1993).

Moll, W., *Kerkgeschiedenis van Nederland vóór de Reformatie* part 2 (Arnhem 1867).

Mount, T., *Dragon's Blood and Willow Bark: The Mysteries of Medieval Medicine* (Stroud 2015).

Nockels Fabbri, C., Continuity and Change in Late Medieval Plague Medicine: A Survey of 152 Plague Tracts from 1348 to 1599 (PhD dissertation Yale University, New Haven 2006).

Idem, 'Treating Medieval Plague: The Wonderful Virtues of Theriac' in: *Early Science and Medicine* 12 (2007) 247–283.

Noordegraaf, L. and G. Valk, *De Gave Gods. De pest in Holland vanaf de Late Middeleeuwen* 2nd. edition (Amsterdam 1996).

Oosten, R. van, *De stad, het vuil en de beerput: De opkomst, verbreiding en neergang van de beerput in stedelijke context* (Leiden 2015).

Palazzotto, D., The Black Death and Medicine: A Report and Analysis of the Tractates Written Between 1348 and 1350 (PhD-dissertation University of Kansas, Lawrence 1973).

Pol, F. van der 'Het voormalige St. Anna-convent van de Cellezusters te Kampen. Van Klooster tot Theologisch Instituut' in: *Kamper Almanak 1977* (Kampen 1977) 185-207.

Rawcliffe, C., *Urban Bodies: Communal Health in Late Medieval English Towns and Cities* (Suffolk 2013).

Riddle, J.M., 'Theory and Practice in Medieval Medicine' in: *Viator* 5 (1974) 157-184.

Rink, E.D., *Beschrijving der stad Tiel* (Tiel 1836).

Roosen, J., and D. Curtis, 'The 'light touch' of the Black Death in the Southern Netherlands: an urban trick?', *The Economic History Review* 72:1 (2019) 32-56.

Siraisi, N.G., *Medieval & Early Renaissance Medicine. An Introduction to Knowledge and Practice* (Chicago 1989).

Stammler, W. e.a. eds., *Die deutsche Literatur des Mittelalters Verfasserslexikon* (2nd revised edition, published online 2010) vol. I.

Idem, *Die deutsche Literatur des Mittelalters Verfasserslexikon* (2nd revised edition, published online 2010) vol. II.

Idem, *Die deutsche Literatur des Mittelalters Verfasserslexikon* (2nd revised edition, published online 2010) vol. VIII.

Stanford, C.A., 'Illness and Death' in: A. Classen ed., *Handbook of Medieval Culture* vol. 2 (Berlin/Boston, online publication in 2015) 722-739.

Steensel, A. van, 'Het personeel van de laatmiddeleeuwse steden Haarlem en Leiden, 1428-1572' in: *Jaarboek voor middeleeuwse geschiedenis* 9 (2006) 191-252.

Sudhoff, K., 'Pestschriften aus den ersten 150 Jahren nach der Epidemie des „schwarzen Todes" 1348' in: *Archiv für Geschichte der Medizin* 17:5/6 (1925) 241-291.

Vandewiele, L.J. ed., *De "Liber magistri Avicenne" en de "Herbarijs". Middelnederlandse handschriften uit de XIVe eeuw (Ms. 15624–15641 Kon. Bibliotheek te Brussel)* (Brussel 1965).

Vernède, C.H., *Geschiedenis der ziekenverpleging* (Haarlem 1927).

Vos, A.G. de, *Het Heilige Geest- en Pesthuis ter Nieuwerkerk binnen Dordrecht* (Dordrecht 1869).

Werveke, H. van, 'De Zwarte Dood in de Zuidelijke Nederlanden (1349-1351)', *Mededeelingen van de Koninklijke Vlaamsche Academie voor Wetenschappen, Letteren en Schoone Kunsten van België. Klasse der Letteren* 12:3 (1950).