INTRODUCTION

In the mid-thirteenth century, Jacobus de Voragine narrated the tale of
Saint George and the Dragon in his *Golden Legend*. The opening lines ran
as follows:

One day [George] came to Silena, a city in the province of Libya. Close by this
city was a vast lake, as big as an inland sea, where a pestilential dragon had its lair.
The people had often risen in arms against it, but the dragon always put them to
flight and would venture right up to the city walls and asphyxiate everyone with
its noxious breath. So the citizens were compelled to feed it two sheep every day
in order to allay its fury, otherwise it would make straight for the walls and poison
the air, causing a great many deaths.[1]

In time, the dragon began to require human sacrifices, and when Silena's
elders refused to supply their share – a virgin princess – they turned to
George and the Christian God to support their resistance. And indeed,
once the city was baptised, George slew the dragon and ended the sordid
affair.[2]

In the decades and centuries after De Voragine's version of the tale,
town governments in the Netherlands used the metaphor of the dragon
to express the danger of corrupted air as a cause of disease in general
processions. Statues of George and the Dragon were carried through the
streets, and actors staged the scene in *tableaux vivants* along the proces-
sion's route.[3] Besides communicating ideas about disease to the populace,
urban processions such as these served a prophylactic purpose, as they
helped to calm God's wrath and dispel dangers such as epidemics and
famines. They also conveyed a crucial component of public or group

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[1] Saint George (23 April). Jacobus de Voragine, *The Golden Legend: Selections* (New York, 1998),
  p. 116.
[2] The church built in his honour later boasted 'a natural spring whose water cures all illnesses'. Ibid.
[3] B. A. M. Ramakers, *Spelen en figuren: toneelkunst en processiecultuur in Oudenaarde tussen Middeleeuwen
  en Moderne Tijd* (Amsterdam, 1996), pp. 145–6, 251–60.

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health, namely the negotiation about who exactly was able to represent George and thus assume responsibility for fighting the dragon's poisonous breath. This was not a simple matter of one polity caring for its subjects. The urban processions express particularly well the complex social connections forged within urban communities and their relations with the urban fabric: city governments, guilds, parishes, confraternities, neighbourhoods and religious orders formed a polycentric order with many overlaps. Governing elites presided over these congregations, occupying paid and unpaid offices, with individuals active in different groups at the same time. These horizontal connections cut through hierarchy and dichotomies of the religious and secular, the public and private.[4]

   Later observers long regarded such religious responses as characteristic of superstitious attitudes towards public health during the Middle Ages. In contrast to ancient Roman sanitary accomplishments and Early Modernity's gradual implementation of technological and scientific innovation, medieval cities have been seen as particularly squalid; a proof of their inability to maintain a reasonable degree of public hygiene. When scholars began to study the history of public health from the late nineteenth century on, they emphasised success over the long term, especially after 1800, in improving population health, quality of life and longevity. They saw this as achieved mainly by limiting the spread of infectious diseases through preventative reform such as vaccinations and the treatment of drinking water. These early studies focused on state-level interventions, developments in medical science and the incorporation of medically trained practitioners into governments, and often took the Middle Ages as a negative starting point.[5] A similar view of linear progression towards modern sophisticated hygienic standards also formed an important part of the western 'civilising process', as propagated by sociologist Norbert Elias and his followers.[6] Yet recent scholarship on

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[4] M. Prak. *Citizens without Nations: Urban Citizenship in Europe and the World, c.1000–1789* (Cambridge, 2018); P. Trio, *Volksreligie als spiegel van een stedelijke samenleving: de broederschappen te Gent in de late middeleeuwen* (Louvain, 1993); S. Reynolds, *Kingdoms and Communities in Western Europe, 900–1300* (Oxford, 1997). Saint George was often also the patron of the urban militias.

[5] D. Porter (ed.), *The History of Public Health and the Modern State* (Amsterdam, 1994), pp. 4–5. Influential early studies are C. F. Brockington, *A Short History of Public Health* (London, 1956); C. M. Cipolla, *Public Health and the Medical Profession in the Renaissance* (Cambridge, 1976); G. A. Rosen, *History of Public Health* (New York, 1958). See on the Victorian roots of this negative stereotype C. Rawcliffe, *Urban Bodies: Communal Health in Late Medieval English Towns and Cities* (Woodbridge, 2013), pp. 12–45.

[6] N. Elias, *The Civilizing Process*. transl. E. F. N. Jephcott (Oxford, 1978); J. Goudsblom, 'Public Health and the Civilizing Process', *The Milbank Quarterly*, 64 (1986), 161–88; B. van Bavel and O. Gelderblom, 'Land of Milk and Butter: The Economic Origins of Cleanliness in the Dutch Golden Age', *Past and Present*, 205 (2009), 41–69; G. Vigarello, *Concepts of Cleanliness: Changing Attitudes in France since the Middle Ages* (Cambridge, 1988).

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medieval public health has uncovered a wealth of evidence supporting a rather different picture.[7] In her seminal work on medieval England, Carole Rawcliffe shows that medieval cities were far from indifferent about their collective health. In order to safeguard well-being, sustain social order and preserve spiritual purity, local communities developed a broad range of practices to protect themselves and fight disease, working within the paradigm of humoural medical theory or Galenism.[8] Guy Geltner argues in *Roads to Health* that public health practices were much more influential in the political and infrastructural organisation of Italian cities than previously understood, rendering two assumed watersheds in the history of urban health, namely the advent of the Black Death and the institution of health boards, part of a longer and more complex history of negotiating health interests.[9]

This book takes these insights into new territories in multiple ways, with a comparative exploration of how health interests affected the uniquely dense urban network of the Low Countries, and by adopting a biopolitical and spatial-material approach. This study's main argument is that health interests informed community politics and reveal the importance of the physical world – spaces, infrastructures, flora and fauna – in governing cities. A collective pursuit of a healthy and clean city shaped modes of urban governance and notions of community, while political interests and power relations in their turn informed what communal health entailed and how it ought to be protected. Communal health practices were therefore an integral, but historiographically neglected, aspect of the common good.

I define public health as all efforts to prevent disease and promote health at a population level, shaped by a complex combination of cultural, religious, sociopolitical and material considerations.[10] For more than sixteen centuries, Galenic medical thought, understood here as an

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[7] Medieval public health is still an emerging field dominated by articles and book chapters, yet several monographs published in the past few years have put the topic forcefully on the map. L. J. Skelton, *Sanitation in Urban Britain, 1560–1700* (London, 2015); I. Fay, *Health and the City: Disease, Environment and Government in Norwich, 1200–1575* (Woodbridge, 2015); D. Jørgensen, '"All Good Rule of the Citee": Sanitation and Civic Government in England, 1400–1600', *Journal of Urban History*, 36 (2010), 300–15. Early contributions to the field are L. Thorndike, 'Sanitation, Baths, and Street-Cleaning in the Middle Ages and Renaissance', *Speculum*, 3 (1928), 192–203; E. L. Sabine, 'City Cleaning in Mediaeval London', *Speculum*, 12 (1937), 19–43; G. T. Salusbury, *Street Life in Medieval England* (Oxford, 1939).

[8] Rawcliffe, *Urban Bodies*.

[9] G. Geltner, *Roads to Health: Infrastructure and Urban Wellbeing in Later Medieval Italy* (Philadelphia, 2019).

[10] This definition combines Geltner, *Roads to Health*, pp. 17–22 and his notion of healthscaping; D. Porter, *Health, Civilization and the State: A History of Public Health from Ancient to Modern Times* (London, 1999), p. 4; Rawcliffe, *Urban Bodies*, pp. 4–5.

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evolving complex of ideas from Greek, Roman, Arabic and later Latin Christian traditions, created views about the workings of the natural world and their impact on the functioning of bodies, both communal and individual. Health, in the Galenic sense, was a form of dynamic balance. It made few distinctions between spiritual and physical health and construed humans as prone to contracting illnesses through exposure to air corrupted by polluted waters and land, excrement and refuse, or by consuming spoiled food.[11] Moreover, at the individual and group level, people prioritised prevention over cure: diet and realising safe and clean living spaces over surgery and other curative procedures. As essentially a theory on balance and synergy of components, each with their distinctive qualities, Galenism also offered political guidelines on how to govern a society in a way that its members thrived in harmony and peace, and what moral conduct benefitted that collective pursuit.[12] At the same time, maintaining health at a group level entailed securing a stable supply of the essentials no community, large or small, could live without: food, water and fuel. And it entailed coordinating its outpourings: where and how waste was disposed, how it sank into urban and surrounding grounds.[13] Public health was therefore at once more environmental and more spiritual than its twenty-first-century Euro-American counterpart.

Prevention was deeply linked to local material and social contexts, in this case the many cities and towns of the late medieval Low Countries. This urban network was connected by the arms of the major river deltas of the Rhine, Meuse, Schelde and IJssel. Local urban governments stood in continuous negotiation with counts and other noble landlords, and especially other cities. These cities thus in important respects diverged from the independent political bodies of Italian city-states, or the urban communities under a more integrated monarchy, such as in England and France. This gave the region a distinct political profile and ideologies of community, with a more decentralised and negotiated conception of the health and well-being of urban populations. Between the late thirteenth and sixteenth centuries, the Netherlandish urban network underwent a radical transformation. Whereas the vast majority of Europe's

[11] C. Rawcliffe, 'The Concept of Health in Late Medieval Society', in Simonetta Cavaciocchi (ed.), *Le Interazioni Fra Economia e Ambiente Biologico Nell'Europa Preindustriale Secc. XIII–XVIII* (Florence, 2010), pp. 321–38; Rawcliffe, *Medicine & Society in Later Medieval England* (Stroud, 1995), pp. 29–41.

[12] See Chapters 1 and 6.

[13] R. C. Hoffmann, 'Footprint Metaphor and Metabolic Realities: Environmental Impacts of Medieval European Cities', in P. Squatriti (ed.), *Natures Past: The Environment and Human History* (Ann Arbor, 2007), pp. 288–325; M. Kaika, *City of Flows: Modernity, Nature, and the City* (London, 2012); D. van Laak, *Alles im Fluss: Die Lebensadern unserer Gesellschaft – Geschichte und Zukunft der Infrastruktur* (Frankfurt am Main, 2018).

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inhabitants spent their lives in a rural environment, one in three people in Flanders and Brabant lived in cities around 1350, a proportion that in Holland grew to 44 percent by 1500.[14] Both larger metropoles and the many dozens of Netherlandish towns with a few thousand inhabitants generated extensive series of administrative records. These, alongside material remains, allow studying the region's extensive prophylactic practices in depth.

Based on the foci and subjects that these archival sources convey and the premises of Galenic medical theory, I argue that the pursuit of a healthy city can be divided into four main goals or programs that urban governments developed in order to ensure 1: well-functioning infrastructures; 2: sufficient and high-quality water and food; 3: organised (but not necessarily centralised) waste disposal; 4: a morally healthy community. These four programs were deeply connected. For instance, a smoothly flowing, navigable river both attested to and provided for the first three goals – and, given the strong religious connotations of water, even all four. The term program opens up several associations. Environmental historians such as Richard Hoffman use it to signify the culturally informed manipulation of and attitudes towards the natural environment and ecosystems. It is moreover central in spatial–material approaches that regard sociopolitical and cultural organisation of society as shaped through practices involving multiple species, spaces, materials and (infra)structures, as discussed in more detail below.[15]

Various agents participated in communal health programs and tried to steer or influence processes of change, and for different reasons. Local urban governments were one important stakeholder, and definitely one of the most visible ones in terms of written sources. Yet the same sources also reveal other agents pursuing different agendas. This resulted in various clashing or at least incompatible interests. Cities competed with each other to secure food and fuel supplies. Artisans sought the cheapest mode of production and waste disposal, while food traders at times tried to get rid of substandard wares – and the poorest were forced to buy them. Neighbours might have hesitated to contribute to expensive shared facilities such as wells and cesspits, forgot to monitor them or simply lacked the funds to fix things that had broken down. Perceptions of dysfunctionality, as observed by nearby residents or municipal officials, moreover extended towards the social: physical nuisance and disturbance (disease and sin) were highly related and comparable forms of imbalance.

[14] W. P. Blockmans, B. de Munck and P. Stabel, 'Economic Vitality', in A.-L. van Bruaene, M. Boone and B. Blondé (eds.), *City and Society in the Low Countries, 1100–1600* (Cambridge, 2018), pp. 22–58, at pp. 22–33.
[15] R. C. Hoffmann, *An Environmental History of Medieval Europe* (New York, 2013), p. 6.

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Urban administrative records also reveal counterforces or shocks to public health programs. Epidemic disease, famines, disasters such as floods, storms and large fires, and political conflicts could all impact public health practices profoundly, at times unintentionally. The horsemen of the apocalypse sometimes affected many parts of the region at once. Such happened in the 1480s, when a plague epidemic swept through the region while an unsuccessful revolt against the newly empowered Maximilian I (1459–1519) brought several cities into crisis.[16] Other shocks were far more local. For example, after a major fire in 1337, Deventer's magistrates decided to partially reimburse all inhabitants who rebuilt their houses with stone bricks and roof tiles to make the city safer.[17] Thus, threats impacted societies and regions at various scales or levels, which levels affected each other.

Health programs, as part of urban sociopolitical negotiations, consistently found expression and justification in a discourse that revolved around the idea of the common good or public interest. The concept in local sources was variously referred to by the terms *ghemeen oirbair*, *goet nutscip* or *profite*, *bien public* or *commun*, *bonum communis*, *utilitas communis*, or *res publica*. It condoned interventions in the name of preserving peace and order, economic prosperity, safety, piety and civic prestige. It also stimulated debates on the balance between private or corporate and communal or public interests, and the spatiality of the latter. Several historians have noted the adaptation of the common good by competing political entities such as urban magistrates, nobles and guilds. This indicates the need to push back on the rhetoric (but not the term itself) and critically assess whose interests were actually being served by such claims.[18] However, what has been largely overlooked in the present debate is that concerns for communal health and urban sanitation were integral to the pursuit of the common good. This also makes the concept much more environmental than it often appears in the historiography, where the sociopolitical and legal aspects seem to have been detached from their very practical, tactile material concerns: ships and sluices, wastes and waters, roads and gutters, animals, plants, peat and plague.

Who, then, is our Saint George, slaying the dragon? This study intends to escape an ameliorist view in which the medieval city functions as

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[16] J. Haemers, *De strijd om het regentschap over Filips de Schone – Opstand, facties en geweld in Brugge, Gent en Ieper (1482–1488)* (Ghent, 2014). See on extreme weather and disasters J. Buisman, *Duizend jaar weer, wind en water in de Lage Landen: 1300–1450* (Franeker, 1995).

[17] See Chapter 1.

[18] M. Boone and J. Haemers, '"The Common Good": Governance, Discipline and Political Culture', in Van Bruaene, Boone and Blondé (eds.), *City and Society*, pp. 93–127; E. Lecuppre-Desjardin and A.-L. van Bruaene (eds.), *De Bono Communi: The Discourse and Practice of the Common Good in the European City (13th–16th c.)* (Turnhout, 2010).

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a hygienic nadir from which things slowly improved. In other words, it resists a dichotomy between a dirty premodern and clean modern era. Yet it also seeks to avoid an uncritical celebration of the accomplishments of fourteenth- and fifteenth-century urban governing elites as altruistic guardians of the city, fighting filth and disease for the greater good. Most importantly, it prioritises material and environmental adaptations to prevent disease over tracing curative medical practices. There is much to learn, indeed, from how individuals and groups perceived and negotiated health risks and sought to secure what they needed for their physical and spiritual well-being. Health-promoting or prophylactic practices revolved around what and who qualified as, to use anthropologist Mary Douglas' well-known adage, 'matter out of place', and who had the power to determine that.[19] There was, however, no erasure of dirt; it was part of normalised and regulated urban life, part of an ordered city. Like the rich and the poor, or the dead and the living, the dirty and the clean reinforced one another and hence coexisted in medieval cities. Reconstructing the perceived order and logic behind communal health practices, with its negotiated tasks and responsibilities, is the goal of this book.

NEW HISTORIES OF HEALTH

As more than half of today's world population lives in cities, governing them in a way that preserves or even improves communal well-being and environmental sustainability will continue to challenge global leadership and local communities alike. The emergence of new epidemic threats and the resurfacing of older ones have underscored the importance of reflecting on how health risks exacerbate socio-economic, political and cultural tensions, and vice versa.[20] Moreover, studies on biopolitics (see below) emphasise the deeply political nature of public health and its reach into modes of daily coexistence. Public health policy makers and scholars also increasingly recognise the limitations of a narrow focus on 'pills and doctors'. They broaden their gaze not only to include laws and education, but especially the benefits of social, financial and spatial interventions changing behaviour and people's daily routines.[21] Furthermore, a growing awareness of a future shaped by

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[19] M. Douglas, *Purity and Danger: An Analysis of Concept of Pollution and Taboo* (London, 2003).
[20] M. H. Green, 'The Black Death and Ebola: On the Value of Comparison', in M. H. Green (ed.), *Pandemic Disease in the Medieval World: Rethinking the Black Death* (Kalamazoo, 2015), pp. ix–xx. See on the current health topics and epidemics www.who.int/topics/en/.
[21] T. Farley and D. Cohen. *Prescription for a Healthy Nation: A New Approach to Improving Our Lives by Fixing Our Everyday World* (Boston, 2005).

environmental pollution, climate change and new pathogens and pandemics is prone to make public health (again) more ecological and spatial in its mindset. Some of these practical interventions, such as sugar taxes, non-smoking areas, green energy initiatives, cycling lanes to reduce car use, or digital monitoring of epidemic spread, are distinctly modern. However, scholars are becoming more conscious that comparable issues of population health in the past were framed in a broadly similar way. This redefinition or broadening thus enables new historical investigations. Although a view of the late medieval city as the apex of disease, chaos and dirt still looms in textbooks and popular culture, the new consensus among specialists is that the history of public health in Europe prior to 1500 can be retold. Preventative health practices existed before and beyond the Euro-American nation state and inquiries can therefore be extended back even to the earliest traces of civilisation. This has been demonstrated in particular by historians of Greek and Roman Antiquity,[22] as well as by archaeologists of medicine, confirming that a lack of written sources does not mean a disinterest in governing health at the communal level.[23] Material culture and conflicts over material structures are also important sources for the present study, as a way to complement and juxtapose evidence from municipal administrative records, which are almost exclusively produced by governing elites.[24]

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[22] Porter, *Health, Civilization and the State*, p. 4; V. M. Hope and E. Marshall (eds.), *Death and Disease in the Ancient City* (London, 2000); P. Horden, *Hospitals and Healing from Antiquity to the Later Middle Ages* (Aldershot, 2008); J. D. Hughes, *Pan's Travail: Environmental Problems of the Ancient Greeks and Romans* (Baltimore, 1994); H. King (ed.), *Health in Antiquity* (London, 2005); R. Parker, *Miasma: Pollution and Purification in Early Greek Religion* (Oxford, 1996); G. C. Jansen et al. (eds.), *Roman Toilets: Their Archaeology and Cultural History* (Louvain, 2011); A. O. Koloski-Ostrow, *The Archaeology of Sanitation in Roman Italy: Toilets, Sewers, and Water Systems* (Chapel Hill, 2015); C. Wazer, 'Between Public Health and Popular Medicine: Senatorial and Popular Responses to Epidemic Disease in the Roman Republic', in W. V. Harris (ed.), *Popular Medicine in Graeco-Roman Antiquity: Explorations* (Leiden, 2016), pp. 126–46.

[23] M. Jansen, 'Water Supply and Sewage Disposal at Mohenjo-Daro', *World Archaeology*, 21 (1989), 177–92; H. R. Harvey, 'Public Health in Aztec Society', *Bulletin of the New York Academy of Medicine*, 57 (1981), 157–65; S. B. Hanley, 'Urban Sanitation in Preindustrial Japan', *The Journal of Interdisciplinary History*, 18 (1987), 1–26; Y., Kawakita, et al.(eds.), *History of Hygiene: Proceedings of the 12th International Symposium on the Comparative History of Medicine – East and West* (Tokyo, 1991); G. Waite, 'Public Health in Pre-Colonial East-Central Africa', *Social Science and Medicine*, 24 (1987), 197–208; K. Stilt, 'Recognizing the Individual: The Muhtasibs of Early Mamluk Cairo and Fustat', *Harvard Middle Eastern and Islamic Review*, 7 (2006), 63–84; L. I. Conrad and D. Wujastyk (eds.), *Contagion: Perspectives from Pre-Modern Societies* (Aldershot, 2000); L. Tilley, *Theory and Practice in the Bioarchaeology of Care* (New York, 2015); J. Shaw and N. Sykes. 'New Directions in the Archaeology of Medicine: Deep-Time Approaches to Human-Animal-Environmental Care', *World Archaeology*, 50 (2018), 365–83.

[24] See especially Chapter 4.

Just as a community strictly regulating and enforcing a ban on murder would not necessarily have to be conceived of as intractably violent, so there is no reason to dismiss as impractical or unrealistic the large amount of (prescriptive) sources attesting prophylactic policies produced by many Netherlandish cities. Several studies have begun to unearth this body of evidence, moving beyond an earlier outright dismissive view of public hygiene in Low Countries' historiography.[25] Key contributions are Peter Poulussen on environmental nuisances in early modern Antwerp; Petra Maclot's and Werner Pottier's edited volume on street and domestic sanitation in the same city; Cor Smit's study on sanitation in Leiden across five centuries; and several case studies on Belgian cities brought together in the proceedings of a conference entitled *L'initiative publique des communes en Belgique*.[26]

These publications mainly belong to the first wave of pioneering studies on this subject in the Low Countries from the 1980s. While they are crucial and ground-breaking in outlining the research field, they also tend to draw on recent, modern criteria for health policies and are reluctant to adopt a more historicised definition and inclusive view of communal well-being. Poulussen argues that environmental awareness existed in the pre-industrial era, precisely because of municipal interests to protect the population's

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[25] Historian and physician Martinus van Andel concluded in 1916 that the 'unhygienic' population of the late medieval Netherlands was 'being reckless, stupid and obstinate to such a degree, that it [...] frustrated the best efforts to protect it against the imminent dangers', thus making even well-meant preventative measures 'of no use'. M. A. van Andel, 'Plague Regulations in the Netherlands', *Janus*, 21 (1916), 410–44, pp. 438, 444.

[26] *L'Initiative publique des communes en Belgique: fondements historiques (Ancien Régime): actes Colloque international, Spa, 1–4 sept. 1982* (Brussels, 1984); P. Poulussen, *Van burenlast tot milieuhinder: het stedelijk leefmilieu, 1500–1800* (Kapellen, 1987); W. Pottier and P. Maclot (eds.), *'n Propere tijd!?: (on) leefbaar Antwerpen thuis en op straat (1500–1800)* (Antwerp, 1988); C. Smit, *Leiden met een luchtje: straten, water, groen en afval in een Hollandse stad, 1200–2000* (Leiden, 2001); B. van den Hoven van Genderen, 'De vieze en ongezonde Middeleeuwen?' in R. Meens and C. van Rhijn (eds.), *Cultuurgeschiedenis van de Middeleeuwen: beeldvorming en perspectieven* (Zwolle, 2015) pp. 249–65; B. Vannieuwenhuyze and C. Deligne, 'La Spatialisation de la "pollution" dans les villes médiévales. réflexions a partir de la toponymie urbaine et du cas de Bruxelles', in I. Parmentier (ed.),*La recherche en histoire de l'environnement: Belgique – Luxembourg – Congo – Rwanda – Burundi* (Namur, 2010), pp. 89–110; C. Deligne, 'Stedelijke vervuiling in het verleden: een inleiding', *Jaarboek Ecologische Geschiedenis* (2007), 73–81; G. N. M. Vis, *Van 'vulliscuyl' tot huisvuilcentrale: vuilnis en afval en hun verwerking in Alkmaar en omgeving van de Middeleeuwen tot heden* (Hilversum, 1996); H. Deneweth, 'Public Safety, Hygiene and Disease Prevention', in *From Surgeons to Plague Saints: Illness in Bruges in the Sixteenth and Seventeenth Centuries* (Bruges, 2011), pp. 10–13; H. 't Jong, 'De mythe van de vuilnisbelt: een nieuwe benadering van hinderkeuren uit laat-middeleeuwse steden', *Millennium*, 22 (2008), 68–91. Notable forerunners are J. G. W. F. Bik, *Vijf eeuwen medisch leven in een Hollandse stad* (Assen, 1955); A. F. C. van Schevensteen, 'De hygienische maatregelen van het magistraat van Antwerpen in de 15e eeuw', *Geschiedenis der geneeskunde*, 71 (1927), 2479–92; A. F. C. van Schevensteen, 'Over pestepidemiën te Antwerpen in vroeger tijden', *Verslagen en mededelingen van de Koninklijke Vlaamsche Academie voor Taal- en Letterkunde* (1932), 1055–92; M. A. van Andel, 'Public Hygiene in a Mediaeval Dutch Town', *Janus*, 18 (1913), 626–34.

health, which he confirmed could be found from the earliest extant sources to the end of the *Ancien Régime* as one of the priorities of urban governance. Yet he also drew rather negative conclusions about the cleanliness of Netherlandish cities, which he asserted commonly had 'refuse lying everywhere, often malodourous stagnant water in the canals, and horrible fumes rising from the many artisanal workshops'. Indeed, it was in spite of these circumstances that 'human society could develop'.[27] Likewise, Frank Huisman sketched a bleak image of the northern city of Groningen around 1500, with open sewage and roaming animals, and where running water, sanitary facilities and waste collection services 'were unknown'.[28] This was similar to the interpretations by, among others, Jean-Pierre Leguay and André Guillerme, who described a generally abominable state of urban sanitation and (water) pollution in French cities after the fifteenth century.[29] In Poulussen's introduction to '*n Propere tijd,* the only edited volume on preindustrial urban sanitation in the Low Countries, he portrayed inhabitants as 'imprisoned in a closed city', 'paralyzed by prejudice and ignorance' and thus slow to respond to urgent challenges.[30] Later in the same volume, Leon Geyskens argued that while more research was necessary, the then-available archaeological evidence indicated that Antwerp was 'one large rubbish dump'.[31] By contrast, Petra Maclot stated that the 'system was probably sufficient for solving problems with waste', and the 'situation [was] rather well under control'. This was, however, when taking into account that 'the unpleasant aspects were considered less annoying' by late medieval and early modern citizens. The same citizens did, however, do a better job at recycling than their twentieth-century ancestors.[32] These diverging assessments demonstrate that among this group of pioneers the

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[27] Poulussen, *Van burenlast tot milieuhinder*, p. 149.

[28] F. Huisman, 'Stadsbelang en standsbesef: gezondheidszorg en medisch beroep in Groningen 1500–1730', unpublished Ph.D. thesis, Erasmus University Rotterdam (1992), p. 14.

[29] A. E. Guillerme, *The Age of Water: The Urban Environment in the North of France A.D. 300–1800* (College Station, TX, 1988); J.-P. Leguay, *La pollution au Moyen Age dans le royaume de France et dans les grands fiefs* (Paris, 1999); Higounet-Nadal, 'Hygiène, salubrité, pollutions au Moyen Age', p. 92. Similar and more recent negative conclusions can be found in ibid., *La rue au Moyen Age* ; E. Cockayne, *Hubbub: Filth, Noise & Stench in England 1600–1770* (New Haven, 2007); R. van Uytven, *De zinnelijke Middeleeuwen* (Louvain, 1998); pp. 193–6; R. E. Zupko and R. A. Laures, *Straws in the Wind: Medieval Urban Environmental Law, the Case of Northern Italy* (Boulder, 1996); On Iberia, Ieva Reklaityte states that 'conditions of hygiene in urban areas in the medieval era were extremely fragile'. I. Reklaityte, ''The Smell of Rotting Corpses Infected the Air': Notes on Sanitation, Pollution and Urban Ecology in Al-Andalus', in F. Sabaté (ed.), *Medieval Urban Identity: Health, Economy and Regulation* (Newcastle, 2015), pp. 13–23.

[30] Poulussen, 'Inleiding', pp. 12–13.

[31] L. Geyskens, 'Antwerpen: een puinhoop? Aspecten van afvalbeheer (16ᵉ–18ᵉ eeuw)', in Pottier and Maclot (eds.), '*n Propere tijd*, pp. 22–6, at p. 25.

[32] P. Maclot, 'De afvoer van vast afval en van de gebruikswaters binnen het traditionele Antwerpse woonhuis (1500–1800)', in P. Maclot and W. Pottier (eds.), '*n Propere tijd*, pp. 121–52, at p. 122.

debate was to a large extent unresolved, many aspects under-researched, and concepts undertheorised, as the concluding conference debate printed in *L'initiative publique* also emphasised.[33]

   This body of scholarship on Netherlandish urban sanitation and environmental pollution during the *Ancien Régime* has remained somewhat isolated from more recent developments in international urban history, in which other socio-economic findings on the Low Countries have been well integrated. This book hopes to remove that disconnection by adding a comparative approach and a new theoretical framework. It also draws heavily on that strong tradition of Netherlandish urban historiography; indeed, the endeavour would not have been possible without the sophisticated sociopolitical and spatial analyses made in recent studies.[34]

THEORIES: BIOPOLITICS, CITIZENSHIP, ENVIRONMENT

Understanding communal health practices in premodern urban societies requires insights into the simultaneous workings of environmental-material and sociopolitical factors; not as fixed separate realms, but as an intrinsically merged, moving and dynamic whole. This, I argue, best approaches medieval perceptions of communal well-being. To analyse this constellation within a variety of sources and to compare different cities in a constructive fashion, I have used a theoretical framework that borrows from biopolitics, spatial and environmental theories, and studies on citizenship. Combining these theories, all briefly introduced below, brings to light how health threats and environmental and biological factors, each as contemporaries perceived them, influenced modes of community organisation.

Biopolitics and Policing

In its broadest (and vaguest) sense, biopolitics is a type of politics that deals with life. It has as its main object not humans as individuals but their

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[33] W. Prevenier, 'Synthese van het colloquium', in *L'initiative publique des communes en Belgique: fondements historiques (Ancien Régime): actes Colloque international, Spa, 1–4 sept. 1982* (Brussels 1984), pp. 719–24.

[34] For the core cities, I have used especially C. H. Slechte et al. (eds.), *Geschiedenis van Deventer* (Zutphen, 2010); R. C. J. van Maanen and Jannis W. Marsilje (eds.), *Leiden: de geschiedenis van een Hollandse stad* (Leiden, 2002); Boone and Deneckere, *Gent: stad van alle tijden*; D. Nicholas, *The Metamorphosis of a Medieval City: Ghent in the Age of the Arteveldes, 1302–1390* (Lincoln, 1987); H. Brand, *Over macht en overwicht: stedelijke elites in Leiden (1420–1510)* (Louvain, 1996), as well as the older G. Dumbar, *Het kerkelyk en wereltlyk Deventer, behelzende eene uitvoerige beschryving van stats oirsprong, verscheide benaemingen, gelegenheit, etc.* (Deventer, 1732); F. de Potter, *Gent, van den oudsten tijd tot heden*, 9 volumes (Ghent, 1884–1933); C. Diericx, *Mémoires sur la ville de Gand* (Ghent, 1814).

features as a group.[35] Michel Foucault has been the most influential in defining the concept of biopolitics as a form of control over humans 'insofar as they are living beings, and their environment, the milieu in which they live'.[36] He radically reinterpreted earlier conceptualisations, which either regarded biology as informing politics, or saw politics simply extending to new domains of manipulating populations, health and nature.[37] Foucault instead argued that biopolitics was relational, a mode of governance that transforms notions of both life *and* politics. The concept emphasises the mutually affecting dynamics between physical beings, environment and moral-political existence. In other words, life structures power, and power structures life (and living conditions). Building on Foucault's influential but still very much open-ended sketch of this essential relation between power and population health, in the past three decades biopolitics has developed into a lively interdisciplinary debate, in which scholars take different approaches to an ever-widening range of topics. Participating in that ongoing debate on the meaning of biopolitics, I propose three critical adaptations to biopolitics that diverge from most uses: first on chronology; secondly, on a state-level focus; and, finally, on its anthropocentrism.

Regarding chronology, the vast majority of students of biopolitics focus on twentieth- and twenty-first-century Euro-American and post-colonial societies. They have adapted their definitions accordingly. Most of them assume that a modern national state and a public health apparatus are prerequisites for biopolitics. In this they follow Foucault, who argued that new technologies of measuring and manipulating humans and natural environments made life during the past two centuries a measurable factor in governance. Biopolitics was therefore a new technique of power and allegedly created a watershed change in the relation between state and subjects.[38] However, premodern societies likewise employed knowledge on life, health and environment in political negotiations. They too integrated that knowledge into the governance of its subjects and utilised it as a disciplining and structuring tool.[39] Not only were various late medieval

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[35] T. Lemke, *Biopolitics: An Advanced Introduction* (New York, 2011), pp. 1–8.

[36] M. Foucault, *'Society Must Be Defended': Lectures at the Collège de France, 1975–1976*, transl. D. Macey (London, 2005), pp. 244–6.

[37] R. P. Schiff and J. Taylor, 'Introduction', in R. P. Schiff and J. Taylor (eds.), *The Politics of Ecology: Land, Life, and Law in Medieval Britain* (Columbus, 2016), pp. 1–32, at p. 12.

[38] Tools such as DNA research, demographic statistics, surveillance techniques and medical institutions create 'more' biopolitics, according to this strand. Lemke, *Biopolitics*, pp. 5–7.

[39] M. Foucault, 'Governmentality', in G. Burcell, et al. (eds.), *The Foucault Effect: Studies in Governmentality* (Chicago, 1991), pp. 87–104; Gordon et al., 'Governmental Rationality' in G. Burcell et al. (eds.), pp. 1–53; M. H. Nadesan, *Governmentality, Biopower, and Everyday Life* (New York, 2008), pp. 2–9.

governing bodies acutely aware of environmental, demographic and epi-
demic challenges; a holistic medical-scientific-religious worldview
informed notions of societal ideal structures and hierarchy, indeed closely
connected moral-political community, nature and psychical wellbeing.

The philosopher George Agamben's work is of help here, as he revised
Foucault's idea of biopolitics as an exclusively modern phenomenon, stating
that western politics was a biopolitics from the very beginning. In
Agamben's words: 'the production of a biopolitical body is the original
activity of sovereign power'.[40] Agamben sought to develop a way to
critically think about states of exception (the sovereign above the law, the
ousted man outside the law), being most interested in understanding the
mechanisms of extreme violence and destruction of lives.[41] Other scholars
have shifted attention towards more subtle, everyday uses of biopolitics.[42]
The chapters ahead adopt a similar emphasis on routine biopolitics through
the four public health programs outlined above. In other words, they retrace
politics *through* life rather than *over* life (and death). A major part of this
endeavour involves studying material and spatial adaptations: on infrastruc-
tures, sanitation and distribution of food. At the same time, the quotidian and
moments of crisis cannot and should not be fully separated: first, because
routine interventions such as street paving or on pig keeping could generate
and express rather serious social tensions and conflicts; second, because
highly similar policing models and responses, the same reasoning and tech-
niques, were applied inside *and* outside crises. Responses to plague epidemics
illustrate these connections most clearly, as discussed in Chapter 5.[43]

Biopolitics has been variously interpreted as signifying an historical rup-
ture in political thinking, a mechanism behind modern racism and genocide,
and as a distinct technique of governance: a governmentality.[44] The last
aspect or definition is the most relevant for this study. Governmentality,
another concept championed by Foucault, can be described as techniques of
power employed by any entity over a group of subjects.[45] However, just as
biopolitics are not an exclusively modern phenomenon, governmentalities
do not need to form a historically progressive development. Foucault, and
other scholars inspired by his ideas, identified only two types of governing
techniques in existence before the sixteenth century. The first is feudal
power, a sovereign endowed with power over life and death, and
the second pastoral power, a monopoly on moral conduct situated in the
hands of ecclesiastical agents. The modern state, then, adopted and

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[40] G. Agamben, *Homo Sacer: Sovereign Power and Bare Life*, transl. D. Heller-Roazen (Stanford 1998),
    p. 6.
[41] Agamben, *Homo Sacer,* pp. 11–12.
[42] D. Fassin, 'La biopolitique n'est pas une politique de la vie', *Sociologie et societes*, 38 (2006), 35–48.
[43] Lemke, *Biopolitics*, p. 91.   [44] Lemke, pp. 33–4.   [45] Geltner, *Roads to Health*, pp. 13–17.

transformed in its rise some essential elements of pastoral power as well as feudal powers. After 1500, Foucault and others have argued, other types of governmentality emerged: first, policing apparatuses (*Polizeiwissenschaft*) embedded in discourses on the reason of state; then, together with the advent of mercantilism and liberalism (two other novel governmentalities), the coming of the disciplining state and its institutions, as explored in several of Foucault's monographs.[46] Changes during that era eventually gave birth to the welfare state, which had as an essential new element biopolitics, and employed public health as a means to strengthen the state.

However, many historians of late medieval urban societies, myself included, would find it hard to recognise, let alone subscribe to the vision of the fourteenth and fifteenth centuries as adequately characterised by the types of governance of feudal power and pastoral power.[47] Instead, we can adopt a less teleological vision of these governmentalities, taken more as an analytical tool than a characterisation of historical phases. Perhaps as early as the onset of urbanisation, the governance of both urban and rural societies by worldly and ecclesiastical authorities reached into many aspects of inhabitants' lives. This happened through mechanisms of regulation, policing, inspection, prosecution and litigation. These mechanisms were not exclusively top town; many initiatives were instigated by inhabitants themselves.

As a recent study on policing in medieval Italy by Gregory Roberts argues, when looking at an urban governmental level, policing as a governmental technique was by no means a post-1500 phenomenon, *and* was much broader, indeed biopolitical in its aims.[48] Policing in a premodern context has five main characteristics. Its main goal was to protect a common good – which concept was crucial in Netherlandish urban administrative discourse, as noted above. In addition, policing practices had a population-level orientation and were preventative in nature. They were also practically indefinite in scope and reach, and finally treated humans, animals and things remarkably 'alike, each to his own category'.[49] As becomes clear in the chapters ahead, various urban governing agents performed routine inspections to discipline the

[46] M. Foucault, *The Birth of Biopolitics: Lectures at the Collège de France, 1978–1979* (London, 2010). See also on early modern policing T. Kotkas, *Royal Police Ordinances in Early Modern Sweden: The Emergence of Voluntaristic Understanding of Law* (Leiden, 2013), pp. 1–10; T. Simon, *'Gute Policey': Ordnungsleitbilder und Zielvorstellungen politischen Handelns in der Frühen Neuzeit* (Frankfurt am Main, 2004).

[47] Prak has recently argued that current scholarship underestimates the importance of cities and civic values on processes of (nation) state making. Prak, *Citizens without Nations*.

[48] G. Roberts, *Police Power in the Italian Communes, 1228–1326* (Amsterdam, 2019).

[49] M. D. Dubber, *The Police Power: Patriarchy and the Foundations of American Government* (New York, 2005); Roberts, *Police Power*, pp. 23–33.

behaviour of people and animals and their use of urban environments.[50] Therefore, recognising the impact of policing in late medieval urban societies helps to understand preventative health practices.

Most notably, the roots of the medieval concept of policing lay in the *pater familia*s' governance of the people and resources of his household 'to maximize their collective welfare'.[51] In that sense, the governance exercised by a king over a forest, a neighbourhood over their roads and waterways, or a city over its fortifications did not categorically differ in their biopolitical approach, but rather in the scale of their ambitions. This brings us to a second key adaptation of biopolitical theory, namely to take it beyond a focus on the modern nation state or its various premodern sovereign precursors. A bias towards the largest regional or most absolute concentrations of power has created a blind spot for other agents employing biopolitical techniques of governance, or at least trying to use life, population and environment to expand influence or negotiate their social position. Following Agamben's suggestions to place biopolitical 'power tools' in the hands of any sovereign in history, we may therefore go a step further and argue that biopolitics also existed in polycentric, contested urban political structures.

Polycentric States and Citizenship Practices

What forms of state were present in the fourteenth- and fifteenth-century Netherlands? State formation in the Low Countries has been a subject of intense study and controversy. It is impossible to do justice here to the complexity of the debate, but it roughly centred around a dichotomy between governing (noble) elites with state-making aspirations and lower social classes. The unification realised by the Burgundian dukes is argued to have formed a watershed moment of centralisation – a stepping stone to later political unity in the Dutch Republic. Princely authorities appropriated existing assembly traditions into new governing organs, such as the central chambers of account (*Rekenkamers*) and Great Councils or law courts (*Grote Raden*).[52] However, several scholarly strands have been

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[50] K. Steel, 'Biopolitics in the Forest' in R. P. Schiff and J. Taylor (eds.), *The Politics of Ecology: Land, Life, and Law in Medieval Britain* (Columbus, 2016), pp. 33–55; Schiff and Taylor, 'Introduction: The Politics of Ecology'.

[51] Roberts, *Police Power*, pp. 23–4.

[52] Stationed in Lille, Brussels, Mechelen and The Hague. M. Damen, *De staat van dienst: de gewestelijke ambtenaren van Holland en Zeeland in de Bourgondische periode (1425–1482)* (Hilversum, 2000); M. Boone, *Gent en de Bourgondische hertogen ca. 1384- ca. 1453: Een sociaal-politieke studie van een Staatsvormingsproces* (Brussels, 1990); R. Stein, *Magnanimous Dukes and Rising States: The Unification of the Burgundian Netherlands 1380–1480* (Oxford, 2017), p. 13. See also W. P. Blockmans, *Metropolen aan de Noordzee: de geschiedenis van Nederland, 1100–1560* (Amsterdam, 2010).

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critical of what is a rather top-down vision, and stress the continuous influence of the cities as collectives and the impact of middling groups and artisans in this political process. Rather than emphasising increasing political coherence, they accentuated the complex patterns of negotiation, at multiple levels. Conflict was a routine part of political processes and shaped, to adopt Patrick Lantschner's term, a polycentric order.

This revision undermines an idea of a nascent central state versus its subjects and allows more room for the agency of urban collectives.[53] It complicates a traditional definition of modern states and the period between 1300 and 1450 as the pivot of modern state making, as influentially proposed by Joseph Strayer. The latter defined states as persisting in time, fixated in space, and run by permanent, impersonal institutions.[54] In addition, subjects had to collectively agree on the need for an authoritative power to make final judgments and accept its moral authority. When applied to Netherlandish late medieval town governments, which were neither completely independent nor closely ruled by sovereigns, it seems that there were tensions over all of these issues. None of them were set in stone, including the impersonal nature of the institutions, as well as the magistrates' legitimacy and moral and judicial authority. Yet that is precisely where we see governmentalities, including biopolitics, at work.

This study adopts a polycentric approach and moves it towards a quotidian spatial-material context, highlighting the biopolitical aspects of community politics. Theories of citizenship help to frame this perspective. A similar narrow focus on national or state level led to a false belief that before the modern era citizenship did not exist. By contrast, to summarise the recent interventions by Maarten Prak and Christian Liddy, citizenship 'as a corpus of ideas and practices' had a profound influence upon premodern urban society, and persistently played a role in the political organisation and local identities, far into the nineteenth century. Notions of civic rights and duties, which in turn were informed by economic as well as environmental and biological needs, influenced ideas on community, order, well-being and hierarchy.[55] Moreover, a more practice-oriented or participatory approach opens up the possibility of broadening notions of citizenship beyond a formal legal status.

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[53] It also diminishes a too rigid distinction between (proto)capitalist cities and **a** 'feudal' countryside as fundamentally different. Prak*, Citizens without Nations*, pp. 50–76; P. Lantschner, *The Logic of Political Conflict in Medieval Cities: Italy and the Southern Low Countries, 1370–1440* (Oxford, 2015), p. 5.

[54] As modelled on the English and French monarchies and, to a lesser extent, the Italian city states. J. R. Strayer, *On the Medieval Origins of the Modern State* (Princeton, 2005), p. 8; Tilly, foreword to ibid., p. vii.

[55] C. D. Liddy, *Contesting the City: The Politics of Citizenship in English Towns, 1250–1530* (Oxford, 2017), p. 23; Prak, *Citizens without Nations*.

Liddy refers to 'active citizenship' in this context. Similarly, Thierry Dutour adopts in his work a wide definition of French urban civic community. He considered the civic body as encompassing all inhabitants who permanently resided in the city and accepted the costs, duties and regulations that living in that physical space entailed. He also included the prerequisite to participate in what he calls public life or affairs.[56] Such notions of community participation, as explored in the chapters ahead, explain the negotiation of tasks around urban sanitation and other activities promoting communal well-being.

Moreover, medieval urban civic practices had several striking biopolitical elements. Galenic medical theories from the thirteenth century on created an increasingly sophisticated notion of balance that also informed perceptions of moral and social harmony and order in various types of communities.[57] In an urban context, the organic-medical metaphor of the body politic was a blueprint or guideline for decision-making and consensus, with rights and duties, and with vertical and horizontal ties. Citizens were to place their own bodies at the service of the corporate, collective urban body. This metaphorical requirement is apparent in oaths and discourses, but it also had a very practical component in duties of maintenance and other material contributions to the common good.[58]

Space and Environment

Health practices, as a form or part of active citizenship or community participation, are spatial practices. Streets in particular were sites of civic spatial negotiation, prominent in the organisation of waste disposal, access to fresh water, regulations on lepers, prostitutes or foreign poor, but also the organisation of the food trades.[59] These and related insights build on a well-established basis in the material and spatial turns in historiography. Many historians have adopted Henri Lefebvre's fundamental notion that space should be regarded as generating and manipulating social interactions rather than being seen as just a recipient or empty container.[60]

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[56] It remains somewhat unclear to what extent Dutour limits his analysis to adult men. T. Dutour, 'Le consensus des Bonnes Gens. La participation des habitants aux affaires communes dans quelques villes de la Langue d'oïl (XIIIe–XVe Siècle)', in P. Hamon and C. Laurent (eds.), *Le pouvoir municipal: de la fin du Moyen Âge à 1789* (Rennes, 2012), pp. 187–208.

[57] See on the freemen's oath in England as a ritual of 'becoming part of the body of the city' Liddy, *Contesting the City*, pp. 39–40.

[58] Liddy, p. 28. See especially Chapter 2.

[59] Liddy, pp. 63–72; T. Dutour, *Sous l'empire du bien: Bonnes gens et pacte social: XIIIe–XVe Siècle* (Paris, 2015).

[60] H. Lefebvre, *The Production of Space*, transl. D. Nicholson-Smith (Oxford, 2007 [1991]), pp. 11, 16–7, 33, 63–5; P. J. Arnade, M. C. Howell and W. Simons, 'Fertile Spaces: The Productivity of Urban Space in Northern Europe', *The Journal of Interdisciplinary History*, 4 (2002), 515–48, pp.

Moreover, studies using spatial and actor-network theories (ANT) regard environments not as passive or stable foundations; their unpredictability is integral to social and political practices.[61] Spatial theory also encourages reflection on notions of public or communal space as they developed during the fourteenth and fifteenth centuries in the cities under study here. Regarding the by now highly complex and diffuse debates on public and private spheres, my intervention is mainly that of further questioning the function of dichotomies 'on the ground': showing the complexity of physical, social and mental spatial boundaries in practice.[62]

Spatial-material theories also facilitate a less anthropocentric perspective that takes both natural environments and animals into account.[63] The initial focus of environmental and ecocritical studies on wilderness has been replaced by a much more relational and inclusive perception of natural topographies and environments built or manipulated by humans and as part of one biological matrix.[64] Cities, past and present, are increasingly investigated as part of wider ecosystems. Approaching medieval towns ecologically and less anthropocentrically is useful because they were relatively small and tightly integrated with their hinterlands. Indeed, cities are by definition dependent on food and fuel from outside and therefore always in metabolic relation with their rural surroundings.[65] The towns along the Netherlandish river deltas in that sense were peculiar for two reasons: the land was exceptionally urbanised, and extraordinarily wet. This combination made the viability of highly regional infrastructures important for a range of communal interests, including public health. Waste management offers a window to investigate cities as a dynamic, metabolic ecosystem. It may be

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516–20; B. A. Hanawalt and M. Kobialka, 'Introduction', in B. A. Hanawalt and M. Kobialka (eds.), *Medieval Practices of Space* (Minneapolis, 2000), pp. ix–xvii, at pp. x–xi.

[61] Müller, 'Assemblages and Actor-Networks', pp. 27–34; I. Farías and T. Bender. *Urban Assemblages: How Actor-Network Theory Changes Urban Studies* (London, 2012), pp. 3–7, 14. See also B. de Munck, 'Re-Assembling Actor-Network Theory and Urban History', *Urban History*, 44 (2017), pp. 111–22; B. Latour, 'Technology Is Society Made Durable', *SORE: The Sociological Review*, 38 (1990), 103–31, pp. 104–5.

[62] Liddy, *Contesting the City*, pp. 52–84; P. Boucheron, 'Espace public et lieux publics: approches en histoire urbaine', in P. Boucheron and N. Offenstadt, *L'espace public au Moyen Âge: Débats autour de Jürgen Habermas* (Paris, 2015), pp. 99–118; M. Boone and M. C. Howell (eds.), *The Power of Space in Late Medieval and Early Modern Europe* (Turnhout, 2013); C. Billen and C. Deligne 'Urban Space: Infrastructure, Technology and Power', in Van Bruaene, Boone and Blondé (eds.), *City and Society*, pp. 162–91.

[63] Steel, 'Biopolitics in the Forest', p. 38.

[64] In the words of Timothy Morton, ecological thinking essentially means envisioning a 'mesh' or complex interconnectedness. Schiff and Taylor, 'The Politics of Ecology', pp. 2–11; T. Morton, *The Ecological Thought* (Cambridge, MA, 2010).

[65] M. Bennett and D. W. Teague, *The Nature of Cities: Ecocriticism and Urban Environments* (Tucson, 1999).

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obvious but merits emphasis that no absolute category of waste existed. As people at the time were well aware, most residual matter, either from production, homes or living creatures, had some use (leaving aside for now those employments that may have been unintended, such as fish and plants extracting nutrients from latrines emptying in waterways, or plants thriving on cemeteries). Nearby farmsteads, for example, used urban human and animal dung as fertiliser. The demand seems to have been sufficient to create a trade, which often functioned largely independent of municipal authorities – the regional differences of which will be discussed later.

Moreover, medieval cities were multispecies conglomerates. Humans in cities had more daily interactions and more instrumental relations with animals compared to their twenty-first-century counterparts. Furthermore, related to this close practical relationship and the physical nearness of animals, the latter enjoyed more symbolic meaning, as studies on animals in medieval literature and zooarchaeology have shown.[66] As we shall see, health practices in Netherlandish cities were shaped by these lived interactions and cohabitations among species. Some animals posed threats and nuisances – especially pigs and dogs. However, the benefits, indeed necessity, of animal presence in cities was clearly recognised, as were the specific needs of animals, from food and fresh water to space to roam. Further, it may also be good to keep in mind that human–animal relations may have reached further into notions of order and community than often assumed. As Karl Steel notes, premodern approaches to managing populations, the idea of keeping an urban population at level of trying to make it thrive or grow, were not that dissimilar from animal husbandry.[67] In sum, viewing animals, objects (including diseases) and humans as interconnected and important in explaining development helps to avoid some great conceptual divides that have tended to create limiting and distorting effects, such as between the material and the social, and between culture and nature.

METHOD AND SOURCES

While all Netherlandish cities likely employed officials to deal with issues related to health and sanitation, no such officials directly produced extant records or court proceedings, which partly explains why their efforts have

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[66] S. Crane, *Animal Encounters: Contacts and Concepts in Medieval Britain* (Philadelphia, 2013); A. L. Taylor, 'Where Are the Wild Things? Animals in Western Medieval European History', *History Compass*, 16 (2018), e12443; see also A. Pluskowski, *Breaking and Shaping Beastly Bodies: Animals As Material Culture in the Middle Ages* (Havertown, 2007).

[67] Steel, 'Biopolitics in the Forest', pp. 40–6. See also Agamden, *Homo Sacer*, p. 3.

so far been largely overlooked. Evidence of public health practices can be extracted by juxtaposing general records of urban regulation, financial accounts and court records from specific locations, for which I have selected the cities Ghent, Leiden and Deventer. These cities varied in size, development and topography, and offer a view of different regions. Further, their excellent archives motivated the decision to select them as case studies. Ghent, a major hub comprising 60,000 inhabitants during the early fourteenth century, was comparable in size to Italian city states such as Bologna and Siena and faced health challenges similar to those of crowded metropoles such as London and Paris. Leiden and Deventer were representative of the many medium-sized towns in the Low Countries, with between 5,000 and 15,000 inhabitants, and comparable in size to many English, German and French towns.

In addition, evidence from elsewhere in this region, including a survey of law codes (*keurboeken*) from fourteen Netherlandish cities, made it possible to establish a broader view of public health policies. This combination of in-depth archival research for three case studies, each with comparable series of records, with supplementary sources to compare these findings, can be called a 'core-satellite' constellation.[68] This approach helps to link theories and policies, of which we often know more, to practices, of which we often know less. It moreover facilitates a view of cities as part of an urban network in which ideas and practices were regularly exchanged.[69] Finally, several chronicles and a modest corpus of medical literature produced in this region made it possible to dip into the cultural-scientific context, while published urban archaeological data give more information on the material aspects.[70]

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[68] Most notable Ypres, Kampen's *Digestum Vetus*, Dordrecht's *Klepboeken*, and Gouda's *Vonnisboeken*. *Comptes d'Ypres*; SAK, Digestum Vetus (1454–73). All illustrations in the Digestum Vetus were likely made by the city scribe. See also the index by Schilder, 'Digestum Vetus, 1448–1478'.

[69] This is mainly the series *Werken der vereeniging tot uitgave der bronnen van het oude vaderlandsche recht (1880–1975)*. See list of published sources for specific titles.

[70] M. Ojala, 'Water and Urban Space in Late Medieval Stockholm', in J. Costlow, et al. (eds.), *Water in Social Imagination: From Technological Optimism to Contemporary Environmentalism* (Leiden, 2017), pp. 28–48; D. H. Evans, 'A Good Riddance to Bad Rubbish? Scatological Musings on Rubbish Disposal and the Handling of "Filth" in Medieval and Early Post-Medieval Towns', in K. de Groote, et al. (eds.), *Exchanging Medieval Material Culture: Studies on Archaeology and History Presented to Frans Verhaeghe* (Brussels, 2010), pp. 267–78; M. Gläser (ed.), *Lübecker Kolloquium zur Stadtarchäologie im Hanseraum IV: die Infrastruktur* (Lübeck, 2004); M. G. Eedle, 'Street Cleansing and Refuse Collection from the Sixteenth to the Nineteenth Centuries', *Surrey Archaeological Collections*, 68 (2010), 161–81; P. V. Addyman, 'The Archaeology of Public Health at York, England', *World Archaeology* 2 (1989), 244–59; T. P. Cooper, 'The Mediaeval Highways, Streets, Open Ditches, and Sanitary Conditions of the City of York', *The Yorkshire Archaeological Journal*, 22 (1913), 270–86.

Collectively this varied corpus forms the basis for the thematically structured chapters.

The cities under investigation here all had semi-independent local governments under the supervision of the counts of Flanders, Brabant and Holland, Guelders, and the *Sticht* and *Oversticht*; the secular domains of the bishop of Utrecht. Thus, with some variety, they shared a basic political and administrative structure.[71] Urban authorities all had a broad set of jurisdictional competences: legislation, law enforcement, daily management and communication, and their own law courts, mostly presided by the aldermen and sheriff or bailiff. The sections below discuss the urban sociopolitical structure and the availability of sources in each of the three case studies, while more specific aspects and gaps will be returned to as the need arises in later chapters.

In Ghent, the extant series of municipal sources reach back the furthest. Since 1301, there were two colleges of thirteen aldermen who were responsible for the city's daily management and administration. The composition of these colleges was the result of a system of political representation in which the city was divided into three 'members' (*leden*), who could each elect a fixed number of aldermen. The first, the *poorters* or *erfachtige lieden*, were the urban gentry, who had secured the city's autonomy and privileges in 1170 and dominated the city's government for the subsequent century.[72] The second 'member' comprised 53 craft guilds, among which were various retailers of food, services and wares, including butchers, fishmongers and barbers. They collectively won political representation in the late fourteenth century. The leaders of the weavers and fullers in particular aimed to hold sway over urban governance, generating conflicts between these two powerful factions.[73] After 1360, the fullers were excluded from participation, which made the weavers the third member of Ghent's political bodies.[74] Although political factions and stability differed greatly per period, the city's governmental organisation remained largely intact until Emperor Charles V issued major reforms in 1540.

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[71] Leiden fell under the County of Holland and later under the reign of the Burgundian court. Deventer had to abide by the bishop of Utrecht, with a number of switchovers to the Counts of Gelre. W. Prevenier and B. Augustyn. *De gewestelijke en lokale overheidsinstellingen in Vlaanderen tot 1795* (Brussels, 1997); Brand, *Over macht en overwicht*; Benders, *Bestuursstructuur*, pp. 307–8.

[72] Except for the religious enclaves of St. Bavo and St. Peter, they had jurisdiction over the entire city. M. Boone, 'Een middeleeuwse metropool', in M. Boone and G. Deneckere, *Gent. Stad van Alle Tijden* (Ghent, 2010), 50–95, pp. 63–79, 92.

[73] Nicholas, *The Metamorphosis*, pp. 1–4.

[74] The weavers were moreover concentrated in a number of specific wards, which came with a somewhat separate parallel sociopolitical organisation. M. Boone, 'Openbare diensten en initiatieven te Gent tijdens de late Middeleeuwen (14de–15de Eeuw)', in *L'initiative publique des communes en Belgique: fondements historiques (Ancien Régime)* (Brussels, 1984), pp. 71–114; Boone, 'Een middeleeuwse metropool', p. 63.

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Ghent's officials dealing with matters of public health and sanitation left no extant records of their own until the late sixteenth century (see Chapter 2). However, ordinances on these issues were communicated often, as documented in the *Voorgeboden*, while the city's financial accounts (*stadsrekeningen*) contain investments in both enforcing officials and public works.[75] Further, the accounts of Ghent's bailiffs indicate policing of environmental and food policies, while the so-called *Jaarregisters van de Keure*, containing aldermen's rulings on financial transactions and conflicts between citizens, reveal arrangements made between neighbours regarding domestic hygienic facilities and (water) infrastructures.[76]

Although starting somewhat later, the extensive collection of records produced by Leiden's central authorities complements the data found in Ghent in several ways. Since Leiden obtained its city privileges in 1266, the magistracy, of which the core consisted of a college of aldermen and a sheriff – the representative of the Count of Holland – gradually strove towards autonomy. The town acquired a firmer grip on the appointment of urban officials and the administration of justice, and created new offices. From 1351 on there were four burgomasters, while in the following decades tasks were further distributed to several public works officials, including ward captains, who supervised fire safety and coordinated waste management.[77] During the reign of Philip the Good (1433–67) the city consolidated its right to administer higher justice.[78] This triggered the compilation of two extensive series of judicial documents, which play a central role in this study. The *Correctieboeken* contain copies of publicly read criminal convictions, including market frauds, neighbourhood disturbance, and sentences imposed on people for not abiding by plague regulations. The second series, the *Kenningboeken*, document proceedings of disputes between citizens mainly about property and inheritance, but also regarding domestic hygienic facilities. Further, the minutes made by a town council of former magistrates (*Vroedschapsboeken*), extant from the mid fifteenth century on, are a valuable source for health-related interventions.[79] Some of their decisions ended up in Leiden's four extant

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[75] The *Voorgeboden* are extant from 1337, albeit with a gap between 1436 and 1482. SAG, Voorgeboden 108/2 (1402–36); 93/26 (1482–1500). The fourteenth-century decrees have been published in *Voorgeboden Gent*. The city's financial accounts form a nearly complete series from 1314 on, and are published until the year 1380. H. van Werveke, *De Gentsche stadsfinanciën in de Middeleeuwen* (Brussels, 1934), pp. 248–50; Boone, 'Openbare diensten', p. 84.

[76] SAG, Reeks 301: Jaarregisters van de Keure. The majority of these vast series has not been disclosed and is thus unsuitable for use here. See Chapter 4 for details on the sample.

[77] A major part of the (fragmented) extant accounts are published in *Stadsrekeningen Leiden*.

[78] Brand, *Over macht en overwicht*, p. 40.

[79] SAL, 0508, Correctieboeken: 4 (1392–5), 4A-D (1434–91); Kenningboeken: 41A-D (1434–86); 0501, Vroedschapsboeken: 381 (1449–58), 382 (1465–1504). Brand, pp. 20–3; J. Marsilje, *Het*

medieval law codes, the earliest of which date around 1360. They form one of the most elaborate collections of by-laws in this region that can be juxtaposed with the various documents of practices Leiden's authorities produced.[80]

Deventer is the final city examined in depth in this book. While this Hansa town on the river IJssel was more geared towards the rural eastern Netherlands, and towards the Rhine and German North sea trade, local authorities were similarly organised and kept comparable records. The early development of Deventer's municipal apparatus is closely linked to a process of political emancipation from the bishop in the thirteenth century, in which period it attained its first formal privileges. A government rooted in the merchant urban elite, educated at the chapter school, gradually expanded both its power and documentation.[81] Since the early fourteenth century, Deventer developed an administrative division into eight wards, which were all named after their central streets. Each ward elected two aldermen via two representatives, who in turn were appointed by previous aldermen, making the control over the magistracy's election practically fully circular and therefore rather exclusive.[82] As in Ghent, the aldermen's expenditures on appointed officials and infrastructures left traces in Deventer's extensive financial administration (*Cameraarsrekeningen*).[83] Moreover, what makes Deventer an extraordinarily rich case study are the extant separate sub-accounts of several officials, including those in charge of public works (*timmermeesters*) and street maintenance (*straatmeesters*).[84] With regard to the administration of justice, Deventer's aldermen easily competed with their colleagues in Ghent and Leiden with their meticulous records of litigation between citizens, while criminal convictions and prison releases were noted in the *Oorvedeboeken*.[85] Further, aspects of municipal daily affairs and requests were kept in a book of resolutions

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financiële beleid van Leiden in de Laat-Beierse en Bourgondische periode, ± 1390–1477 (Hilversum, 1985), pp. 18–20.

[80] They are published in *Keurboeken Leiden*.

[81] Situated right at its border, Deventer maintained the 'backup see'. Deventer's *stadsrecht* also functioned as a model for a number of cities in the region. Slechte, *Geschiedenis van Deventer*; J. Benders, *Bestuursstructuur en schriftcultuur: een analyse van de bestuurlijke verschriftelijking in Deventer tot het eind van de 15de eeuw* (Hilversum, 2004), pp. 13, 33, 312.

[82] Benders, *Bestuursstructuur*, p. 111.

[83] The accounts are extant from 1337 on in a nearly complete series. Two aldermen acting as treasurers produced two sets of accounts per year, which switch from Latin to Middle Dutch in 1361. Benders, *Bestuursstructuur*, pp. 307–8.

[84] ID 0699, Timmermeesters 1–7 (1414, 1423, 1437, 1448, 1480); ID 1399, Weidegraven 1–4 (1413, 1414, 1423); ID 1401, Wegenmeesters 1–6 (1487, 1489, 1495, 1496, 1499, 1501); ID 1404, Straatmeesters 1–10 (1414, 1480, 1482, 1484–6, 1488, 1490–2).

[85] SAD, ID 0722, Clagheboek (*Liber causarum inter actores et reos*), 5a–b (1423–39), 5c (1453–92); Getuigenboek (*Liber attestationum civitatis Daventriensis*), 6a (1476–1506).

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(*Memorialen*), which are comparable to Leiden's council minutes. And like Ghent's *Voorgeboden*, the so-called *Buurspraken*, extant from 1459, formed the authorities' central communicative tool and shed much light on health-related regulations.[86]

I mainly use documents produced by urban governments to explore public health practices, while at the same time seeking to reconstruct a decentralised, polycentric perspective on power. Several reasons justify this approach. Princely authorities were greatly interested in gaining a firmer grasp on urban politics, in which health concerns, such as those pertaining to fish and grain, sometimes played a role. But at least in the period under investigation here, they left interventions in health policies within cities largely in the hands of local urban governments. This reluctance and/or inability to expand seigneurial biopower fits within a more general lack of attempts to level all urban legislation within a county or duchy. Each town had different historically developed privileges; they were the outcome of the complex and multidirectional negotiations named above. This likewise makes it challenging to research public health policies and practices at a regional level. On the one hand, the communication between towns made policies (governmentalities), including those regarding public health, very similar. But, at the same time, historically acquired privileges, specific environmental challenges such as the management of rivers, and the dominance of certain political and artisanal groups made each city distinct.

To conclude, the lack of political independence such as that enjoyed by the Italian urban communes did not mean less biopolitical tasks but perhaps more negotiation. Thus, while on the one hand an obvious comparandum with that other highly urbanised region of Europe, study-ing the Low Countries gives insight into how health interests functioned in a more polycentric political order. Relevant Italian offices such as health magistrates and roads officials (*viarii*) often generated records in large quantities, which allows for detailed case studies in cities where they survived.[87] Precisely the lack of such voluminous records from one municipal body for the Low Countries leads to a much broader approach that extracts relevant data from many different types of urban archival

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[86] ID 0722, Memorieboek (*Boeck van memoriën*), 46a (1449–1533); ID 0690, Buurspraakboek (*Edicta magistratus die buyrspraecht genoempt*), 135–1 (1459–1538). The public ordinances likely existed as an oral tradition since the mid-fourteenth century. Benders, *Bestuursstructuur*, pp. 145, 309. Deventer's extant medieval law codes of 1447 and 1486 contain few references to public health. The *keurboek* of 1448 is published in *Vijftal lezingen over de wording en ontwikkeling der stad en gemeente Deventer*, ed. J. van Vloten (Zutphen, 1866), pp. 130–71.

[87] Studies of such records are J. S. Henderson, *Florence under Siege: Surviving Plague in an Early Modern City* (New Haven, 2019); J. S. Crawshaw, *Plague Hospitals: Public Health for the City in Early Modern Venice* (Farnham, 2012); Geltner, *Roads to Health*.

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sources, from multiple cities, and on multiple themes. In that sense, the Low Countries were more like English and French cities. However, the much more centralised monarchies in which the latter were integrated meant that English and French municipal authorities manoeuvred in a rather different and, in many ways, more restricted political field than their Dutch counterparts.

Regarding the chosen timeframe, public health practices are traced as far back as local records allow, roughly the late thirteenth century. While positioned against an idea of linear, progressive development and a rigid medieval/modern divide, this book stops at the end of the fifteenth century. It does so in order to give due attention to the earlier period and include evidence predating the Black Death (1347–53), which so far has dominated the era's historiography. A new biopolitical and environmental perspective on public health sheds a different light on three topics central to earlier studies, namely plague, medical practitioners and hospitals.

Starting with the former, the evidence gathered here supports a key recent revision of the premise that communal health interventions by medieval urban communities started in response to the advent of the Black Death and remained mainly confined to battling the threat of plague (*Yersinia pestis*).[88] This fits into a broader critique on the focus on societal collapse after (epidemic) disaster, a view that has obscured the social and political differentiation of impact and the ability of medieval societies to deal with risk on a more regular basis.[89] Moreover, the Low Countries present a highly relevant if divergent case in point because they experienced a slightly milder impact of the plague and a quicker recovery than other urbanised regions in Europe. In these growing cities, other health hazards, such as those related to pollution, overcrowding, fire safety and food quality, were often just as prominent as fear of plague.

Secondly, city-employed medical practitioners were present from the thirteenth century on. Yet their relatively minor involvement in *prophylactic* practices, and the absence of equivalents of health boards suggests that we should, and can, look for other agents. Moreover, this study explores public health based on the records of secular municipal authorities, and focuses on lay responses. As elsewhere in and beyond Europe,

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[88] G. Geltner, 'The Path to Pistoia: Urban Hygiene before the Black Death', *Past & Present*, 246 (2020), 3–33.

[89] T. Soens, 'Resilient Societies, Vulnerable People: Coping with North Sea Floods Before 1800', *Past & Present*, 241 (2018), 143–77.

religious orders and institutions were widely present in towns and cities. They provided healthcare services and hygienic facilities for their own communities, as well as infrastructures that could be used by other inhabitants.[90] Yet urban religious communities also functioned as somewhat separate realms and islands of jurisdiction, which deserve a separate investigation elsewhere. What is relevant, however, are the connections between worldly and ecclesiastical spheres of influence. Hospitals were one site of convergence. Their occurrence in the Low Countries followed the wave of urbanisation in the twelfth to fourteenth centuries and fulfilled a typical variety of curative and social functions, often combining services, for a range of social groups.[91] Where possible I will discuss these points of connection and negotiations between lay and ecclesiastical agents, and when the latter's (charitable) efforts touched upon disease prevention and policing rather than mainly at providing care and cure.[92] Moreover, communal health and religion, like the nexus of cleanliness and piety, were deeply linked. At the discursive level such exchanges also stimulated a cross-pollination between the medical, religious and the political notion of the common good.

Indeed, to imagine a deep clash or conflict between medical-practical and religious responses is a grave anachronism. Designating the one as scientific and reducing the other as beset by archaic superstition, an error that is eventually overcome, is a form of what Dipesh Chakrabarty calls 'stagism'. Stagism reduces all periods and regions of the world as aspiring or waiting to reach the intellectual and political constellations of modern Western Europe.[93] This ties into a broader important point on the risks of distortion and occlusion stimulated by the use of traditional periodisation. As Kathleen Davis argues, the medieval-modern divide was formulated 'at the height of, and in tandem with, colonialism, nationalism, imperialism and orientalism', and since then has been globally exported and imposed.[94] The supposed absence of public health policies and hygienic standards can function as a prominent marker in mechanisms of othering.

[90] Besides arranging hygienic facilities for their own communities, Rawcliffe notes that English Dominicans and Franciscans were active participants in the creation of infrastructural systems, such as for water supply. Rawcliffe, 'The Concept of Health in Late Medieval Society', p. 331.

[91] Urban healthcare institutions are generally divided into three types: common hospitals offering care for the sick (poor) and housing pilgrims; leprosaria; and almshouses for the elderly. Rawcliffe, *Urban Bodies*, pp. 319–21; A. Somers, *De armenzorg in Gent sinds de Middeleeuwen* (Brussels, 2011); D. Jacquart, *Le milieu médical en France du XIIe au XVe siècle* (Genève, 1981); J. S. Henderson, *The Renaissance Hospital: Healing the Body and Healing the Soul* (New Haven, 2006).

[92] See Chapter 5.

[93] D. Chakrabarty, *Provincializing Europe: Postcolonial Thought and Historical Difference* (Princeton, 2009).

[94] C. Symes, 'When We Talk about Modernity', *The American Historical Review*, 116 (2011), 715–27; L. Patterson, 'On the Margin: Postmodernism, Ironic History, and Medieval Studies', *Speculum*,

Health and hygienic conditions are topics where 'medieval' is still regularly used as a mobile pejorative term. Gaining a better understanding of public health in the period under review also helps to advance in these discussions. We thus proceed to investigate them on their own terms, from an emic perspective, as opposed to an etic perspective that projects contemporary definitions and methods of investigating public health back into time and assesses societies' prophylactic practices accordingly. It then becomes clear that premodern conceptions of communal well-being diverge in fascinating ways from their modern counterparts, from which there is much insight to be gained.

Recognising health-promoting policies as a regular aspect of urban governance, predating and reaching far beyond responses to plague and medical institutions and practitioners, rewrites an important chapter in the history of public health. Before we enter the cities, it may be useful to explain how the reconstruction of the four public health programs is divided over the chapters. Chapter 1, 'Galenic Health and the Biopolitics of Flow', historicises the concept of public health in the context of the fourteenth- and fifteenth-century urban Low Countries. It begins by outlining how then-prevalent Galenic or humoral theories defined health, and how such ideas were employed by various Netherlandish governing bodies through a focus on spatial interventions. Analyses of street paving, water regimes, fire prevention, and military safety demonstrate how health interests involved mitigating communal risks through adaptations in the built environment. Preventative measures thus shaped cities' morphology from the outset of urbanisation. Town governments were willing to invest major sums to improve safety and well-being and realised a program aimed at preserving flow. The creation and adaptation of complex infrastructures also stimulated further sanitary and maintenance routines. These required coordination concerning the division of responsibilities and tasks, and the policing of such arrangements.

Chapter 2, 'The Purged Urban Heart: Municipal Sanitation', proceeds to reconstruct these routines, as biopolitics through sanitation. Clean streets and waterways involved ongoing negotiations between governmental bodies and inhabitants, and the latter's contribution to the upkeep of communally used (water)ways was regular and substantial. From the part of the urban authorities, sanitary-policing officials were the principal group to put policies into practice. They were a permanent presence throughout the Low Countries and developed a variety of measures to fight issues perceived as potentially polluting, damaging or otherwise

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65 (1990), 87–108; K. Davis, *Periodization and Sovereignty: How Ideas of Feudalism and Secularization Govern the Politics of Time* (Philadelphia, 2008), pp. 4–5.

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threatening health. The chapter revolves around two brigades, in Ghent and Deventer, and the reconstruction of their activities challenges the dismissive assessment of the enforcement of hygienic laws in earlier historiography. Sanitary officials performed routine inspections and coordinated waste disposal, and by doing so increased governmental presence in urban spaces and supervised the quotidian affairs taking place in them. Health interests therefore helped to legitimate municipal claims to power, in particular over a specific network of spaces deemed essential to keep clean and accessible.

Chapter 3, 'Food, Health and the Marketplace', traces how health concerns informed good governance of the urban food trades – the third program. Urban authorities established, intervened in, and physically altered food markets in order to expel wares deemed unsafe for consumption. The central position of food in Galenic medical theories of health preservation was reflected in an urban context especially in the policies around three highly regulated products: meat, fish and grain. Market inspectors, and likely also vendors and buyers, applied medical knowledge on preservation and disease risks. The extensive regulation of grain and bread provision closely related to issues of urban order and threat of shortages. Finally, butchering in particular was also targeted as a source of environmental pollution through coordinating the disposal of offal.

Having explored three focal points of urban authorities' quest for communal health, spotlighting a particular set of public places, Chapter 4, 'Good Neighbours: Nuisance and Harmony in Living Environments', shifts the perspective to the collective initiatives of inhabitants to secure health in their living and working environments. Those who lived in proximity to one another often shared infrastructures and hygienic routines. Court cases featuring neighbourly disputes reveal how inhabitants routinely tried to secure access to fresh water and hygienic domestic facilities such as cesspits, drainage pipes and latrines, and sought to ban stench and other nuisances from living environments. Expressed in a discourse revolving around damage and disturbance, local well-being – a 'good neighbourhood' – was guaranteed by combining social harmony and material or infrastructural functionality, and resulted in forms of community formation and civic participation.

Chapter 5, 'Plague in Urban Healthscapes', uses the biopolitical and socio-environmental perspectives on health constructed in the previous chapters to reinterpret municipal responses to plague. This chapter argues that when Netherlandish cities took action against epidemic spread, they applied pre-existing health policies. It challenges two scholarly biases, namely of crisis and of government. First, while actions to prevent spread

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of the plague are often interpreted as radical innovations, many subjects targeted in plague ordinances were usual suspects and recurring problems; already regulated outside the context of plague because they were perceived as posing a (combined) threat to physical and moral communal well-being. Cities employed various strategies, from quarantine and street sanitation to spiritual measures and culling dogs. Secondly, there is a clear need to move beyond a top-down perspective and complicate the playing field of daily dealings with an epidemic through networks of plague care, which are discussed by focusing on the role of hospitals, medical officials and confraternal caregivers.

The construction of a healthy city went much further than solely material and physical hygienic concerns. Chapter 6, 'Building Community, Balancing Public Health and Order', delves more deeply into the role of biopolitics in community formation by studying, via criminal court records, how policymakers in practice connected or associated physical health threats to those to morality and social order. The convergence is particularly clear for three themes: poverty, leprosy and sexuality. These topics convey social groups who were each affected by a vision on a healthy, orderly and prosperous community. Policing the common good through targeting these groups was in many ways the same as performing community: it helped in constituting civic conduct and moral leadership. Besides accentuating public health as a factor, the aim of this chapter is to show that the same system of reasoning and perception of community shaped attitudes toward each of these groups or issues. This reasoning was for an important part based on a medical, Galenic worldview, which is best summarised by the notion of dynamic balance. Balance can be understood as a tool in biopolitics, and it worked on two levels: the practical and the metaphorical. Analysing these two levels demonstrates how urban authorities integrated the eradication of sin as a part of their program to protect communal health.

To sum up, with an approach centred around explicating and comparing sources from different cities, cutting through evidence of theory, policy and social practice, this book addresses three central questions: what were the (perceived) health challenges facing late medieval urban communities and how were they confronted; how were responsibilities understood and tasks divided across spatial and jurisdictional boundaries; and how did striving for communal well-being socially, politically and materially impact medieval cities? Beyond responding to crises or building hospitals, medieval townsmen and women and those governing them understood that routine prevention of disease required a comprehensive set of policies. With social, financial and spatial interventions, they aimed to change both the (material) environment and the practices and

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behaviour of inhabitants. Various urban agents, with a central role for local municipal authorities, thus aimed to protect population health. These endeavours were informed by medical reasoning and justified by a conceptual framework that considered maintaining communal health and a well–functioning environment a part of the common good.