‘The Union of Soul and Body’: Medical, Religious and Civic Responses to the Great Plague of London, 1665-66

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Abstract

Historians' views on seventeenth-century medicine tend to emphasise the changes it was undergoing as part of the medical 'marketplace,' broadly in line with trends that would lead to the advent of modern secular medicine, and the demise of traditional Galenic ideas about the human body. Medical crises are often seen as catalysts for change and innovation in medical ideas. The Great Plague of London in 1665-6 was a catastrophic event, and as it turned out, the last of the major plague epidemics to strike England. But whether it prompted changes in views about the causes and treatment of plague is questionable. "New" medical ideas were certainly gaining popularity, but they were opposed by a continued adherence to classical interpretations of the factors which influenced health. It is also argued that religion had begun to play a less important role in explanations for and treatment of plague, but this view can be qualified: the relationship between religion and medicine was still inextricable. This thesis examines responses to the outbreak through the lens of medical pamphlets, sermons and civic legislation to illuminate some of the complexities of attitudes to plague, and to argue that both Galenic theory and religious thought continued to dominate responses to the Great Plague of London.

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Introduction

Title Page woodcut from the pamphlet "A Rod for run-awayes" (1625)
Thomas Dekker (c. 1572- c. 1632)

"Lord, have mercy on London." An almighty, vengeful God, in the form of a lightning bolt, strikes down on London. God's Destroying Angel, depicted as a skeleton, stands atop several coffins, holding two arrows of pestilence. One is directed towards residents, dying from the plague, to the left of the scene. The other arrow is poised to strike those who are attempting to flee, but to little avail; guards from neighbouring towns bar their entry. But even if they had been granted safety, they could never have escaped the hand of God: "we fly," the citizens say; "I follow," replies Death.

The woodcut above encapsulates the fears and horrifying conditions in London during the plague outbreak of 1625. It also illustrates some of the main themes of this thesis: how contemporaries perceived and responded to plague. Not forty years after this woodcut was created, London would suffer its final and most major outbreak of plague since the Black Death in 1348-9. Many of the medical and religious beliefs and responses to the 1665 outbreak mirror those of earlier epidemics. This thesis reassesses debates about how far ideas about the causes of and remedies for plague were changing in the seventeenth century, in the context of the Great Plague. The woodcut itself was meant to convey an entirely traditional religious message about plague, that it was sent directly from God as a punishment for sin. But ideas about plague were more diverse, especially by this period. It is often argued, as we will see, that religious views of plague were becoming less influential: medical views that focused on 'natural' causes of plague were growing, this in line with trends in thought that would eventually lead to the advent of modern Western and secular medicine.[1] This thesis explores the relationship between religious and medical ideas of plague, and stresses the continuing importance of the Christian faith, partly because religious views continued to be deeply entangled with medical ones. Thomas Dekker's plague pamphlet from 1625 therefore reflects views that remained dominant in 1665. The "Union of Soul and Body," a phrase coined by Nathaniel Hodges (1629-1688), in *Vindiciæ medicinæ & medicorum* (1666), shaped plague theories among physicians.

The 1665-66 Outbreak in Context

The Great Plague of 1665-6 was not a new event. Ever since the Black Death, Europe had suffered repeated visitations of plague, most of which are now understood to have at least partially been caused by the *Yersinia pestis* bacterium responsible for bubonic plague.[2] England faced sixteen plague outbreaks in the sixteenth and seventeenth centuries before 1665. London itself had experienced seven of these "great" epidemics, four of which took place in the seventeenth century (the first three being in 1603, 1625 and 1636).[3] None of them, however, was comparable in scale to the 1665 outbreak.

The Great Plague is thought to have originated in Holland, and arrived in London's ports through Dutch trading ships. Since November in 1663, the Privy Council had already ordered the quarantining of ships entering the Thames estuary that had come from Hamburg and Amsterdam.

[1] For a generalised overview of the advent of "modern" medicine, see: Tatsuo Sakai and Yuh Morimoto, "The History of Infectious Diseases and Medicine," *Pathogens* 11, no. 1 (2022): 1147.
[2] Paul Slack, *The Impact of Plague in Tudor and Stuart England* (London; Routledge, 1985), 7.
[3] Lloyd A. Moote and Dorothy C. Moote, *The Great Plague: The Story of London's Most Deadly Year* (Maryland: The Johns Hopkins University Press, 2006), 10.

These ships were to isolate at Hole Haven by Canvey Island for thirty days – which increased to forty in May 1664 as the plague worsened.[4] But it was not until December that the first plague death was recorded in of St-Giles-in-the-Fields, a suburban parish of "squalid" conditions (containing many poor and immigrants), in which diseases were "endemicall."[5] By the end of 1664, five cases of plague had been recorded (though the actual figure was likely higher). Cases of plague do not appear to have drastically increased between November 1664 and March 1665, but this may have been concealed by the extreme frost that London experienced that winter.[6]

The initial reaction by the public to the first report of plague was not immediate panic. Londoners were used to small outbreaks of plague (there had been twelve plague deaths in 1663, for example), especially during the hotter months of the year and in denser, poorer suburban parishes. There had also not been a large outbreak for almost twenty years, and the first four months of 1665 only recorded three official plague deaths.[7] Fears of a widespread outbreak, however, began in the spring of 1665. The Bills of Mortality (used by each parish since the early seventeenth century to record all deaths and their causes, including childbirth, accidents and consumption), demonstrated an increase in plague deaths. In April, Samuel Pepys (1633–1703), the diarist and parishioner of St Olave's, noted "Great fears of Sickenesse here in the City."[8] Citizens who could afford to flee the city started doing so by May, including physicians, members of the clergy and later, the King and his court. Civic authorities had begun to release numerous plague orders and appoint individuals to enforce them to slow the plague's spread. The first house had already been shut up in April in St Giles, soon after cases of the disease had appeared.[9] On 12 May, a Privy Council Committee was appointed to determine the "best means

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[4] Stephen Porter, *The Great Plague* (Stroud: Amberley Publishing Plc, 2009), 116-19.

[5] Moote and Moote, *The Great Plague*, 19, 54-5, 60. For the entire collection of the Bills of Mortality between 27 December 1664 to 19 December, 1665, see *London's dreadful visitation: or, a collection of all the Bills of Mortality for this present year*, Welcome Collection. https://wellcomecollection.org/works/bqxkq9yy/items The Welcome Collection also has an informative graph depicting the fatality rate throughout the outbreak, as well as a map of London showing the geographical distribution of the plague across the city's parishes: https://wellcomecollection.org/stories/pepys-and-the-plague. For discussion on the possible inaccuracies of the Bills of Mortality, see for example Walter Bell, *The Great Plague in London in 1665* (London: John Lane The Bodley Head Ltd, 1924), 180-88, and Moote and Moote, *The Great Plague*, 261.

[6] Bell, *The Great Plague*, 14.

[7] Ibid., 23.

[8] Samuel Pepys, *The Diary of Samuel Pepys Vol VI: 1665*, edited by Roberth Latham and William Matthews (London: G. Bell and Sons, 1972), 93.

[9] Moote and Moote, *The Great Plague*, 46.

of preventing the spreading of the infection of the Plague," by revising former plague orders and creating new ones if necessary.[10] By June, there had been forty three plague deaths (thirty one in St Giles), and by 13 June, this number had already tripled. By the middle of this month, the plague had spread around the outer walls of London, with twelve parishes already infected.[11]

Until June, plague had been almost absent within the walls that formed the core of the designated city of London. The walled city had a higher concentration of wealthier inhabitants.[12] But by mid-June, four city residents were reported to have died from plague, two near London bridge, another two near Cripplegate exit, and the fourth in the household of the physician Alexander Burnet, located just inside the eastern wall.[13] By July, plague was ravaging all suburban parishes and in nearly half the parishes within the city's walls: 1000 people were dying each week. By August, it was in all 130 parishes. [14] That month, Pepys wrote of "how empty the streets are and melancholy, so many poor sick people in the streets full of sores, and so many sad stories overheard as I walk, everybody talking of this dead, and that man sick." Although 6,102 deaths had been recorded in the Bill at the end of August, Pepys believed it to be closer to 10,000 as many of the urban poor were not counted.[15] Death was often fast: "the first day that they were smitten, the next day some hopes of recovery, and the third day, that they were dead."[16] The physicians who remained were working hard to care for victims who could afford their care. A wide variety of unlicensed practitioners (including those deemed to be quack doctors and chemical practitioners) were advertising wares to treat plague. Divines were calling for repentance. In June, the bishop of London and the Dean of Saint Paul's had organised "special services of propitiation," and distributed prayer books through the diocese, to be used straight away by all parishes of London, in accordance with the conviction that the epidemic had resulted from divine wrath at society's sin.[17]

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[10] Bell, *The Great Plague*, 24.
[11] Moote and Moote, *The Great Plague*, 60.
[12] Bell, *The Great Plague*, 56.
[13] Moote and Moote, *The Great Plague*, 59.
[14] Robert O. Bucholz, Joseph P. Ward, *London: A Social and Cultural History, 1550–1750*, (Cambridge: Cambridge University Press, 2012), 313.
[15] Pepys, *The Diary of Samuel Pepys Vol VI: 1665*, 268, 208.
[16] Thomas Vincent, *God's terrible voice in the city*, 1667, 38. Thomas Vincent (1634-1678) was a Puritan minister who preached during the 1665 outbreak.
[17] Moote and Moote, *The Great Plague*, 241.

The highest death count recorded was in the week of 19 to 26 September 1665, during which the Bills recorded 7,165 deaths from plague (1.433% of London's total population).[18] After this, the number of plague deaths began to decrease. In January, physicians were no longer required to treat the sick. Those who had fled the city began to return in November, but it was only by February 1666 that many who had left London (such as the King and gentry) saw it safe to return to the city. Many shops began to reopen.[19] By March, Lord Clarendon (the Lord Chancellor) stated that "the streets were as full, the Exchange as much crowded, the people in all places as numerous as they had ever been seen ..."[20] Nevertheless, cases of plague continued until mid-June 1666. Some historians have argued that the Great Fire in London in September of that year helped to put an end to the outbreak, although this has been hotly debated: it had been some months between the final cases of plague and the fire's outbreak. However, the rebuilding of London with materials less prone to rodent infestation likely helped to prevent plague's recurrence. [21]

Even so, plague had been devastating. The official number of deaths (as recorded in the Bills of Mortality for the duration of the epidemic) was 68,596, but the total was likely closer to 100,000 people, or twenty percent of London's population. Since an estimated 200,000 individuals fled the city (leaving 300,000 in London), the actual total number of fatalities may have been closer to one-third of the population.[22] The scale of mortality made it a singularly traumatic event. Its significance has also increased in hindsight, since it proved to be the last major outbreak of plague in England. The 1665-6 outbreak has therefore become the subject of many studies, and these have included discussion of the medical, religious and government responses to the plague.

[18] Company of Parish Clerks of London. *London's dreadful visitation: or, a collection of all the Bills of Mortality for this present year, for the week of 19-26 September, 1665.* Welcome Collection.
[19] Moote and Moote, *The Great Plague*, 251, 244, 250.
[20] James Leasor, *The Plague and the Fire* (Kelly Bray: The House of Stratus, 2001), 193-96.
[21] Though this has been disputed: see Moote and Moote, *The Great Plague*, 265.
[22] Ibid., 11.

Historiography on responses to plague

Medicine and Plague

The Great Plague, and medical responses to it, have often appeared in wider studies about responses to and the impact of plagues in Western Europe. These have been treated alongside social, economic and political responses. Slack and Porter (pre-eminent medical historians), for instance, have included the Great Plague within a wider discussion of responses to plague (such as quarantine measures) across longer periods of time.[23] Studies specifically on London in 1665 refer to medical practices within their narratives.[24] More recently, studies have compared medical ideas and responses to the Great Plague with the COVID-19 outbreak.[25] The Great Plague has also been placed within histories about the development of Western medicine: Wear discusses it within the context of the development of Western medical practices, noting that the path towards "modern medicine" was not a straightforward story of progress. He places medical ideas that were present during the Great Plague along a path towards modern medicine, and notes that this path was not a straightforward story of progress.[26]

Of particular interest has been the apparent survival of ancient, especially Galenic, theories of medicine well into the seventeenth century. The writings of Hippocrates (450–370 BC) and Galen of Pergamum (129-216 AD), had instilled a tradition of interpreting plague that was grounded in humoural theory.[27] The strength of this survival, however, is a matter of debate. Nutton has argued that Galenic theories undoubtedly formed "the basis of learned medicine in Western Europe," and had a long-lasting influence on medical theory from the Middle Ages until

[23] Stephen Porter, *Lord Have Mercy Upon Us: London's Plague Years* (Stroud, Glos.: Tempus, 2005); Slack, *The Impact of Plague*. For works dedicated to quarantine measures see for example, Newman, "Shutt Up: Bubonic Plague and Quarantine in Early Modern England," *Journal of Social History* 45, no. 3 (2012): 809-34.
[24] For example, see Lara Thorpe, "In the Middest of Death: Medical Responses to the Great Plague of 1665," (PhD thesis, University of London, 2017). For narratives of the Great Plague which include medical responses see for example: Moote and Moote, *The Great Plague*; Bell, *The Great Plague*; Rebecca Rideal, *1666: Plague, War and Hellfire* (London: John Murray, 2016).
[25] See, for example: Frank O'Hara, "The Great London Plague of 1665 and the US COVID-19 Pandemic Experience Compared," *Maine Policy Review 30,* no. 2 (2021): 98 -103.
[26] Michael Neve, "Conclusion" in *The Western Medical Tradition*, eds. Lawrence Conrad et al. (Cambridge: Cambridge University Press, 1995), 478. Michael Neve argues that medical history is not just a story of progress. He states that the word 'progress' looks 'too simple a story.'
[27] For the ideas of Galen and Hippocrates, see chapter one.

the eighteenth century.[28] Ideas of plague, and medicines to treat it, have often been depicted as "static and homogenous."[29] Slack, Wear and Fabbri have emphasised that plague medicine remained largely unchanged from the medieval to the early modern period and the literature on the disease during this time "can be taken as a whole." [30] Numerous studies of responses to plague in 1665 argue that they were usually framed by a Galenic understanding of the human body and how disease affected it. [31] The College of Physicians in London, whose Galenic approach to disease informed much of the medical response in 1665, have often been central to these discussions.[32]

However, historians such as Thorpe and Mortimer have argued that plague medicine was developing and evolving over time. The seventeenth century has, after all, been called a "transformative" period in England, with a medical world full of "upheaval and change" or even "revolution."[33] There were indeed a large variety of people who practised medicine in various forms, so much so that historians refer to the existence of a "medical marketplace," suggesting the possibility of opportunity and innovation.[34] Mortimer termed this era as a time of "medical revolution," which affected responses to plague, while Thorpe argued that during the Great Plague itself, there was a rise in ready-made medicines.[35] Historians have documented the ensuing debate about the nature of plague and its treatment among contemporaries. Thorpe states that "the Great Plague exacerbated discontent with traditional Galenic treatments, leading

[28] Vivian Nutton, *Galen, A Thinking Doctor in Imperial Rome*, (London: Routledge, 2020), 1.
[29] Thorpe, "In the Middest of Death," 33.
[30] Paul Slack, *The Impact of Plague in Tudor and Stuart England* (London: Routledge & Keagan Paul, 1985), 244; Christine Fabbri, "Treating Medieval Plague: The Wonderful Virtues of Theriac," *Early Science and Medicine* 12, no. 3 (2007): 247–83; Andrew Wear, *Knowledge and practice in English medicine, 1550-1680*, (Cambridge: Cambridge University Press, 2000), 275-353; Slack, *The Impact of Plague*, 24.
[31] For discussion of the Galenic approach to disease, see for example Thorpe, "In the Middest of death," 41, 48; Wear, *Knowledge and Practice*, 286-7; Vivian Nutton, *Ancient Medicine* (London: Routledge, 2014); Karen Jillings *An Urban History of the Plague: Socio-economic, Political and Medical Impacts in a Scottish Community, 1500-1650*, (Oxon: Routledge, 2018), 52-3.
[32] Stuart Cook, *The Decline of the Old Medical Regime in Stuart London* (London: Cornell University Press, 1986), 70.
[33] Thorpe., "In the Middest of Death," 19.
[34] Stuart Cook, *The Decline of the Old Medical Regime in Stuart London*, 28.
[35] Ian Mortimer, *The Dying and the Doctors: The Medical Revolution in Seventeenth-Century England* (Woodbridge, Suffolk: The Boydell Press, 2009); Thorpe, "In the Middest of Death." Patrick Wallis also talked of an increase in imported drugs into England during the seventeenth century in "Exotic Drugs and English Medicine: England's Drug Trade, *c*. 1550–*c*. 1800," *Social History of Medicine* 25, no. 1 (February 2012): 20–46.

sufferers to look to alternative methods of cure."[36] Despite the prominence of traditional Galenic understandings of plague in 1665, historians such as Webster charted a rise of iatrochemical practitioners and ideas promoted by the followers of Paracelsus (1493-1541) and Jean Baptiste van Helmont (1580-1644), whose theories were based on a chemical understanding of the body. King even argues that in seventeenth-century medicine, "a new philosophy had thoroughly permeated the intellectual atmosphere and seemed to choke out the older doctrines based on Galen and Aristotle."[37] Slack acknowledges a rise in the use of Paracelsian ingredients; while Webster argues that "alchemical medicine was endemic," and that by 1585, "the works of Paracelsus and his followers were widely disseminated, and actively studied by both laymen and medical practitioners."[38] By 1665, a group of English chemists came together to form the "Society of Chemical Physicians," who opposed the Galenically-grounded College of Physicians. [39]

Thorpe argues that this tension between the College and Society leading up to 1665 resulted in a "pamphlet war" throughout the Great Plague, in which the opposing groups attempted to discredit each other's medical views on the nature, causation and cure of plague. While the Society argued that chemical medicine was better at preventing and treating plague, the College perpetuated an image of the group as "quacks."[40] Miller has argued that this pamphlet war shows evolving ideas about plague, reflecting "a charged print landscape filled with vigorous debate in response to the outbreak."[41] Thorpe states that 1665 was the first time chemists and physicians used "medical print about the disease to justify their preferred medical dogma."[42] Historians have given particular attention to the prominent figures on either side of the debate, the Galenist Nathanial Hodges (1629–1688) and his opponent Paracelsian George Thomson (c.1619–1676).[43]

[36] Thorpe, "In the Middest of Death," 82.
[37] Lester King, "The Transformation of Galenism," in *Medicine in Seventeenth-Century England: A Symposium Held at UCLA in Honor of C.D.O. O'Malley*, ed. Allen G. Debus (Los Angeles: University of California Press 1974), 7; Thorpe, "In the Middest of Death," 74.
[38] Charles Webster, *Health, Medicine, and Mortality in the Sixteenth Century* (Cambridge: Cambridge University Press, 1979), 316.
[39] Hannah Newton, *Misery to Mirth: Recovery from Illness in Early Modern England* (Oxford: Oxford University Press, 2018); Wear, *Knowledge and Practice*, 353-98.
[40] Thorpe, "In the Middest of death," 81.
[41] Kathleen Miller, *The Literary Culture of Plague in Early Modern England* (London: Palgrave Macmillan, 2016), 8.
[42] Thorpe, "In the Middest of Death," 81.
[43] Miller, *The Literary Culture of Plague in Early Modern England*, 62.

Recent historiography has continued to emphasise the theme of rivalry, exploring reasons for the Society's successes as well as its ultimate failure to establish itself as a separate medical group.[44] Miller stated that medicine was a "factitious discipline" in the seventeenth century, with the body being a "space of intellectual and political conflict, ravaged by the diseased and by clashing views of medicine that defined the care of plague victims and medical constructions of their illness."[45]

Historiography on the survival and continuing strength of Galenic ideas has thus generated divergent opinions. But these are also complicated by discussions that question the differences between Galenic and Paracelsian views of plague. Although many studies have presented the College and Society as two competing groups with distinct medical views, some historians suggest that it was a more "convoluted conflict" than a simple division between two opposing sides.[46] Wear argues that there were gradual changes in medical ideas during the second half of the seventeenth century at an ideological and theoretical level, but which were not properly implemented in practice.[47] Thorpe states that Galenism retained its primacy, but also that there was an "unproblematic marriage of Galenic and chemical theories and therapies." Before 1665, Galenic medical practitioners were already adopting forms of Helmontian chemistry; there were "striking similarities" between Galenist and Paracelsian theories and cures; "Paracelsian and humoral theory coexisted in a new, blended medical theory that borrowed heavily from each other."[48] Slack considers that Paracelsians changed the terminology related to plague but "contributed little to a clearer understanding of the origin theory of plague."[49] Thorpe has noted that although Paracelsians contributed to a rising popularity of readymade medicines, there was much overlap between Galenic and Helmontian theories. She also adds that historians have increasingly tended not to view the College as strictly Galenist and the Society as strictly Paracelsian or Helmontian, acknowledging that "the members of each held mixed views from each set of medical dogma." During the 1665 outbreak some practitioners (like John Allin and

[44] For example, see Peter Elmer, *Medicine in the Age of a Revolution* (Oxford: Oxford Academic, 2023).
[45] Miller, *The Literary Culture of Plague in Early Modern England*, 61.
[46] Thorpe, "In the Middest of Death," 84.
[47] Andrew Wear, "Medical Practice in Late Seventeenth- and Early Eighteenth-century England: Continuity and Union," in *The Medical Revolution of the Seventeenth Century*, ed. Roger French and Andrew Wear (Cambridge: Cambridge University Press, 1989), 294.
[48] Thorpe "In the Middest of Death", 74, 79, 92.
[49] Slack, *The Impact of Plague,* 248.

William Kemp) even incorporated a mix of Galenist and Paracelsian ideas into their writings and treatment of plague.[50] Medical debates during 1665 therefore appear to be a more complicated issue than older historiography suggested. This thesis will explore these complications further, but will emphasise, none the less, that the plague in itself did not alter the dominant position that Galenism still occupied in medical theory.

Medicine and Religion in Contemporary Understandings of Plague

Most historians' discussions of the medical responses to plague, whether Galenic, Paracelsian, unlicensed or domestic, give particular attention given to contemporaries' concern with 'natural' causes or remedies. Many have noted a rise in what appears to be a more secular approach to causes of plague, in the sense that less emphasis was being placed on plague as a divine punishment for sin.[51] Wear states that by 1665, the "religious element" in plague treatises had declined.[52] Slack argues that compared with earlier epidemics, the responses to plague in 1665 were more focused on 'natural' causes and therapies for the disease, with "God's hand having been relegated to the background." He states that there were more medical treatises on plague than there were purely religious treatises, which indicates "a reduction in attention to the religious significance of plague."[53] There is a risk that emphasis on the 'natural' by 1665 could be treated too simply, as part of a narrative that explains the gradual emergence of modern and secular medicine. Historians have also noted the continuing importance of religious responses to plague, despite or even because of the Reformation and the adoption of Protestantism in countries like England. Religious tracts reveal the widespread belief that plague was still seen as an "inscrutable agent of the lord."[54] In any case, there was considerable overlap in the content of "medical" and "religious" treatises. Historians like the Mootes have noted that in 1665, plague was still being referred to, even in medical tracts, as the "rod of the Almighty."[55] Slack states that in Christian Europe, plague was still seen as a "divine scourge, a retribution for the sins of

[50] Thorpe, "In the Middest of Death", 80, 92. Thorpe also argues that physicians' care provided to patients, as well as methods for protecting themselves against disease, were 'individualistic.' She discusses the variation in routines of John Allin, Nathaniel Hodges and William Boghurst on pages 216-221.
[51] Slack, *The Impact of Plague,* 248.
[52] Wear, *Knowledge and Practice*, 278.
[53] Slack, *The Impact of Plague*, 228-48.
[54] Moote and Moote, *The Great Plague*, 58.
[55] Ibid.

mankind," even if this view was not as strongly expressed as it had been in responses to earlier epidemics such as the Black Death.[56] These perspectives raise further questions as to how far religion affected medicine: how far physicians' religious beliefs affected their medical practices; how far medical tracts and polemic reflected religious attitudes; or how far diseases affecting the body were related to sins that corrupted the soul.

Wear and Thorpe have stressed that religion and medicine were "inextricably linked." Nevertheless, they still make a distinction between medicine that could provide "an explanation based on physical corruption" and religion that focused on "spiritual corruption."[57] But the distinction is hard to sustain in certain respects. Galenic theory recognised links between the body and soul: the one affected the other in multiple ways. Despite the increasing weight given to natural causation theories and treatments of plague in 1665, many medical pamphlets still referred to God as the main cause of plague. The Mootes stated that there was often a mix of belief in God and natural causes: "God was the first or prime cause of plague, but He allowed it to come about through the forces of nature- the second causes that He himself created."[58] During the Great Plague, religious writers used "the language of medicine" to provide people with a "structured way of thinking about the effects of sin," and rarely stressed the "importance of physick to seeking a cure for plague."[59] In turn, physicians like John Allin and Nathaniel Hodges nearly always included observations on religion and the importance of repentance and humility, thus emphasizing the "Union of Soul and Body."[60]

Religion was as significant in Helmontian views of medicine as it was in Galenic. Newton and Borzella argue that although it was part of a development of new science, Paracelsian roots were "deeply religious."[61] During the pamphlet war, chemical physicians argued that as chemistry came from Hermetic philosophy, it was "therefore closer to God's initial revelations."[62] Religion

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[56] Slack, "Responses to Plague in Early Modern Europe," 436.
[57] Thorpe, "In the Middest of Death," 112; Andrew Wear, "The Art of Medicine Making us as Cruel as Dogs: Plague in 16th and 17th Century England," *The Lancet* 385 (2015): 24-56.
[58] Wear, *Knowledge and Practice*, 281-313.
[59] Thorpe, "In the Middest of Death," 112.
[60] Ibid.
[61] Newton, *Misery to Mirth;* Joseph Borzelleca, "Paracelsus: Herald of Modern Toxicology," *Toxicological Sciences* 53, no. 1 (2000): 2-4, https://doi.org/10.1093/toxsci/53.1.2; Thorpe, "In the Middest of Death," 81; Newton, *Misery to Mirth.*
[62] Thorpe, "In the Middest of Death", 81.

continued to form an important part of understanding medicine in the early modern period. As Slack stated, "supernatural and natural explanations of epidemic disease were interlocking parts of a single interpretive chain."[63] Thorpe argues that future scholarship on medical responses to plague could be more inclusive of their religious dimensions.[64] In exploring these dimensions, this thesis will show how the importance of religion remained paramount, not only in Galenic perceptions of plague, but also Helmontian.

The government's response to the Great Plague: the medical and moral dimensions

Plague orders by civic authorities have also been investigated by numerous historians, who have looked to determine how these medical and religious views of plague were applied in practice.[65] Slack has traced the slow development of plague orders in England (which only began in 1518), and has noted the influence of Galenic ideas of health in these developments. Coomans and Rawcliffe have discussed how the concept of the "urban body," combined with Galenic ideas of health, came to influence the development of infrastructure in towns.[66] Skelton's study focused directly on the development of sanitation in urban Britain between 1560 and 1700, and argued that Galenic ideas of plague influenced sanitary regulations in places like London.[67] Plague orders from the 1665-66 outbreak have also been looked at in detail by historians, such as Bell and the Mootes.

In all these studies, the influence of Christian belief on government regulations against plague has also been emphasised, especially as an aspect of social control. Government orders were not

[63] Slack, *The Impact of Plague*, 29.
[64] Thorpe, "In the Middest of Death," 242.
[65] For works on government plague regulations in London see for example, Charles Warrington Udale, "The Plague and the State in Early Modern England 1538-1667," (PhD diss., London School of Economics, 2023). See also: A. Columbus, "'To Be Had for a Pesthouse for the Use of This Parish': Plague Pesthouses in Early Stuart London, c. 1600–1650," *Urban History* 51, no. 1 (2022): 1-21.
[66] Janna Coomans, *Community, Urban Health and Environment in the Late Medieval Low Countries* (Cambridge: Cambridge University Press, 2021); Carol Rawcliffe, *Urban Bodies. Communal Health in Late Medieval English Towns and Cities* (Woodbridge: The Boydell Press, 2013). See further in chapter four.
[67] Leona Skelton, *Sanitation in Urban Britain, 1560-1700* (London: Routledge, 2015). For studies on the living conditions in London, see for example N. Cummins, M. Kelly, and C. Ó.Gráda, "Living Standards and Plague in London, 1560–1665," *Economic History Review* 69 (2016): 3-34; Alexandra Logue, "'Saucy Stink': Smells, Sanitation, and Conflict in Early Modern London," *Renaissance and Reformation / Renaissance et Réforme* 44, no. 2 (2021): 61–86.

only based on controlling the physical health of the population, but also its moral health. Sumich and the Mootes have noted that certain plague orders of 1665 (such as those that placed restrictions on tippling in taverns), not only aimed to reduce contagion but also to manage sinful behaviour.[68] This in turn was believed to bring about the end of plague by assuaging God through the limiting of immoral actions. This also extended to certain groups of people, such as the poor, whom civic authorities believed to be more prone to social disorder and sin, and thus also more susceptible to plague.[69] Punishments for contravention show that orders by city governments were difficult to enforce (especially during outbreaks of plague), yet their issuing is strong evidence of attitudes amongst legislators about plague and its causes. This thesis will show that officials implemented legislation to tackle the multifaceted ramifications of plague, even as the disease fractured social and political cohesion.

Thesis Outline and Sources

The thesis is split into four chapters, each of which addresses various theories and responses to the Great Plague. Chapter one will establish the context in which these take place, by examining what historians have termed the "medical marketplace" in London. It will look at Galenic ideas of the causes, preventions and treatments of plague across the first half of the seventeenth century, and establish the extent to which these theories remained in place by 1665. The chapter will show that despite the variety of practitioners and wares in 'medical marketplace,' the fundamental understanding of plague was still largely Galenic in 1665.

Chapter two will examine how these Galenic ideas of plague came to be questioned by Paracelsus, van Helmont, and their later supporters in 1665. It will look at the plague theories and treatments advocated by Helmontians and discuss how these differed from Galenism. These differences will be highlighted by a discussion of the "pamphlet war" between the Society and the College. This chapter will also look at the extent to which Helmontian plague theories were able to alter the dominant Galenic view of health. Galenic views of plague, and the dominance of

[68] Moote and Moote, *The Great Plague*; Christi Sumich, *Divine Doctors and Dreadful Distempers: How Practicing Medicine Became a Respectable Profession* (Leiden: Brill, 2013), 222.
[69] For studies on the poor and immorality, see for example, Paul Slack, *Poverty and Policy in Tudor and Stuart England* (London: Longmans, 1988).

the College, would prove difficult to combat – and the Society would ultimately fail. But the conflict did reveal a desire for change to the Galenic regime, perhaps provided momentum for these changes to occur in the future.

Having established how the Galenic and chemical divide played out in the pamphlet war, Chapter three turns to focus on contemporary religious belief, and its place in medicine at the time of the outbreak. It will question how far, and in what ways, references to divine causes and cures of plague really decreased in plague pamphlets during the outbreak. It will be argued that in many respects, a religious framework still dominated attitudes to plague. After all, Galenism had long been assimilated into Christian traditions, and was difficult to disentangle from religious thinking. The chapter will also discuss the importance of religion in Helmontian ideas of plague, and will show how these beliefs were a key point of tension between Galenists and Helmontians.

Chapter four explores how these medical and religious ideas were put into practice by civic authorities in London during the outbreak. Galenic views about the body also applied to concepts about the "urban body" that city authorities were supposed to manage. As we will see, these concepts incorporated a Galenic view of health, and formed the basis of plague orders enacted by the government. The chapter will also expand on the themes from chapter three, by showing that the continued influence of religion shaped government orders during the Great Plague. The intertwining of the soul and body, propagated by physicians and divines, formed the basis of the London government's response to the Great Plague.

This thesis makes use of a variety of primary sources as befits the all-encompassing nature of the Great Plague. Some provide context to the environment in which ideas and responses to plague took place. Bills of Mortality help determine the spread and timeline of the outbreak. The famous diary of Samuel Pepys offers a first-hand account of the plague, and provides some insight into the reality of plague responses. Daniel Defoe's *Journal of the Plague Year* (1722), though not strictly a contemporary account, includes detailed discussion of printed plague literature, both from physicians and government orders. The principal body of sources used here, though, are the treatises of physicians and theologians, as well as the regulations issued by the royal and city governments.

The first major group of these sources relate directly to medical concepts and ideas of plague. Chapter one makes use of vernacular medical literature from around the time of the Great Plague. These plague pamphlets will be used to demonstrate the continuity of Galenic "natural" ideas of the causes, preventatives and treatments of plague by 1665. In order to gain a wider picture of the dominance of Galenism, pamphlets from both licensed and unlicensed practitioners in London are examined. These pamphlets have also been supplemented by the memoirs of Nathaniel Hodges, a member of the College of Physicians, and the apothecary William Boghurst (1631-1685).[70] Chapter two also looks at a variety of medical pamphlets produced by chemical practitioners, in order to gain an understanding of alternative ideas of plague that had been emerging since the 1500s. These pamphlets include authors such as Marchamont Nedham (1620-1678) and George Thomson, both of whom were members of the Royal Society. This chapter also utilises several works produced in response to the "pamphlet war" between the Society and the College.

In discussing the extent to which religion influenced medicine by 1665, chapter three examines sermons produced in response to the outbreak. These will be compared with medical plague pamphlets, especially in terms of the language used, between the views of theologians and medical practitioners. Various government plague orders issued by civic authorities in London will also be examined in chapter four, to determine how medical and religious ideas of plague were put into practice during the 1665-66 outbreak.

While each of these sources are valuable, it is important to acknowledge their weaknesses. Plague pamphlets, by both Galenic and Helmontian practitioners, present ideas about plague that reflect official viewpoints. Some historians have also suggested various ulterior motives behind plague pamphlets.[71] The publications of unlicensed practitioners were perhaps pleas to allow

[70] For further details on these practitioners, see chapters below.
[71] For example, Stuart Cook in *The Decline of the Old Medical Regime in Stuart London*, 157, argued that many medical writers, such as Theophilvs Garencieres, were trying to "make their reputations during the epidemic."

them to practice and make money. They deliberately appeal to the viewpoints of established physicians, and give no indication of alternative ideas that some may have considered. The memoirs of Nathaniel Hodges and William Boghurst were also written with an intended audience in mind, and at points (for instance, when describing the origins of the plague) are conflicting in their accounts. In addition, the works published during the pamphlet war do not reflect the reality how all practitioners approached plague in 1665; as we will see, the 'war' was a polemical debate aimed more at discrediting the opposition than analysing ideas about plague. Arguably, they exaggerate the extent to which views between Galenists and Helmontians were polarised. Sermons present an obviously religious view of plague, and while some include a medical understanding of plague, their ultimate aim is to preach about the dangers of sin. They may tell us about the attitudes of preachers, but not of their audiences. In a similar fashion, plague orders released by the government reveal official attitudes, but their relative ineffectiveness may suggest that their audiences did not share these views entirely. Ultimately, we can only gain a view of medical and religious attitudes that is limited to the educated physicians, divines and city authorities. Nevertheless, these 'elites' were influential: they represent views that were hegemonic. Chapter one therefore begins with the dominance of Galenic medicine.

Chapter One

Galenism, Plague and the medical 'marketplace' in Early Modern London

"…the *Science* of *Medicine* is not only already *invented* and *discovered*, but *adorned* with *intelligible Rules* and *Aphorisms*, and thereby improved to *general use*."[1]

(Nathaniel Hodges, *Vindiciæ medicinæ & medicorum*, 1666)

The dominant understanding of plague in early modern England was undoubtedly based on the tradition of Galenic medicine, derived from classical Antiquity and principally from the works of Hippocrates and Galen of Pergamum.[2] In Western Europe, from the twelfth century onwards, their works regained popularity through the circulation of Latin translations of Islamic versions of their texts, and the rise of universities. [3] Galen's ideas became incorporated into a Christian framework. This allowed for the continuing influence of his theories, which became part of the medieval university curriculum.[4] During and after the Black Death 1348-9, much of the response in medical literature, like the work of John of Burgundy (one of the first influential treatises on plague in the wake of the Black Death), revolved around a Galenic view of plague. [5] This influence continued into the fifteenth and sixteenth centuries, when new translations and commentaries of original works of Galen were rewritten by Renaissance humanists. These represented a return to classical texts, replacing a reliance on medieval texts which were

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[1] Nathaniel Hodges, *Vindiciæ medicinæ & medicorum*, (London: 1666; EEBO), 4.
[2] The two key figures were the physician Hippocrates (c.450-370BC), and particularly Galen of Pergamum (129-216 AD), the "central figure in the development of the Western tradition of medicine:" Vivian Nutton, *Ancient Medicine* (London: Routledge, 2014), 32. Galen interpreted and expanded on the works of Hippocrates, producing work on various scientific disciplines, and also on the theories of plague: Andrew Wear, "Medicine in Early Modern Europe, 1500-1700," in *The Western Medical Tradition,* eds. Lawrence Conrad et al. (Cambridge: Cambridge University Press, 1995), 35. Alternative works by other authors had long become "irrelevant luxuries:" by 500 AD in Alexandria, there was a syllabus of Hippocratic texts, and a "Galenic canon" of sixteen books: Vivian Nutton, Roman Medicine, 250BC to AD200," in *The Western Medical Tradition*, ed. Conrad et al., 58.
[3] Charlotte Lisa Jarman, "Galen in Early Modern English Medicine: Case-studies in History, Pharmacology and Surgery 1618-1794," (PhD diss., University of Exeter, 2013), 153-57.
[4] Michael McVaugh, "Galen in the Medieval Universities, 1200–1400" *in Brills' Companion to the Reception of Galen*, edited by Petros Bouras-Vallianatos and Sophie Waston, (Netherlands: Brill, 2019), 381.
[5] For some translations of these early tracts, see Rosemary Horrox, ed, *The Black Death* (Manchester: Manchester University Press, 1994), 158-206.

perceived as inaccurate, but they did not displace a tradition of understanding plague in Galenic terms. The significance of Galenic ideas in seventeenth-century London is therefore not surprising, given their long-standing influence on medical theory in Western Europe.

By the seventeenth century, however, changes had occurred with alternative views being put forward particularly with regard to the rise of chemical medicine. At the time of the Great Plague, as we will see, there was a considerable variety of medical practitioners operating in London, besides the three official medical groups that presided there. Indeed, historians have used the term 'medical marketplace' to describe early modern London's medical landscape.[6] This chapter will examine this variety of medical practices in relation to reactions to plague. Whether the term 'marketplace' accurately describes this variety needs to be questioned. The term suggests the possibility of change, innovation and debate in medical thinking and practice. This possibility needs to be set against evidence for the continuing importance of Galenic views of health, explanations for the causes of plague, and treatments for it. At the same time, disagreements among Galenic practitioners complicated a generalised view of the western medical tradition that tends to present Galenic ideas as monolithic.

The medical views then current will be examined through a sample of twenty-one medical tracts printed in London that responded to the outbreak of plague, produced by both licensed and unlicensed practitioners. These tracts span from the late sixteenth century to 1665, and offer theories of the causation of plague, and recommendations for its prevention. This chapter focuses only on Galenic views of the 'natural' causes and treatment of plague. These were in fact deeply intertwined with a religious understanding of plague, which is the subject of chapter three.

Medical Practitioners in the 'Marketplace'

The outbreak of plague in 1665 was met with responses from a wide variety of medical practitioners in London, both licensed and unlicensed. Professional medicine fell into three tiered

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[6] The term was first used by Harold Cook in *The Decline of the Old Medical Regime in Stuart London* (London: Cornell University Press, 1986); see also M. S. R. Jenner and P. Wallis, "The Medical Marketplace", in *Medicine and the Market in England and its Colonies, c. 1450–c. 1850*, eds. M. S. R. Jenner and P. Wallis (London: Palgrave Macmillan, 2007), 1.

and elite groups: the College of Physicians, the Society of Apothecaries and the Company of Barber Surgeons.[7] It is estimated that around 250 practitioners comprised these three groups, as well as 250 others (including 60 women) who may have offered services without a license.[8] The ratio of caregivers to people in London was around one to 600, a ratio which became more unfavourable when plague struck because many licensed physicians, perhaps four-fifths of the College, fled the city.[9]

Members of the College of Physicians (numbering around fifty individuals in London) have been described by historians as the "aristocrats of the medical establishment," and the "top tier of professionalised medicine."[10] The College was established in 1518 by six prominent medical men (including Thomas Linacre, Henry VIII's physician) who petitioned the king with hopes that it would act to better regulate medical practices. [11] A charter confirmed the College's foundation that same year, likely propelled by an outbreak of plague, and it coincided with the first official government regulations against the disease. This charter ensured that the College was the only group with the right to "publicly exercise medicine in our City of London and the suburbs" (within a radius of seven miles from the City).[12] In 1523, an Act of Parliament extended the College's power from London to the whole of England. Admission into the College required a bachelors, masters and doctoral degrees from Oxford or Cambridge, the only universities then in England.[13]

According to the original charter, the College's establishment was "in the name of the public benefit," and would help to "discourage the unskillfulness and temerity of the knavish men" who

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[7] Margaret Pelling and Charles Webster, "Medical Practitioners," in *Health, Medicine, and Mortality in the Sixteenth Century*, ed. Charles Webster (Cambridge: Cambridge University Press, 1979), 168, 172-7. See also Lloyd A. Moote and Dorothy C. Moote, *The Great Plague: The Story of London's Most Deadly Year* (Maryland: The Johns Hopkins University Press, 2006), 95.
[8] Ibid., 100.
[9] Christi Sumich, *Divine Doctors and Dreadful Distempers: How Practicing Medicine Became a Respectable Profession* (Leiden. Brill Academic pub, 2013), 218.
[10] Lara Thorpe, "In the Middest of Death: Medical Responses to the Great Plague of 1665," (PhD diss thesis, University of London, 2017), 75.
[11] Mary Lindemann, *Medicine and Society in Early Modern Europe* (Cambridge: Cambridge University Press, 1999), 174-5.
[12] Royal College of Physicians, *The Charter of Incorporation, Granted by Henry VIII to the President and College, or Commonalty, of the Faculty of Physic in London Dated September 23rd, 1518, 10 Hen. VIII*, 1.
[13] Cook, *The Decline of the Old Medical Regime in Stuart London*, 73.

practiced dangerous, illegal medicine for their own economic benefit.[14] In order to improve the practice of "physik" the College held numerous responsibilities. It was given the power to grant medical licenses to physicians whom it deemed qualified to practice, and also to punish unqualified practitioners who engaged in malpractice.[15] It also regulated the administration of medicines. In 1617, another charter ensured that the prescribing and administering of internal medicines would only legally be done by members of the College.[16] In addition, the College was expected to provide medical advice not only to the monarchy, but other authorities like the army and navy. It aimed to improve public health, as well as the availability and regulation of medical literature. The College also produced a number of medical works, including *Pharmacopoeia Londinesi* in 1618, the first standard and authoritative pharmacopeia for all of England and Scotland (since the union of the crowns).[17] For the first century and a half after its formation, the College remained at the top of the medical profession, and was the only expert body that medical questions could be referred to.[18]

The dominance of the College of Physicians was by no means total, however. The next level down of professional medicine in London was the Society of Apothecaries, founded in 1618 by a royal charter. The group had originally been part of the Grocers' guild and had decided to petition for its own charter, aiming to gain recognition for its members' specialist skills in the preparation of medicines.[19] King James I granted this in 1617, and in 1624 stated to the House of Commons that the "grocers are unskilful; and therefore I think it is fitting they should be a corporation of themselves."[20] Apothecaries trained through apprenticeships for seven years, which gave them an understanding of academic medicine. There were many apothecary shops across London in the seventeenth century (such as William Boghurst's shop at the White Heart in St Giles-in-the-Fields), which provided advice, as well as distilled and dispensed drugs.[21] These were prescribed by members of the College with recipes from *pharmacopeia*

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[14] Royal College of Physicians, *The Charter of Incorporation*, 1.
[15] George Clark, "History of the Royal College of Physicians of London," *The British Medical Journal* 1, no. 5427 (1965): 79.
[16] Archibald Walker Sloan, *English Medicine in the Seventeenth Century* (Durham: Durham Academic Press, 1996), 2.
[17] Clark, "History of the Royal College of Physicians of London," 80.
[18] Thorpe "In the Middest of Death," 17.
[19] Moote and Moote, *The Great Plague*, 98.
[20] The Worshipful Society of Apothecaries, "Origins," Date Unknown.
[21] Moote and Moote, *The Great Plague*, 98.

londinesis. Many apothecaries used a combination of classical medicine as well as other kinds like anti-pestilential pills.[22]

The Company of Barber Surgeons (founded in 1540, unifying the Company of Barbers and the Fellowship of Surgeons) was the lowest level of professional medicine in London. The barber's craft of using blades in shaving had evolved into the common practice of bloodletting. The company was formed with the goal to regulate the practice of surgeons in London.[23] As surgeons could not provide internal medicines like the College, their practices dealt with physical ailments and often involved the use of many surgical instruments.[24] Their services tended to be cheaper than those provided by physicians and apothecaries. Some of the tasks that surgeons undertook were removing tumours, performing amputations and extracting teeth. Surgeons also produced medical books and pamphlets on anatomy and external ailments such as bone fractures, indicating that some had medical training or at least a fair degree of literacy.[25] Many surgeons worked at hospitals for the poor, such as Saint Bartholomew's (which was founded in 1123 and located in West Smithfield). They also provided lectures on anatomy and demonstrations (open to the public) at their company hall in London. During outbreaks of plague, surgeons were appointed by the city to "supervise medical aid;" they dealt with physical ailments attributed to plague such as sores and buboes (which they could lance).[26]

The three official groups of medical practitioners had rivals, though. The Society of the Chemical Physicians advocated theories based on the ideas of Paracelsus and Van Helmont: these will be discussed in more detail in the next chapter. There were also disagreements between the three groups even though they were supposedly arranged in hierarchical order. Besides having slightly different functions, they did not always work together in harmony. The College tended to view all other practitioners as "empericks," despite the fact that there was a

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[22] Moote and Moote, *The Great Plague*, 98; Pelling and Webster, "Medical Practitioners," 178. Some apothecaries also published advice on plague, see for example: Roger Dixon. *Advice for the Poor, By Way of Cure and Caution*, (London: 1665; EEBO).
[23] Moote and Moote, *The Great Plague*, 95.
[24] Paul Slack, *The Impact of Plague, in Tudor and Stuart England*, (London: Routledge & Keagan Paul, 1985), 215; Moote and Moote, *The Great Plague*, 104.
[25] Thorpe, "In the Middest of Death, 36.
[26] Moote and Moote, *The Great Plague*, 100; Thorpe, "In the Middest of Death," 36; Wear, *Knowledge and Practice in English Medicine*, 339.

symbiotic relationship between the three professions (with apothecaries supplying medication requested by physicians, for example). [27] During the seventeenth century, rivalries and conflicts between them had emerged, each attempting to "maintain monopolies on their branches of medicine."[28] The Society of Apothecaries had also been pushing for the right to treat patients as the College did, not just issue medicine prescribed by members of the College.[29] Plague years offered greater opportunities for apothecaries to treat patients, as many were to stay in the city. In 1665, approximately three quarters of the apothecaries and apprentices of London did not choose to flee the city. Some also published medical pamphlets that gave advice on plague. [30]

It is also important to note, though, that these professional medical groups did not comprise the entirety of medical care in London. Earlier historiography of seventeenth-century healthcare tended to focus solely on the three levels of professional medicine discussed above. Alternative practitioners of medicine were often overlooked or labelled as 'quacks.'[31] But this depiction of early modern medicine presents a limited picture of healthcare in London by 1665. Historians in the 1980s began to investigate the variety of commodities, services and practitioners that existed in London, and coined the term "medical marketplace" to describe it.[32] Thorpe argues that this model accentuated what historians saw as "the capitalistic and competitive nature of medicine in the capital."[33] The increased demand and growth of the medical market economy during this period was accelerated by the frequency of epidemics. This meant that licensed practitioners of medicines, including the College of Physicians, found it difficult to maintain a monopoly on medicine. Not only were practitioners competing against foreign medicines (for example, exotic drugs via American and Asian trade routes), but also from rival medical groups and quack doctors. In addition, increased literacy and dissemination of vernacular medical literature amongst the public opened up more avenues for exploring alternative medical ideas and also enabled some criticism of practitioners.[34]

[27] Samantha Sandassie. "'Half-gods, Good Surgeons may be Called': Surgery's Quest for Occupational Credit in England, 1590-1715," (PhD diss., Queens University, 2014), 28.
[28] Moote and Moote, *The Great Plague*, 95.
[29] Cook, *The Decline of the Old Medical Regime in Stuart London,* 47.
[30] Moote and Moote, *The Great Plague,* 98.
[31] Thorpe, "In the Middest of Death," 82.
[32] Jenner and Wallis, "The Medical Marketplace," 1.
[33] Thorpe, "In the Middest of Death," 37.
[34] Cook, *The Decline of the Old Medical Regime in Stuart London,* 34, 45.

Use of the term ‘medical marketplace’ has also encouraged exploration of medical care that took place outside the three professional groups. Historians have argued that unlicensed practitioners (despite the views at the time of the College of Physicians) formed “an essential sector in early modern medicine in London,” which contributed greatly to the treatment of the poor, especially during periods of plague. These unlicensed practitioners could be ‘reputable,’ some (such as Gideon Harvey) having had university educations. Others (such as Nicholas Culpeper) even had patients amongst the political elite at court.[35] More disreputable unlicensed practitioners included quacks doctors, who sold dubious ‘medicines’ for high prices that claimed to prevent and cure plague, and who were condemmed by medical practitioners. [36]

Women also formed an essential sector of medical provision in London.[37] Although women could not publicly sell medicines and provide medical advice, there was a long history of women taking on various roles in healthcare, such as midwives and those called ‘wise women.’ After the introduction of the Elizabethan poor laws in the late sixteenth century, local parish officers paid local wise-women to care for the poor.[38] Women were also tasked with looking after the sick during outbreaks of plague, and even hired by the city government to regulate and care for patients under quarantine (as chapter four will show). Historians have also recognised that most healthcare would have taken place within the home, or be undertaken by traditional healers within the community, many of whom were women. As Cook argued, “housewives were expected to know basic medicine, and they kept medical remedies on hand,” and often relied on traditional herbal remedies, many of which have been preserved in domestic almanacs and recipe books. [39]

The idea that competition through a ‘medical marketplace’ was operating in seventeenth-century London suggests a context in which established medical traditions might have been weakened.

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[35] Thorpe, “In the Middest of Death,” 36; see also: Roy Porter, *Health for Sale: Quackery in England 1660-1850* (Manchester: Manchester University Press, 1989), 21.
[36] Walter Bell, *The Great Plague in London in 1665,* (London: John Lane The Bodley Head LTD, 1924), 97.
[37] See more recent work for example, by Aidan Norrie and Lisa Hopkins, eds., *Women on the Edge in Early Modern Europe* (Cambridge: Cambridge University Press, 2020).
[38] Wear, *Knowledge and practice in English Medicine,* 47-8.
[39] Cook, *The Decline of the Old Medical Regime in Stuart London,* 31-2.

But there are problems with the use of the term. Wear argued that adoption of the model in the 1980s reflected too much the rise of a "ruthless free market ideology" in the era of Reagan and Thatcher which, for its supporters, would drive competition and innovation.[40] However, when applied to seventeenth-century London, the idea that a 'free market' existed seems to exaggerate the economic motivations of medical practitioners. Evidence shows, for example, that there were more altruistic concerns for the poor and efforts for charity, especially during periods of plague. Some medical care also took place without monetary transaction, such as within the "local barter economy."[41] Wallis argued that medical practices could be just as cooperative as they were competitive. [42] In addition, the idea of a 'medical marketplace' overplays the availability of, and access to, medical care. Historians have suggested that options for healthcare were likely more limited. More recently, scholars such as Leong, Pennel and Thorpe have argued that the term 'oeconomy of healthcare' would better describe the range medical practices that existed.[43]

In any case, the implication that there was somehow a competitive free market of ideas, wares and practices in early modern London is undermined by the influence of certain dominant "players" in the so-called marketplace. The College of Physicians remained influential because it had traditionally been called upon to advise both royal and city governments during times of plague. During the epidemics in the 1580s, 1630, and 1636 it had published official advice on the prevention and cure of plague. Upon the outbreak of plague in 1665, the College was called upon again by the Privy Council of King Charles II for advice and "to put a stop to that evil as far as [they] could by some remedies."[44] As chapter four will discuss, four doctors from the College were appointed by civic authorities on 2 August to care for those infected during the visitation.[45]

The prominent position of the College also meant that its medical ideas were likely to be dominant.[46] These were largely Galenic; the College "saw the propagation of Galenic learned

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[40] Wear, *Knowledge and Practice in English Medicine*, 28-9.
[41] Ibid.
[42] Patrick Wallis, "Competition and Cooperation in the Early Modern Medical Economy," in *Medicine and the Market*, eds. Jenner and Wallis, 47-68.
[43] Elaine Leong and Sara Pennell, "Recipe Collections and the Currency of Medical Knowledge in *Medicine and the Market*, eds. Jenner and Wallis, 133-52; Thorpe, "In the Middest of Death," 38.
[44] Moote and Moote, *The Great Plague.* See comments below about plague as an 'evil'.
[45] Bell, *The Great Plague in London* in 1665, 86.
[46] Wear, "Medicine in Early Modern Europe," 275.

medicine as its mission."[47] The College expected its members to have a deep knowledge of the Latin texts of Galen and Hippocrates, gained through university examinations in physiology, pathology and therapeutics. Moreover, both the Society of Apothecaries and Company of Barber Surgeons were expected to adhere to Galenic medicine in their practices.[48] Surgeons, for example, frequently referenced Galen in surgical literature across the early modern period.[49] Historians have also argued that many unlicensed practitioners would also have prescribed Galenic medicines from the College's *Pharmacopoeia Londinesi,* and that many published medical advice based on Galenic understanding of plague.[50] Even some quack doctors sold medicines under the guise that they had been used by Galen and Hippocrates to treat plague. For example, one charlatan during the 1665 outbreak who called himself Constantine Rhodocanaces, claimed he had a preventive against the plague which "wherewith Hippocrates, the prince of all Physitians, preserved the whole land of Greece."[51]

The next section will use medical tracts produced across the seventeenth century to 1665, not only from the College of Physicians, but also from unlicensed practitioners (such as the apothecary William Boghurst) to show that Galenism continued to dominate a medical understanding of plague. [52] However, there are two caveats to make. Firstly, there were challenges to Galenist ideas, from the Paracelsians which have to be borne in mind. These will be discussed in the next chapter which considers the 'pamphlet war' that occurred between rival medical groups during the outbreak. Moreover, 'Galenist' ideas themselves were not quite uniform or monolithic. Comparisons between Galenist plague pamphlets show that there were variations and disputes on causation theories and recommended preventative measures for plague.

[47] Wear, *Knowledge and Practice in English Medicine*, 36.
[48] Harold J. Cook, "Good Advice and Little Medicine: The Professional Authority of Early Modern English Physicians," *Journal of British Studies* 33, no. 1 (1994): 1
[49] Charlotte Lisa Jarman, "Galen in Early Modern English Medicine: Case-studies in History, Pharmacology and Surgery 1618-1794," (PhD diss., University of Exeter, 2013), 292-139.
[50] Thorpe, "In the Middest of Death," 36-7; Porter, *Health for Sale*, 141.
[51] Bell, *The Great Plague in London in 1665*, 97.
[52] Wear, "Medicine in Early Modern Europe," 275.

Galenism and the 'Natural' Causes of Plague: 'External'

Despite variations and contested interpretations, as we will see, the natural causes discussed in these tracts broadly followed Galenic traditions. There were first of all 'external' causes. The "prime conveyer of infection," according to most Galenic sources, was 'miasma.'[53] This was a corrupt and venomous air, which occurred through exposure to various corrupting matters. The use of this term in a medical context dates back to the fifth century; it was found in the first medical texts within the Hippocratic corpus, and was then expanded on by Galen. Hippocrates identified "variolous and pestilential miasmas," which were "fumes that originate from organic substances," spreading through the air and attaching themselves to certain bodies, before exercising "a pernicious influence on animals." The author of *Breaths* (which was written around the end of the fifth century in Alexandria), argued that "[w]hen the air is full of miasmas whose properties are hostile to human nature, this is when men are ill." Similarly, Galen argued that "in pestilential constitutions, the inhalation (of air) is the most important cause." He proposed that the inhalation of "putrefying miasmas," from Ethiopia was one of the likely causes of the plague of Athens.[54]

The theory of miasma continued to dominate causation theories of plague in early modern Europe. In 1665, Boghurst, citing Galen, stated that plague was "nothing else by changing aire into a putrefying pestilent quality."[55] Kemp also warned of the effect of corrupt air. He argued that "as meat and drink is the food of our bodies, so is the air nourishment of our Spirits; and therefore as by unwholsome meat our Bodies are diseased, so by corrupt air, our Spirits are easily infected, weakened, and extinguished."[56] Similarly, Gideon Harvey, a fellow of the London College Physicians, wrote in 1665 that the air was capable of "engendering a venomous and malign Disease."[57]

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[53] Moote and Moote, *The Great Plague,* 70.
[54] Jacques Jouanna and Neil Allies, "Air, Miasma and Contagion in the Time of Hippocrates and the Survival of Miasmas in Post-Hippocratic Medicine (Rufus of Ephesus, Galen and Palladius)," in *Greek Medicine from Hippocrates to Galen: Selected Papers,* ed. Philip van der Eijk (Leiden: Brill, 2012), 119, 121, 125, 130.
[55] Moote and Moote, *The Great Plague*, 70.
[56] William Kemp, *A brief treatise of the nature, causes, signes, preservation from, and cure of the pestilence collected by W. Kemp* (London: 1665; EEBO), 35.
[57] Gideon Harvey, *A discourse of the plague containing the nature, causes, signs, and presages of the pestilence in general, together with the state of the present contagion,* (London: 1665; EEBO), 5.

The idea of miasma was also often accompanied by a theory of contagion, the spread of disease from one individual to another (and also through animals and inanimate objects) by direct or indirect contact.[58] While miasma was typically seen as the cause of plague, plague was "propagated," as Kemp argued, "by contagion."[59] Pestilence could be spread through textiles, partticularly porus materials such as linen. Hodges also claimed that pestilence was not just carried through the air by miasmas, but was initially carried "to this island by Contagion," from Turkey on bales of cotton or silk, "which is a strange Preserver of the pestilential Steams." [60] Animals like cats, dogs and pigs were also believed to be prime conveyors of infection. One pamphlet writer described animals as being "prone and apt to receive and carry the infection from place to place."[61] Like many medical writers, Boghurst combined miasma and contagionist theories, arguing that the winds blew in miasmatic poison, then contagion was the prime vessel for spreading pestilence.[62] Winds from the south were believed to be the most dangerous, as they blew in warm air.

While the theories of miasma and contagion were generally accepted amongst Galenic physicians, the causes of miasma were greatly disputed. One commonly contested cause of plague was that pestilential air was the result of the influences of stars and planets. The connection between astrology and plague was made long before 1665. In the wake of the fourteenth-century Black Death pandemic, John of Burgundy had argued that heavenly bodies were capable of corrupting the air.[63] By the early modern period, astrology was still "an established part of the mental equipment of Tudor England," and had particular influence in medicine. Galen himself had advocated for combining astrology with medicine.[64] Astrologer John Gladbury, asserted his practice to be "the only science that can give the cause and effect of

[58] Paul Slack, "Responses to Plague in Early Modern Europe: The Implications of Public Health," *Social Research 55*, no. 3 (1988): 437.
[59] Kemp, *A brief treatise*, 22.
[60] Nathaniel Hodges, *Loimologia: or, an Historical Account of the Plague in London in 1665: With precautionary Directions against the like Contagion* (London: 1720; EEBO), 30.
[61] Edwards, *A treatise concerning the plague and the pox,* (London: 1652; EEBO), 2.
[62] Moote and Moote, *The Great Plague: The Story of London's Most Deadly Year*, 70.
[63] Rosemary Horrox, ed, *The Black Death* (Manchester: Manchester University Press, 1994), 160-16, 184-193.
[64] Michelle Pfeffer, "Astrology, Plague, and Prognostication in Early Modern England: A Forgotten Chapter in the History of Public Health," *Past & Present* 263, no. 1 (May 2024): 81.

plagues."[65] Some writers argued that certain celestial events were omens of future epidemics. Richard Edlyn (1631-1677), a London astrologer, had successfully predicted the Great Plague, through interpretation of the conjunction of Saturn and Jupiter, which had occurred on 10 October 1663. Saturn was believed to cause "medical calamities," such as disease, and could create conditions such as 'unwholsom Airs.' Although Jupiter was typically associated with positive effects, Edlyn believed Saturn's influence would overpower it, and stated that this conjunction should be "great cause to fear an approaching Plague, and that a very great one, ere the year 1665."[66] The appearance of two comets over London in December 1664 had also foretold the Great Plague, according to William Boghurst.[67]

As well as predicting outbreaks of plague, some medical writers asserted that the stars and planets could also cause it. The "Eclipses, Exaltation, Coniunctions, and aspectes of the Planets," as well as celestial bodies, were frequently referenced as causes of plague both before and during 1665.[68] For example, eclipses of the sun and moon, as well as conjunctions of planets such as Saturn and Mars were sometimes referenced. Some writers argued that these astrological events could cause pestilential air.[69] In 1665, Garencières (a French Apothecary who had practiced for most of his life in England) wrote that there were only two causes of plague: God, "or from a peculiar and mediate disposition, and configuration of the Starrs and Planets."[70] Another writer argued that "conjuntions and opposition of ill planets" resulted in excessive heat and moisture on earth, causing the air to become "corrupted and infected."[71] Kemp added that the stars intended "no evil, hurt of mischief" and produced miasma "onely by accident; of themselves they preserve, but by accident destroy." Other writers emphasised that the stars themselves could cause plague.[72] But not all medical authors believed in the influence of stars on plague. Hodges

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[65] John Gladbury in Moote and Moote, *The Great Plague,* 68.
[66] Pfeffer, "Astrology, Plague, and Prognostication," 81.
[67] Moote and Moote, *The Great Plague*, 70.
[68] Theophilvs Garencières, *A mite cast…discourse of the nature, causes, symptomes, remedies and preservation from the plague, in this calamitous year,* 1665 (London: 1665; EEBO).
[69] Stephen Hobbes, *A nevv treatise of the pestilence, containing the causes, signes, preseruatiues and cure thereof,* (London: 1603; EEBO); Slack, *The Impact of Plague,* 27.
[70] Garencières, *A mite cast*, 3.
[71] Thomas Thayre, *A Briefe treatise of the plague vvherein is shewed,* (London: 1603), pages unnumbered.
[72] Anonymous, *The method of chemical philosophie and physick* (London: 1664; EEBO), 23.

stated that the "the Mischief was much more in the Predictions of the Star-Gazers than in the Stars themselves."[73]

Often cited alongside astrological explanations of plague, were meteorological ones: weather conditions could cause miasma. Galen had considered excessive heat to be a factor in plague, noting the "heat of the surrounding air" during the plague of Athens, made worse by Athenians "living in stifling huts during the summer." As a consequence, "destruction descended onto the bodies."[74] In 1665, Kemp argued that pestilence could result from excessive moisture and immoderate heat, resulting in "Vapours and Exhalations being drawn up," which rot and putrefy "and so corrupt and infect the Air with a venenate, malignant and pestilential quality." Similarly, another writer argued that the air could become corrupted and infected through rotten and putrified vapours drawn up by the heat of the sun.[75] Other weather events, like droughts, and "great rain and inundations of water" were also thought to herald disasters like plague.[76] Some authors also listed the impact that the different seasons could have on individuals, especially if seasons of the year swayed their "usual temper," like long periods of thunder.[77]

Most medical writers stressed the importance of miasma as the primary external cause of plague. But there was some disagreement as to how it was produced. Some were adamant that miasma was the result of foul or polluted urban conditions.[78] Galen had argued that unburied corpses could pollute the atmosphere, with the stink of graveyards in particular being a threat.[79] The condition of the urban environment had long been a major concern for city authorities, especially during periods of plague (as we will see in chapter four). Plague writers in early modern Europe expressed a similar concern for the condition of the urban environment.[80] Bad smells from polluted urban conditions were frequently cited. One writer in 1652 argued that "rotten and stinking bodies…both of men and beasts" could spread poisonous vapours into the air.[81] The

[73] Hodges and Quincy, *Loimogloia*, 5.
[74] Jouanna and Allies, "Air, Miasma and Contagion in the Time of Hippocrates", 130.
[75] Anonymous, *The plagues approved physitian Shewing the naturall causes of the infection of the ayre, and of the plague,* (London: 1665; EEBO), page unnumbered.
[76] Edwards, *A treatise concerning the plague and the pox,* 1.
[77] Kemp, *A brief treatise of the nature, causes, signes, preservation from, and cure of the pestilence,* 27.
[78] Thorpe, "In the Middest of Death," 42.
[79] Slack, *The Impact of Plague*, 27.
[80] See for example, Richard Kephale, *Medela pestilentiae*, (London: 1665; EEBO), 52.
[81] Edwards, *A treatise concerning the plague and the pox,* 2, 1-2.

unburied bodies of those who had died from sickness, especially in places where people congregate (like churches) were also frequently cited as creating a poisonous air.[82]

Stagnant bodies of water were also thought, by Hippocrates and Galen, to produce venomous air.[83] One plague writer listed the danger of the evaporation of "Pooles, Fennes, Marshes, stinking and noysome sinkes and kennels."[84] Filth from carcasses could also spread pestilence through infection of food and water supplies. Another writer, Harvey, argued that "filth and dirt," thrown into "Waters, Pools, Sinks, Gutters or Ditches," were taken in by the earth "coagulated into venene Miasms." The dirtiness of kitchens, and other areas people frequented, like butchers and fishmongers, were also "great occasions of plague;" houses built on clay and foggy ground "are more subject to conceive pestilent Seminaries."[85] Anxiety about foul urban conditions could also accompany concern for the overcrowding in certain places, particularly those inhabited by the poor. Harvey argued that plague is more likely to haunt areas that are "closer, nastier and more putried than others," like areas with ditches, stinking gutters and sinks.[86] Kemp argued that plague caused more destruction in cities than in countries due to overcrowded conditions. He claimed that "narrow and little rooms" could easily be filled with "infectious vapours, and longer keep them in."[87] Similarly, another writer wrote that plague flourished in overcrowding in "close, narrow or streight rooms"; another that overcrowding in small areas was dangerous, especially if the conditions were not kept "clean and sweet."[88] Chapter four will show that these conditions were of particular concern to the city government. Crucially, they also related to the internal causes of plague, particularly the theory of the four humours, a central tenet of Galenic medicine.

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[82] Edwards, *A treatise concerning the plague and the pox,* 101; Harvey, *A discourse of the plague containing the nature, causes, signs, and presages of the pestilence,* 5; Parey, *A treatise of the plague contayning the causes, signes, symptomes, prognosticks, and cure thereof,* 5.
[83] Jouanna and Allies, "Air, Miasma and Contagion in the Time of Hippocrates," 129.
[84] Anonymous, *The plagues approved physitian Shewing the naturall causes of the infection of the ayre, and of the plague,* (London: 1665; EEBO), pages unnumbered.
[85] Harvey, *A discourse of the plague containing the nature, causes, signs, and presages of the pestilence,* 5, 9.
[86] Ibid., 9.
[87] Kemp, *A brief treatise of the nature, causes, signes, preservation from, and cure of the pestilence,* 35.
[88] Edwards, *A treatise concerning the plague and the pox,* 2.

‘Natural’ Causes of Plague: ‘Internal’

The theory of miasma and contagion did not fully explain why some individuals caught plague while others did not.[89] Of chief importance to Galenic medical theory was belief in ‘internal’ causes, and these were deeply intertwined with ‘external’ ones. Some writers argued that the planets and stars influenced the physiology of the body. [90] This was partly because humans were understood to be microcosms of the wider universe, and so similarly influenced by constellations, as well as the elements and the season. The body itself, however, was understood in terms of its humours.

As the historians Jouanna and Allies have stated, according to Galenic theory, “what constitutes a great part of the origin of diseases is the susceptibility of the body that suffers.”[91] The impact of plague was generally understood in relation to humoural theory (developed by Hippocrates, and advanced by Galen), which offered an explanation for various aspects of the body, such as temperament, personality and health. The body was believed to be made up of four humours: blood, phlegm, yellow bile, and black bile. Each of these humours had different make-ups of four qualities: hot, dry, cold or wet. These qualities were related to the four temperaments: phlegmatic, melancholic, choleric and sanguine. A balance of the four humours was vital for maintaining good health, and an imbalance could make the body more susceptible to catching plague. The humours could be corrupted by miasma, and also by a failure to balance the six ‘non-naturals’: air, diet, sleeping and waking, labour and rest, emptiness and repletion, and state of the mind.[92] Imbalances could result from excess: Galen had cited excessive drinking, love-making and nourishment as factors that could affect the humours.[93] Rebalancing the body’s humoural composition could be achieved through careful attention to the non-naturals, but for some individuals it was more difficult than it was for others. Those who were excessively sanguine were thought to be more at risk of plague, due to their hot and humid temperament (which was the temperament of disease).[94] This temperament meant that bodily pores were more

[89] Slack, *The Impact of Plague,* 28.
[90] Allan Chapman, “Astrological Medicine,” in Webster, ed., *Health, Medicine, and Mortality,* 286.
[91] Jouanna and Allies, “Air, Miasma and Contagion in the Time of Hippocrates,” 131.
[92] Wear, *Knowledge and Practice in English Medicine,* 38.
[93] Jouanna and Allies. “Air, Miasma and Contagion in the Time of Hippocrates,” 131.
[94] Thorpe “In the Middest of Death,” 39.

open, making it easier for plague poison to enter the body. [95] Imbalances in the four temperaments were also much more likely in women and the young (hot and moist).[96]

Galenist physicians in early modern Europe typically listed corruption of the humours as a factor that made the body more susceptible to diseases like plague. Hodges argued that a "turgenscency of bad Humours greatly facilitates the plague's Admission into any Person."[97] Abuse of the non-naturals was often referenced by pamphlet writers. Another argued that a "man falleth into Pestilence by disordering of himselfe, either in diet, or with other exercises."[98] The particular impact of "afflictions of the mind" was emphasised by some physicians.[99] Fear, melancholy, anxiety, anger were still thought to be particularly dangerous.[100] Bradwell argued that emotions like envy and jealousy could over-heat the spirits and "drie up and consume the good humours."[101] Galen had stated that those "who have outbursts of anger or are distressed," were more vulnerable to corrupted air. [102] These concerns were still evident in 1665. Hodges argued that "Passions of the Mind, especially Anger and Fear, are justly recognised amongst the remote Causes of Pestilence." Fear rendered "constitutions less able to resist the Contagion."[103] Kemp also argued that plague was spread by "fear and imagination."[104] Culpeper also insisted that fear could even "changeth the blood into the nature of the thing feared," and added that the shutting up of houses in particular could sadden and dampen the spirits of individuals, "thereby making way for the disease."[105]

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[95] Slack, *The Impact of Plague*, 28, Wear, *Knowledge and Practice*, 280.
[96] Kemp, *A brief treatise of the nature, causes, signes, preservation from, and cure of the pestilence,* 14.
[97] Hodges and Quincy, *Loimologia*, 56-7.
[98] Anonymous. *The plagues approved physitian,* pages unnumbered.
[99] Slack, *The Impact of Plague*, 27.
[100] Andrew Wear, "Anxiety and Plague in Early Modern England: Religious and Medical Responses," in *Religion, Health and Suffering London,* eds. Roy Porter and John Hinnels, (London: Keagen Press International, 1999), 349.
[101] Stephen Bradwell, *A vvatch-man for the pest,* (London: 1625; EEBO), 39.
[102] Wear, *Anxiety and Plague in Early Modern England,* 349.
[103] Hodges, *Loimologia,* 4.
[104] Kemp, *A brief treatise of the nature, causes, signes, preservation from, and cure of the pestilence* 22.
[105] Nicholas Culpeper, *Culpeper's last legacy left and bequeathed to his dearest wife, for the publicke good,,* (London: 1665; EEBO), 62.

Preventing Plague: External Measures

The Galenic prevention of plague was based essentially on two ideas: avoiding all of the causes of plague, and strengthening the body against it.[106] As with causation theories, though, Galenic recommendations for preventing plague were varied, and sometimes contested amongst physicians. Spiritual prevention of plague was still important (as chapter three will discuss), but there were also a large number of suggestions for 'natural' preventatives against plague by 1665. These can be grouped into external and internal preventatives. This section will look at a variety of medical pamphlets, with particular reference to the advice published by the College of Physicians in response to the 1665 outbreak.

After religious measures, medical writers would typically stress that the next best preventative measure was to leave the infected area quickly, travel far from the infection and stay away for as long as possible.[107] Staying too long in an infected place could result in individuals carrying the infection in their own bodies, and the motion caused by running away could cause the putrefaction of the humours. People also risked carrying the infection with them on their clothes, which could easily infect those who were not accustomed "to such evil air out of which you come."[108] One writer added that it was especially important for children to leave the infected area, as their bodies "are most apt to receive the infection."[109] As a result of their unbalanced humoural condition and in the spring of life, children could not continually use antidotes and preservatives "which by their great heat may endanger them almost as much as the disease it self."[110]

However, if fleeing the infected area was impossible, there were other recommendations made by Galenic medical writers.[111] Many suggested preventatives that would correct and purify miasmic air, both inside and outside the home. Cleanliness of the home was important for preventing plague. Garencières argued that a "clean and warm room," with a lit fire could

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[106] Kemp, *A brief treatise of the nature, causes, signes, preservation from, and cure of the pestilence*, 5.
[107] Ibid., 37.
[108] Ibid.
[109] Edwards, *A treatise concerning the plague and the pox*, 4,
[110] Ibid. For the innate imbalance of humours (warm and wet) in women and children, see above p. 31.
[111] Slack, *The Impact of Plague*, 30.

"consume and destroy all the infectious vapours."[112] The College of Physicians recommended lighting fires in the home to correct infectious air, which could be especially effective when combined with ingredients that had a pleasant, sweet or strong aroma. For example, flammable materials like brimstone, rosin and pitch, herbs (like bay and rosemary) and woods (like juniper and cedar) could be added to the coals and burnt with the least amount of fire possible. These fires were effective at combating miasma both inside and outside the home, along the streets, and also in other public spaces like churches.[113] Kemp argued that the discharging of guns could also combat pestilential air by drying it.[114] He also claimed that vinegar was especially effective against plague, and could be used in various ways. Cloths soaked in vinegar could be hung around the room (or held over the nose and mouth) to avoid miasmic air. The vapours from vinegar, especially in combination with ingredients like angelica and rue, could help ward off miasma. White vingear (mixed with ingredients like sage) could also be used to cleanse the face and hands. Fresh plants like mint and lavender could be placed on floors or windows to ward off contaminated air.[115] Therefore, medical writers typically emphasised the importance of houses being "cleane and sweete," and to avoid anything that could produce a bad smell.[116] As the air could be absorbed through the pores, covering the skin was crucial, especially to plague doctors, who frequently came into contact with plague victims (hence the use of the beak-like masks, which were filled with scented herbs).

Similarly, when leaving the home, there were several ingredients and methods that could help ward off miasma. Hippocrates had recommended breathing in as little contaminated air as possible.[117] In early modern London, this was done in various ways. Carrying about 'perfumes' in one's hand to smell could avoid intake of miasmic air. These could also be held or chewed in the mouth when traveling outside. Ingredients like 'oyl of amber' or 'balasmo of sulfur' could be anointed under the nose.[118] The College stated that this was particularly effective if the

[112] Theophilvs Garencières, *A mite cast,* (London: 1665; EEBO), 5.
[113] The London College of Physicians, *Certain necessary directions as well for the cure of the plague as for preventing the infection* (London: 1665; EEBO), 7.
[114] Kemp, *A brief treatise*, 43.
[115] Edwards, *A treatise concerning the plague and the pox*, 4.
[116] Anonymous, *The plagues approved physitian*, page unnumbered.
[117] Hippocrates, *The Nature of Man*, quoted in Jouanna and Allies, "Air, Miasma and Contagion in the Time of Hippocrates," 126.
[118] The London College of Physicians, *Certain necessary directions as well for the cure of the plague as for preventing the infection*, 9.

individual was particularly afraid of any place: “fear, as well as presumption being hurtful.”[119] Mixtures of ingredients like vinegar and rue could also be mixed and placed onto sponges or pieces of brown bread and then tied in a cloth to smell. Similarly, ‘pomanders’ (small balls containing perfumes) could be worn or carried to ward off corrupt air. Some physicians also cited tobacco or American-silverweed as “an excellent defence against bad air…. it cleanseth the air, and choaketh, suppresseth, and disperseth any venemous vapour.” In addition, it could be used by “All Ages, all Sexes, all Constitutions, Young and Old, Men and Women the Sanguine, the Cholerick, the Melancholy, [and] the Phlegmatick.”[120] Many medical writers wrote directions for the rich and poor: the rich were more likely to have access to ingredients like angelica-seeds, while recommendations for the poor typically involved cheaper and easier-to-find ingredients (such as rosemary and vinegar).[121] However, not all physicians agreed on the benefits of sweet perfumes for combating miasmic air. Kemp stated that some physicians believed “that they onely recreate the Spirits, but being no Antidotes-resist not poyson.”[122]

Guarding oneself from corrupted air also involved awareness of atmospheric conditions, and therefore perhaps the time of day one left the house. Kemp advised to avoid walking until the sun has risen and “disperst all foggy vapours.” He claimed that the moonshine beams were hurtful, that at night “noisom things” could be thrown out into the street, and those with plague “either by their own craft or contrivency of their Keepers, obtain liberty to go abroad”. It was also advised to stay indoors at Noon due to the heat, which could cause an individual’s pores to be more open and “apter to receive infection.”[123]

Avoiding contagion and infection was another important method for preventing plague. This could be done in various ways. A system of quarantine had long been used during epidemics in London in order to prevent the spread of plague, since the late fourteenth century following the Black Death. In early modern Europe, and certainly in 1665, there were government orders for

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[119] The London College of Physicians, *Certain necessary directions as well for the cure of the plague as for preventing the infection*, 9.
[120] Kemp, *A brief treatise,* 46.
[121] Thorpe, “In the Middest of Death,” 50. See also Thomas Wharton, *Directions for the prevention and cure of the plague Fitted for the poorer sort* (London: 1665; EEBO).
[122] Kemp, *A brief treatise,* 45.
[123] Ibid.

the quarantine of plague victims, and orders for prohibiting large gatherings. However, this system was sometimes contested by physicians, and the regulations implemented by the government were often poorly regulated (as chapter four will discuss).[124] Another method for preventing the spread of infection was by frequently airing and perfuming clothes. Medical writers argued that infection could last a long time in apparel.[125] Certain types of clothing, like wool, linen and leather were also more likely to harbour plague, while clothes that could be more easily cleaned, like chamlets and grograms were recommended, as "their gumminesse excludeth the infectious aire bes."[126] The College of Physicians suggested preserving clothes from infection by perfuming with ingredients like juniper, or using the dry fumes of gums. The frequent shifting and airing of apparel "especially by fire or sun" was also effective, especially if an individual had been exposed to infection.[127] Contagion could also be removed through cleansing fire and water, and also by burning clothes "of small value."[128] For example, furniture and textiles (like clothes) were often cleansed with running water, in the belief that flowing water would have purifying effects.[129] The burning of clothes, blankets and mattresses used by those who had died from plague was also recommended in order to remove the infection.[130] Ingredients used for correcting the air and fumigating clothes remained largely the same during the early modern period.[131]

The use of medicines, either applied externally or ingested, also helped to avoid infection. Kemp argued that as it was nearly impossible to avoid occasions of infection, it was important for individuals to "break the force of it," and make it more difficult for plague to enter the body. Amulets were believed to ward off infection, and had "hidden power and secret vertue to defend the heart from the venom of the *Pestilence*."[132] These were often hung around the neck and lay

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[124] Moote and Moote, *The Great Plague,* 14.
[125] Francis Herring, *Certaine rules, directions, or advertisements for this time of pestilentiall contagion,* (London: 1636; EEBO), pages unnumbered.
[126] Bradwell, *Physick for the sicknesse,* 15.
[127] The London College of Physicians, *Certain necessary directions as well for the cure of the plague as for preventing the infection*, 9.
[128]*Orders, thought meete by her Maiestie, and her priuie Councell, to be executed throughout the counties of this realme,* (London,1578), page unnumbered.
[129] Leona Skelton, *Sanitation in Urban Britain, 1560-1700,* (London: Routledge, 2015), 23.
[130] Herring, *Certaine rules, directions, or advertisements for this time of pestilentiall contagion,* page unnumbered.
[131] Thorpe, "In the Middest of Death," 52.
[132] Kemp, *A brief treatise,* 61.

near the breast. However, physicians debated how amulets worked to prevent plague. Some believed that amulets allowed the heart to become accustomed to the poison, reducing the likelihood of the heart being affected by it. Others believed that the arsenic (which amulets were made of) helped to dry up corrupt humours and disperse offensive vapours.[133] Some physicians even argued against the use of amulets entirely. Herring stated that wearing "Placents of Arsenicke" as a preservative "was very dangerous and hurtfull, if not pernicious to those that weare them."[134]

As a polluted urban environment could cause corrupted air, medical writers often recommended various ways to cleanse it as a means of avoiding the spread of infection. It was just as important to clean spaces outside the home as it was to clean inside. Frequent washing of the streets was strongly recommended by physicians.[135] One writer recommended that the streets should be kept free of dung hills, and places like channels and sewers be well cleansed.[136] Fires lit in the open air could allow individuals to breathe in smoke (that had been fumigated with herbs) rather than miasma. Corrupt air could also be purged by cleansing and removing sources of filth from the streets, especially those with bad smells. Boraston recommended avoiding "euill sents or smels" coming from places like stables, streets and fields.[137] It was also important to avoid the carcasses of animals and deceased victims of plague. Wharton advised that plague victims should be buried deep in the ground, and that burial in places where people congregated often, like churchyards, should be avoided. Plague victims should also not be dug up or buried near other plague victims, "lest the venemous reeks of the body break forth at the place opened, and infect the Air."[138] Burying large numbers of plague victims together could result in their "putrid ferment" growing in strength, and the earth "will hardly be sufficient to suppress the steems of it."[139] Large gatherings of people were also prohibited; beggars were not to circulate. The poor in general were singled out as potential sources of infection. Boghurst had argued that plague began

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[133] Kemp, *A brief treatise*, 61-2.
[134] Herring, *Certaine rules, directions, or advertisements for this time of pestilentiall contagion,* page unnumbered. For discussion on some of the external treatments used when an individual contracted plague, see Thorpe "In the Middest of Death," 60-71.
[135] Richard Kephale, *Medela pestilentiae*, (London, 1665), 8.
[136] Herring, *Certaine rules, directions, or advertisements for this time of pestilentiall contagion*, page unnumbered.
[137] William Boraston, *A necessarie and briefe treatise of the contagious disease of the pestilence with the causes, signes, and cures of the same* (London: 1630; EEBO), 10.
[138] Wharton, *Directions for the prevention and cure of the plague Fitted for the poorer sort*, 4.
[139] Ibid.

"commonly in the little lowe poorhouses," and also that certain types of poor people, like prostitutes were more likely to become infected.[140] Harvey had advised avoiding the poor completely, stating that the overcrowded homes of "nasty folks, as beggars, and others" were infected the fastest by plague.[141] Animals too had to be controlled: the killing of dogs had been recommended previously by the College of Physicians.[142] As we will see in chapter four, these recommendations parallel the regulations against plague in 1665 that were implemented by the government (on the advice of official medical input).

Preventing Plague: Internal Measures

One of the most important methods for preventing plague, which Galenic sources emphasised, was to avoid the corruption of the humours. Some medical writers argued that other preventatives (like avoiding miasma) would be ineffective if one neglected or disordered one's humours.[143] Avoiding places with bad smells could avoid corruption of the humours. Fumigation was also recommended, as well as chewing or smoking tobacco leaves, which not only corrected the air through fumigation, but could draw humours from all parts of the body to the stomach, before being "spitten out."[144] Bleeding, purging, vomiting and sweating were also commonly recommended not only for treating plague, but also for preventing it. Kemp argued that doing so could draw humours to the "center and inside of the heart," which could then be expelled through sweating.[145] However, by 1665, these methods had become controversial among Galenic physicians. Some argued they were risky. The College stated that bleeding, purging and vomiting were "generally dangerous," and "rarely have place in the Plague."[146] They argued that these methods should be followed only if necessary, and not without extreme caution.

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[140] William Boghurst, *Loimographia*, (London: 1665; EEBO), 99.
[141] Harvey, *A discourse of the plague*, 15.
[142] Mark Jenner, "The Great Dog Massacre," in *Fear in Early Modern Society,* eds. William Naphy and Penny Roberts (Manchester: Manchester University Press, 1997), 50.
[143] Kemp, *A brief treatise*, 55.
[144] Ibid. 47.
[145] Kemp, *A brief treatise*, 54.
[146] London College of Physicians, *Certain necessary directions*, 20.

However, physicians adopting Galenic approaches generally agreed that the best way to avoid corruption of the humours was a strict adherence to the non-naturals. Hodges argued that they "must be used with great Regularity," in order to prevent pestilence.[147] For the air, writers could recommend avoiding being too hot or too cold, and to regulate body temperatures in various ways (wearing neither too many clothes at nights nor too few). Moderation in all the non-naturals was key. It was also important for sleep to be moderate, and to "take heed of too much watching."[148] Exercise should also be moderate, and when done it was key to avoid overheating to prevent the drawing of more corrupt air. Moderate exercises could also "prevent costiveness and violent passions," and were best undertaken an hour before dinner or supper, rather than on an full stomach and in a place with clean air.[149] One writer recommended avoiding exercises like dancing, running and leaping, especially in the heat of the day or in environments with many people.[150] For afflictions of the mind, one should remain calm with a "serene" mind, and avoid emotions like fear and anger. Boghurst argued that in 1665, "cheerfulness and courage of heart and spirit did chiefly uphold some in this disease."[151] Kemp also emphasised, following the Galenist belief that diseases were helped "by contraries," stating that fear must be cured by its contrary, hope.[152] However, physicians warned that it was also important to avoid too much laughter and "immoderate joy."[153] For repletion and evacuation, Kemp recommended taking heed of excess and to "keep your body neither too loose nor costive."[154] Moderation in every aspect of the non-naturals was essential to keep them all in balance, and hence likewise ensure humoural equilibirum.

Some medical writers placed the greatest emphasis on diet, which Galen had seen as vital factor for good health. It was important to be careful both with the quantity one was eating as well as the quality. In 1636, Herring recommended eating three times a day, "but more sparingly than at other times."[155] Some writers suggested only eating when hungry, and rising "from the table with

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[147] Hodges and Quincy, *Loimologia,* 213.
[148] Kemp, *A brief treatise of the nature,* 56.
[149] Harvey, *A discourse of the plague*, 12; Kemp, *A brief treatise of the nature*, 56
[150] Edwards, *A treatise concerning the plague and the pox,* 17.
[151] Boghurst, *Loimographia*, 29.
[152] Kemp, *A brief treatise of the nature,* 71.
[153] Bradwell, *Physick for the sicknesse,* 33*;* Bradwell, *A vvatch-man for the pest*, 39.
[154] Kemp, *A brief treatise,* 57.
[155] Herring, *Certaine rules, directions, or advertisement,* (page unnumbered).

an appetite." It was important to avoid "gluttony, excesse, and drunkennesse," but also to avoid going too hungry.[156] Kemp recommended mixing something cordial with the diet, like vinegar and nutmeg, and Hodges recommended various pickles and sauces that could aid in digestion. Coffee was also believed to be good against contagion.[157] Some writers added that one should avoid fasting, as it could weaken the spirits, induce fear and melancholy, and therefore make the body more susceptible to infection.[158] Writers also typically listed certain foods that should be eaten, and others that should be avoided. Harvey argued that the body and its humours were best preserved through eating meats that allowed easy digestion, especially those of a "dry temperature," like mutton and veal. One should also abstain from "all moist victuals," especially fish and moist fruits. It was important, moreover, to drink in moderation, and avoid drinks like French wines and "musty" beers.[159] Moderation in the six non-naturals, together with ensuring humoural equilibirum, therefore offered the individual the best chance of preserving themselves from plague according to Galenic theory.

In conclusion, although there was a great variety of medical practitioners during the 1665 outbreak in London, practices and theories about medicine and plague were dominated by Galenic ideas of health. The variety of practitioners did not constitute a 'marketplace' if this is to be interpreted as a place where there was competition and the possibility of medical innovation. Medical tracts, from licensed and unlicensed practitioners, reveal general agreement that the main external causes of plague (miasma and contagion) as well as internal causes (related to the bodily humours) could affect the risk and spread of plague. Even so, there were differences of opinion. Some physicians argued that miasmas were astrological in origin; others that they were the result of bad urban environments. On recommendations for preventative measures, some treatises emphasised external preventions like fumigation or amulets, while others focused on steps to balance internal humours.

[156] Thayre, *A Briefe treatise of the plague vvherein is shewed*, page unnumbered; Harvey, *A discourse of the plague*, 12.
[157] Kemp, *A brief treatise*, 67.
[158] Wharton, *Directions for the prevention and cure of the plague Fitted for the poorer sort*, 3.
[159] Harvey, *A discourse of the plague*, 12.

Although these disputes took place within a general Galenic framework, they suggest that Galenic views were not solidly monolithic, and were perhaps vulnerable to more systematic challenges. As we will see in the next chapter, the first challenge to the College and its Galenic views came from Paracelsus, and his later supporters who lived during the Great Plague.

Chapter Two

Challenges to Galenism in 1665: the Influence of Paracelsus and Jan Baptist van Helmont

> *"The fierce digladiations between the* Galenists *and* Chymists, each party *contending not only to* advance *their* Opinions, *but to* vilifie *their* Opposites, *have in the judgment of most* prudent men *rather* inconvenienced both, *then gained to* either *more* credit *or* authority…"[1]
>
> (Nathaniel Hodges, *Vindiciæ medicinæ & medicorum*, 1666)

Despite the dominance of Galenic approaches to plague in the seventeenth century, the system of knowledge that supported them was being increasingly challenged by the time plague struck London in 1665. Wear argues that by the end of the seventeenth century, Galenic physicians had "lost their intellectual and institutional high ground" that they had held on to for centuries.[2] The early modern period saw "the birth of a new type of natural philosophy and medicine," based on the writings of Swiss physician and alchemist Paracelsus (1493-1541), and the later works of Flemish iatrochemist and natural philosopher Jan Baptist van Helmont (1580-1644).[3] Paracelsus and van Helmont rejected traditional Galenic ideas of medicine and plague, and both argued for alternative, chemical approaches, igniting what some historians refer to as an "iatrochemical revolution."[4] Leading up to 1665, the followers of Paracelsus and van Helmont increasingly voiced discontent with traditional Galenic medicine as well as the monopoly that the College had over medical practice. This came to a head before and especially during the outbreak of plague in 1665, when the newly formed Society of Chemical Physicians engaged in a "pamphlet war" with the College.[5]

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[1] Nathaniel Hodges, *Vindiciæ medicinæ & medicorum* (London: 1666; EEBO), 97.
[2] Andrew Wear, *Knowledge and Practice in English Medicine, 1550-1680* (Cambridge: Cambridge University Press, 2000), 353-98, esp. 358.
[3] Peter Elmer, *The Healing Arts: Health, Disease and Society in Europe* (Manchester: Manchester University Press, 2004), 93-4.
[4] Walter Pagel, "Van Helmont's Concept of Disease: to Be or not to Be? The Influence of Paracelsus," *Bulletin of the History of Medicine* 46, no. 5 (1972): 419.
[5] Stuart Cook, *The Decline of the Old Medical Regime in Stuart London*, (London: Cornell University Press, 1986), 145-162.

This chapter will first look at the context in which the Society of Chemical Physicians was created. The works of Paracelsus and van Helmont propelled contemporaries to speak out against the Galenic system of knowledge as well as the College itself, which had been facing intellectual and institutional threats during the first half of the seventeenth century.[6] This chapter will then discuss at the popular chemical understanding of the causes, prevention and treatments of plague, as well as the viewpoints expressed in medical pamphlets produced around 1665 by chemical physicians George Thomson and Edward Bolnest.[7] As will be discussed later, these opposing views were central to the ensuing pamphlet war. As will be discussed later, the divisions between the two sides were not as clear cut as the polemical pamphlets suggested, but there were significant points of difference as well as similarities in their medical approaches. It has been argued that "the plague marked a turning point in the intellectual conflict between the Helmontians and Galenists."[8] Even so, the extent to which the Society and its Paracelsian ideas represented a serious challenge to the College and Galenism can be exaggerated. As this chapter will show, the views espoused by the Society did not ultimately topple the College from its position of authority.

Paracelsus and van Helmont

Philippus Aureolus Theophrastus Bombastus von Hohenheim (1493-1541), known as Paracelsus, was born in Einsiedeln, Switzerland and was thought to have been the first major challenger to the dominance that Galenic medicine had over the early modern medical establishment.[9] He had been introduced to chemical theories and practices through education in mining, minerology, biology and natural philosophy by his father (a German physician and chemist) who taught him at the mining school of Bergschule in Villach, Southern Austria.[10] He was also educated at various times by four bishops and Johannes Trithemius (the abbot of Sponheim, who studied the occult). Wear describes Paracelsus' education as a "break with the Western medical and

[6] Andrew Wear, "Early Modern Europe, 1500-1700," in *The Western Medical Tradition - 800 BC to AD 1800*, eds. Lawrence Conrad et al. (Cambridge: Cambridge University Press, 1995), 310.
[7] George Thomson, *Galeno-pale* (London: 1665; EEBO); George Thomson, *Loimologia* (London: 1665; EEBO); Edward Bolnest *Medicina instaurata* (London: 1665; EEBO).
[8] Kathleen Miller, *The Literary Culture of Plague in Early Modern England* (London: Palgrave Macmillan, 2016), 65.
[9] Elmer, *The Healing Arts: Health, Disease and Society in Europe*, 108.
[10] For this and the following see: Andrew Wear, "Early Modern Europe, 1500-1700," 311-3.

scholarly tradition, based on ancient sources, amalgamated with mainstream Christianity and housed in the universities."[11] From 1507, Paracelsus travelled across Europe, attending universities, including that in Vienna (from which he received a baccalaureate in medicine from in 1510) and the University of Ferrara in 1516, where he gained a doctoral degree. Following this, Paracelsus continued his travels across Europe, to destinations including Italy (where he was an army surgeon) and Egypt, Constantinople and the Holy land, seeking out those with knowledge of practical alchemy. Paracelsus became the town physician in 1524 and lecturer in medicine at the University of Basel in Switzerland. He invited everyone who could attended to come to his lectures (which he gave in German rather than Latin), including alchemists, barber Surgeons and apothecaries. Throughout this period, Paracelsus often expressed discontent at professional medicine and the state of universities. He refused to teach the works of Galen and Hippocrates, and argued that his experiences gave him his own understanding of disease. He became known as the "Medical Luther;" a name which appeared even more befitting of him in 1527, when he was reported to have burnt Avicenna's *Canon* and the works of Galen in front of the university.[12]

In some ways, Paracelsus' growing influence in Europe was the result of a degree of receptivity to his ideas. There had been a tradition of alchemy, for instance in the courts of Elizabeth I, and the works of medieval alchemists like George Ripley had created "a ripe ground for the flowering of chemical medicines and therapies, ideal for the influx of Paracelsianism."[13] Paracelsus covered a wide range of topics, from medicine and astrology to religion and mysticism.[14] His medical theory was based on his beliefs relating to alchemy and astrology. He rejected traditional Galenic ideas of the human body and replaced the idea of the four elements with the primary substances of mercury, salt and sulfur.[15] Chemistry formed the basis of Paracelsus' ideas relating to plague treatments, and much of his work focused on creating new

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[11] Andrew Wear, "Early Modern Europe, 1500-1700," in *The Western Medical Tradition,* 312.
[12] Ibid., 312-13.
[13] Thorpe, "In the Middest of Death: Medical Responses to the Great Plague of 166," (PhD diss., University of London, 2017), 75.
[14] Elmer, *The Healing Arts: Health, Disease and Society in Europe,* 109.
[15] Ibid., 94.

chemical drugs.[16] After the printing of his works after 1560, Paracelsus gained many loyal supporters across Europe who aimed to spread his ideas and elaborate on them. Among these was van Helmont, who, inspired by the writings of Paracelsus, came to be an even greater challenge to traditional Galenic medicine.[17] The latter van Helmont represented a more "purified form of Paracelsianism," by discarding some Paracelsian ideas that were less popular, such as the relationship between the macrocosm and microcosm, his support of astrological medicine as well as his idea of the *tria prima* (sulfur, mercury and salt).[18] In 1648 (four years after van Helmont's death), the publication of his collected works, titled *Ortus Medicinae* (which was highly critical of Galenic views of plague, such as its humoural theory), gained immense support among physicians throughout northern Europe, who began not only to condemn Galenic medical theory, but also to replace it with their own views of health.[19]

During this period, the College itself was facing challenges to retain its dominance over the practice of physic in London. The College's public authority had been greatly weakened in 1664, when the House of Commons refused to ratify its new charter. This left the College, according to Cook, in a "frail institutional and legal condition," and its members feared that this loss of monarchical support would damage their reputation. The refusal to ratify its charter may have been the result of mounting negative public sentiment against it. The bill had been opposed not only by the Society of Apothecaries and the Barber Surgeons, but also by supporters of the "new philosophy," which had been gaining increasing popularity in the courts throughout the 1660s.[20] Supporters of Helmontian medicine, like Noah Biggs (whose main work *The Vanity of the Craft of Physic* was published 1651), John Webster (1611-82) and Samuel Hartlib (c.1600-1662) had been calling for the reform of the medical system, especially in regards to university education.[21]

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[16] Some of Paracelsus works on plague include *De Peste Libri tres* (1522), *Zwey Bücher von der Pestilentz und ihren zufällen* (1529-1530). *De Pestilitate* (1589-1591), which is considered a pseudepigraphic work in modern scholarship, is also considered a useful source for understanding Paracelsus' plague theory. For discussion of these works, see: Charles D. Gunnoe, "Paracelsus, the Plague, and *De Pestilitate*," *Early Science and Medicine* 24, no. 5/6 (2019): 504–26.

[17] Antonio Clericuzio, "From van Helmont to Boyle. A Study of the Transmission of Helmontian Chemical and Medical Theories in Seventeenth-Century England," *The British Journal for the History of Science 26*, no. 3 (1993): 304.

[18] Elmer, *The Healing Arts: Health, Disease and Society in Europe*, 122-23.

[19] Wear, *Knowledge and Practice in English Medicine*, 367.

[20] Harold J. Cook, "The Society of Chemical Physicians, The New Philosophy, and the Restoration Court," *Bulletin of the History of Medicine 61*, no. 1 (1987): 61, 64, 133, 133.

[21] Elmer, *The Healing Arts: Health, Disease and Society in Europe*, 124-5, 128.

Biggs had appealed to parliament for reform “of the stupendous body of Universal Learning, Languages, arts and sciences especially this of physick,” as he believed the current medical system was often unsuccessful in treating patients and often killed them.[22] He also argued that universities should be more inclusive of chemistry, which he called the *terra incognita* of traditional medicine. He saw the College’s physicians as ignorant “dogmatists”, even though they had begun to incorporate chemical medicine into their pharmacopeia: to Biggs, this was far too late and was not enough.[23] Webster had similarly argued that the Galenic medical system should no longer be a “prison that all men must be enchained in,” and that it was time to look in to “more sure, clever and exquisit” ways of finding the causes and cures of diseases that Paracelsus and van Helmont had worked on.[24] Echoing the sentiments of earlier opponents to the College was an author who referred to himself as “T.M,” whose writings likely played a large role in the House of Commons’ denial of the College’s charter. T.M called for a restoration in the unity of physic which had been destroyed during the “dark ages”, resulting in the later divisions in the crafts of the apothecaries, surgeons and physicians. He proposed dividing the College into different research communities as well as incorporating more experimentation, which he believed would advance medical practice. He argued that reform would “make physic useful to the natural philosophy,” and would also make medicines cheaper, less dangerous and therefore save more lives.[25]

In early 1665, the existing tensions between chemical and Galenic ideas of disease increased when a group of Helmontians joined together to establish a rival body to the College, which they called the Society of Chemical Physicians.[26] Some historians have argued that the Society grew out of earlier attempts to create groups separate from the College; others argue that this group was the reflection of an enthusiasm for Helmontian medicine in court circles.[27] The Society’s membership comprised those from differing backgrounds, ranging from Anglicans and non-conformists to former Parliamentarians and Royalists.[28] It was led by Thomas O’Dowde, an Irish

[22] Noah Biggs, quoted in Elmer, *The Healing Arts: Health, Disease and Society in Europe,* 125.
[23] Elmer, *The Healing Arts: Health, Disease and Society in Europe*, 126.
[24] Ibid., 126-27.
[25] Cook, “The Society of Chemical Physicians,” 64-5.
[26] Cook, *The Decline of the Old Medical Regime,* 134.
[27] Elmer, *The Healing Arts: Health, Disease and Society in Europe,* 129.
[28] Thorpe, “In the Middest of Death,” 83; Cook, “The Society of Chemical Physicians,” 62.

Royalist, who not only practised medicine, but was a groom of the royal bedchamber, which placed him in a strong position when lobbying for change at court.[29] Other key figures in the society included George Thomson, Marchamont Nedham, George Starkley and Edward Bolnest.[30] Members of the Society strongly believed in the superiority of Helmontian medicine over Galenic, and wished to remove the authority that the College had over the medical system.[31] They also believed, as we will see, that the chemical medicine that the College had been incorporating into its pharmacopoeia was not true chemistry.[32] Elmer states that the formation of the Society reflected a wider "dissatisfaction with the medical orthodoxy of licensed medicine."[33] In 1665, they published a declaration which announced their intent to apply for letters patent in order to form a "noble society for the advancement of the Hermetick Physick."[34] This declaration was supported by numerous important figures such as Gilbert Sheldon, the archbishop of Canterbury.[35] As we will later see, the Society openly opposed the College during the outbreak of plague in the pamphlet war.[36]

Paracelsian and Helmontian Views of Plague

Both Paracelsus and van Helmont were critical of Galenic views for two main reasons. The first was religious. Galenic medicine had become deeply influenced by Christian beliefs during the medieval period, and Paracelsus and van Helmont were no less Christian in their outlook. This religious dimension of these views will be examined later, but we should note that the "heathen" roots were the central reason for criticism of Galenic views. Elmer argues that Paracelsus "promoted a new and deeply religious type of natural philosophy and medicine, which presented a Christian alternative to traditional Galenic medicine." Paracelsian ideas of medicine "spring directly from his religious beliefs, [and] these cannot simply be ignored."[37]

[29] Elmer, *The Healing Arts: Health, Disease and Society in Europe*, 129.
[30] Thorpe, "In the Middest of Death," 82.
[31] Cook, "The Society of Chemical Physicians," 66.
[32] Ibid.
[33] Elmer, *The Healing Arts: Health, Disease and Society in Europe*, 90.
[34] Cook, "The Society of Chemical Physicians, 70-1.
[35] Ibid, 70.
[36] Paul Slack, *The Impact of Plague in Tudor and Stuart England* (London: Routledge & Keagan Paul, 1985), 248.
[37] Elmer, *The Healing Arts: Health, Disease and Society in Europe*, 93-4.

The second reason for criticism of Galenic views was a fundamental difference of opinion on the workings of the human body. Paracelsus and van Helmont rejected the idea of four elements (fire, water, air and earth), advocating instead other primary chemical elements. They also rejected the need to balance the four humours to maintain health.[38] Paracelsus referred to Galen as the "arch fool of medicine," while van Helmont called both Galen and Aristotle "ignorant." Van Helmont argued that Galenic healing based on the humoural theory was "deceitful, meer dreams, old wives Fables, and trifling toyes…"; humours were a "frivolous and hurtful" invention, as well as "destructive Ignorances…introduced by the Father of lies and celebrated by the loose credulity of his followers."[39] Thus, his ideas of the fundamental causation of plague and its treatment were different. Gunnoe argues that Paracelsus even used plague "to expose the ignorance of academic physicians and the inability of humoural medicine to fully comprehend disease."[40]

Helmontian ideas about the external causes of plague were similar to Galenic ones, as we will see, but there were significant differences in explanations for the impact of plague on the body. Paracelsus and van Helmont promoted an "ontological" approach to disease, arguing that disease was a real, distinct "entity" or "thing," which did "not lend itself to be expressed in terms of quantity, mixture or displacement of something," as it appeared in humoural theory. Central to this view of disease was the idea that plague, as it manifested itself in the body, was the result of the "archeus," the "begetter" of disease.[41] The archeus was a "vital and spiritual force," made of very fine air, located in the spleen, stomach and one in each organ, which ensured the proper functioning of different parts of the body.[42] The archeus was thought to be the "soil and agent of disease," generating it, harbouring it and affecting its outcome. Van Helmont argued that the provocation of the archeus through external factors, could result in the "indignation, perturbation, terror or fury," of the archeus. The provoked archeus could then form an image of

[38] Gunnoe, "Paracelsus, the Plague, and *De Pestilitate*," 518.
[39] Jean Baptiste van Helmont, *Van Helmont's works containing his most excellent philosophy, physick, chirurgery, anatomy*, (Collection published in London, 1664; EEBO), 41.
[40] Gunnoe, "Paracelsus, the Plague, and *De Pestilitate*," 506.
[41] Walter Pagel, "Van Helmont's Concept of Disease: to be or not to be? The Influence of Paracelsus." *Bulletin of the History of Medicine* 46, no. 5 (1972): 420-1.
[42] Georgiana Hedesan, *An Alchemical Quest for Universal Knowledge* (London: Routledge, 2016), 115.

disease and translate it into a reality. As the historian Pagel states, “plague becomes real, the Ens morbi, when its idea and image have been brought forth.”[43]

The idea of the archeus was often discussed by Helmontians during 1665. Mirroring Paracelsian and Helmontian ideas of disease as its own entity, Nedham called plague a “real substantial thing.”[44] To Thomson, plague was its own separate entity, and was a poison that “doth enter in, and ride in the triumphant Chariot of the vital spirit.” The archeus was “the principal instrument of the Soul” and “the innate Spirit of every part of the Body.” This vital spirit, could be put into a “terror,” and submit to “the aforesaid poision … delineating therein the perfect idea or image of this special kind of sickness distinct from any other.”[45] Similarly, Simpson identified plague to be a “certain virulent and contagious Ferment,” created from within or outside the body, which seized “upon the vital *Archeus*…. with a kind of fear and terror.”[46]

However, the process of catching the plague was not simply a matter of the archeus being poisoned from external factors like impure air. The archeus was also believed to be affected by plague indirectly through the imagination. Helmontian views of disease placed much greater emphasis than Galenic views on the connection between the physical and psychological.[47]Although Galenic physicians argued that fear and imagination could make the body more susceptible to plague (by unbalancing the non-natural of the ‘passions’), Paracelsus and van Helmont placed much greater emphasis on their agency and the effect they had on the archeus. Emotions like fear and horror, Paracelsus argued, helped spread disease, especially during periods of plague.[48] He argued that “evil imaginations” could even poison the heavens, which could then be reflected back to earth through a “plague shot.”[49] Van Helmont also placed great weight on the role that imagination played, stating that “the Plague is bred in us by an Image of terrour.”[50] He argued that there were two types of plague, one that did come from infected air, and another that came from fear, which was “more swift and more terrible” than the

[43] Pagel, “Van Helmont’s Concept of Disease,” 422, 425.
[44] Marchamont Nedham, *Medela medicinæ.* (London: 1664; EEBO), 294.
[45] Thomson, *Loimologia*, 2.
[46] William Simpson, *Zenexton ante-pestilentiale*, (London: 1665; EEBO), 8.
[47] Wear, *Knowledge and Practice in English Medicine,* 370.
[48] Paracelsus, *De peste* in Gunnoe, Charles D. “Paracelsus, the Plague, and *De Pestilitate*.” 519.
[49] Ibid.
[50] Van Helmont, *Van Helmont's works,* 1119.

first. This fear could create a deadly poison, which could overcome the archeus, and bring the image of disease to life.[51] Similarly, other emotions, like "sheer anxiety" could result in one inflicting "the plague upon oneself and one's surroundings … It becomes clear that the image of the imagination… can gradually dress and clothe itself with the spirit of life, and leaves its seminal product behind in there; a being truly capable of great and terrible deeds."[52]

Physicians influenced by van Helmont certainly stressed the important effect of the imagination and emotions. In 1665, Thomson argued that fear was the main cause of disease, even stating that in his dissection of a plague corpse, he saw poison atoms enter the body, and frighten the archeus into creating "the perfect idea and image of sickness." Very few were "exempted from some pusillanimity and distrustful thoughts either of the mind or archeus."[53] Simpson argued that the archeus is what "first feels and perceives the pestilent *ens*," which then becomes infected, "shaping an Idea of fear and terror" upon the "Tartar of the blood…Which speedily contracts a pestilent *fracedo*."[54] Helmontian views of the causation of disease, in contrast to Galenic, thus tended to reverse "the arrow of casualty from the physical to the psychological."[55]

Preservation from and Treatments for Plague

Paracelsus and van Helmont both argued that traditional Galenic treatments for plague were ineffective. They rejected the idea of balancing the four humours, and criticised other Galenic treatment methods such as the "fictitious Rule of Contraries…by which the Dogmatists are guided in the cure of Diseases."[56] In 1664, Nedham argued that treatments for diseases should not focus on the Galenic idea of temperaments, humours and qualities.[57] Quarantine could even "destroy the confidence of the archeus" and leave it more susceptible to infection (although van Helmont had argued it could dispel plague poison).[58] The traditional practices of purging and

[51] Van Helmont, *Van Helmont's works,* 1132.
[52] Van Helmont, cited in Sietske Fransen, "Exchange of Knowledge through Translation: Jan Baptista Van Helmont and his Editors and Translators in the Seventeenth Century," (Phd Diss., The Warburg Institute University of London, 2014), 88.
[53] Thomson, *Loimologia*, 138.
[54] Simpson, *Zenexton ante-pestilentiale*, 26.
[55] Wear, *Knowledge and Practice in English Medicine,* 370.
[56] Thomson, *Galeno-pale*, 65.
[57] Marchmont Nedham, *Medela medicinæ,* 297.
[58] Thomson, in Wear, *Knowledge and Practice*, 382.

bloodletting were also considered extremely dangerous; bleeding in particular could weaken a patient's vital spirits, resulting in the archeus losing its will to fight diseases – "so forgetting the fuell or conflict with the disease," and neglecting to expel it.[59] Van Helmont claimed that purging and bloodletting were the "only two pillars of medicine" that the Galenists had for treating diseases like plague.[60] Thomson similarly argued that the methods of phlehotomy and purgation were "pernicious to Humane Nature, destroying more then ever the Sword."[61] The Galenic emphasis on taking care of the non-naturals was not completely rejected by chemical physicians, but its importance was downplayed. Helmont argued that this regime did not hinder the entrance of disease or expel it from the body. In fact, the deprivation of one's favourite food could cause the archeus to "rage... And in strife stir up a new illness."[62]

In contrast to the Galenic approach to plague, Helmontians argued that medicine should focus on being therapeutic rather than preventative and should be directed against the cause rather than the symptoms.[63] This could be done with the use of chemical remedies, which they believed were far safer and more effective than Galenic treatments and natural remedies.[64] Non-organic ingredients and metallic ingredients, as well as the use of chemical processes like distillation and calination in treating plague were often recommended instead by chemical physicians.[65] Bolnest argued that chemical medicine was "the most safe, satisfactory and beneficial for Mankind."[66] The Society of Chemical Physicians also claimed that chemical preparations "are of great Excellence than any other, for the preservation from Diseases, as well as for the Cure of them".[67] Chemical preparations were far more effective than Galenic natural ingredients (like theriac) and natural remedies (like fumigation and pomanders). As Thomson argued, "it is a great vanity to trust those fruitless dull Medicines of the Galenists."[68] Not only were Galenic medicines ineffective, but they could be dangerous. Ingredients used by Galenists, such as hellebor and elater, without

[59] Biggs, quoted in Wear, *Knowledge and Practice*, 382.
[60] Elmer, *The Healing Arts: Health, Disease and Society in Europe,* 111.
[61] George Thomson, *Galeno-pale, 3.*
[62] Van Helmont, *Oriatrike, or Physick Refined,* cited in Wear, *Knowledge and Practice,* 401-2.
[63] Van Helmont, *Ortus medicinae*, 523-4.
[64] Elmer, *The Healing Arts: Health, Disease and Society in Europe,* 95.
[65] Thorpe, "In the Middest of Death", 94.
[66] Bolnest, *Medicina instaurata*, (page unnumbered).
[67] Anonymous, "An advertisement from the Society of Chymical Physitians," (London: 1665; EEBO).
[68] Thomson, *Loimologia*, 9.

chemical preparation, “come not much… short of the most violent, and (as termed) most venomous of Minerals.”[69]

In turn, Helmontians argued that their medicines were effective as they worked in “similitude” to archeus, which helped to strengthen it against diseases like plague. Thomson stated that since the archeus saw “doth readily unite with Like” it would embrace itself with the medicine “intimatley” and be greatly strengthened.[70] In addition, Helmontian medicine could “pacify and gratify” the archeus so that it would “layeth aside all morosity, Melancholy, Exhorbitant Passions, and the Entertainment of deformed Ideas” before “recollecting strength” to fight disease.[71] In addition, Newton states that Helmontians “deployed imagery of light, beauty and feasting” in order to present their medicines as more appealing to contemporaries. For example, Helmontian medicine was “exquisite” and “delectable to the taste.”[72] The beauty of the medicine would be shown to the archeus “as in a looking glass,” to contrast the “ugly shape of the Disease Portrayed,” forcing the archeus into repentance of its “former errors” and ultimately the eradication of disease. To Thomson, Helmontian medicine was a “Dainty Morsel for the Archeus to Banquet on.”[73]

In 1665, chemical, readymade medicines were becoming increasingly advertised, recommended and used for plague prevention and treatments throughout London.[74] Helmontians argued that chemical remedies, when used appropriately, could expel the plague poison, often through processes like sweating or urination. Common ingredients recommended in 1665 by the Society of Chemical Physicians included salt, amber and brimstone. Thomson also recommended *Tinctura Polyacaea*, a chemical remedy which invigorated the archeus, circulating it throughout the blood to all parts of the body: “It mortifies malignant Atoms, enabling nature to profligate and expel the poison of the Plague by sweat…” Chemical pills (which Thomson calls *Tutelares*)

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[69] Bolnest, *Medicina instaurata*, 85.
[70] George Thomson, *Ortho-methodoz*, (London: 1675; EEBO), 64-6.
[71] Ibid., 106-7.
[72] George Thomson, quoted in Hannah Newton, *Misery to Mirth: Recovery from Illness in Early Modern England* (Oxford: Oxford University Press, 2018), 88.
[73] George Thomson, *Ortho-methodoz*, 64-6.
[73] Ibid., 114-15.
[74] Thorpe, “In the Middest of the Death,” 240.

could also be a good preservative against plague, as they could cleanse the kidneys, purify the blood and allow the body to resist corruption.[75]

In preventing plague, Helmontians also stressed the role played by the imagination and negative emotions because of their strong impact on the archeus. Nedham insisted that diseases were curable "by the force of the imagination."[76] Thomson proposed that the brave were more likely to escape plague: "if the phantasie of man and the archeus be magnanimous, stout, free from any ideas … then the contagious effluviums cannot take place in such a body to offend it." Therefore, positive emotions could have an impact on whether the archeus was affected by plague poison. However, Thomson also commented that this would only be effective if one's archeus was strong in the first place – a weak archeus could still let in plague poison, even if the imagination was protected against it. He stated that the "principal preservative and cure of the Pest" was to "fortifie the *Archeus* or vital Spirits," as well avoiding emotions like detestation and fear, which could cause the archeus to "give way to the Pestilential impression." Therefore, he considered anything that created "audacity and confidence in the Spirits, [to be] of high concernment and efficacy; but whatsoever diminish, Enervate and Elumbate them, are to be avoided."[77]

The 'Pamphlet War'

Criticism of Galenic medicine increased with the arrival of plague in 1665. The outbreak placed greater pressures on the healthcare system, exacerbating "discontent with traditional Galenic treatments," and forcing contemporaries to turn to alternative medicines.[78] This increased existing tensions between the College and the Society. The Society saw the plague as an opportunity to advertise the effectiveness of its medicine, as well as a chance to attack the College's medicines and methods of treatment. As Miller argues, the outbreak "raised the stakes for Helmontians, and the group's commitment to combating the disease was essential to their effort to establish themselves as a professional entity."[79] During the outbreak, both Helmontians

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[75] Thomson, *Loimologia*, 3
[76] Marchmont Nedham, *Medela medicinæ*, 303.
[77] Thomson, *Loimologia*, 9.
[78] Thorpe, "In the Middest of Death," 82.
[79] Miller, *The Literary Culture of Plague in Early Modern England*, 6, 59, 60.

and Galenists published medical pamphlets on the methods for preventing and treating plague. However, alongside this, works started to be printed which solely focused on defaming opposing medical treatments. Miller observed that “debate was boiling” and pamphlets soon became the “weapon of choice” for the Society and College, resulting in a battle for intellectual standing and status. This “pamphlet war,” as historians have called it, started shortly before the 1665 outbreak, and ended after the plague had dissipated. This war between the Society and the College was a “convoluted conflict.”[80] Slack argued that it had “little to do with plague,” and more to do with the conflict between Galenism and chemical medicine in general.[81] Even so, the increasing intensity of the debate during plague and its immediate aftermath suggests the importance of the epidemic in generating fundamental questions about medical orthodoxy.

The Society’s overall aim in the pamphlet war was not only to gain official approval to practice chemical medicine without interference from the College, but to replace the College entirely. Even before the oncoming “war”, Nedham argued “that it is for the good of Mankind there should be a Liberty allowed in the Practise of Physick.”[82] The intended audience for these pamphlets was not only the College, but high-ranking members of society, to whom Society members often appealed at the start of their writing. For example, at the start of his text, O’Dowde appealed to the Lord Archbishop of Canterbury, and made it clear in his pamphlet that he wished to obtain a charter that would allow the Society to replace the College, “for the relief and comfort of the kingdom.”[83] Part of the Society’s writings covered their beliefs about the workings of the human body, particularly in relation to plague and other epidemic diseases. They also provided numerous examples of chemical remedies that they considered effective against plague, which relate to the theories already discussed in this chapter.[84] The pamphlet war, especially during the outbreak of plague, gave the Society an opportunity to promote their arguments that chemical medicine was superior to Galenic. Members such as Nedham, Thomson and O’Dowde were particularly active.

[80] Miller, *The Literary Culture of Plague in Early Modern England*, 6, 59, 60
[81] Slack, *The Impact of Plague*, 248.
[82] Nedham, *Medela medicinæ,* 1.
[83] O’Dowde, *The Poor Man's Physician,* (London: 1665; EEBO), 3.
[84] Thomson, *Loimologia,* 1.

Galenic methods and medicine, according to Society pamphleteers, were “out of date,” and the College itself had made “little progress and advancement in medicine until of late.”[85] Society members referred to the Galenists as “credulous and self-conceited,” and considered them the “leech-like physicians” of the day.[86] The College’s medicines rarely produced the promised or desired effects, and could often be harmful.[87] In addition, the Galenists laid too “much stress upon old methods and means,” which Nedham argued put them in danger of hindering the advancement of physick.[88] The “imperfect methods” of the Galenists, resulting from the “*narrow principles*” taught in schools, meant that their practice was based on the “*barren Notions of the Pripateick School*” rather than “*the full amplitude of Nature*.”[89] O’Dowde also argued that Galenists could not even agree on the nature and causes of diseases like plague, which meant that they were incapable of finding a proper method to treat them. The treatments that the Galenists did use, like bloodletting, were “irrational,” dangerous and ineffective. O’Dowde proclaimed the current practice of physik “to be the greatest cheat of all other.” Their “very fundamentals” were “erroneous and destructive to mankind.”[90] Therefore, the College should stop “dwelling upon old Notions and Remedies” and should instead be looking at creating “new, more rational and less lothsom” inventions, “which may more effectually meet with Diseases in their very Root and Original.”[91]

Thomson also claimed that not only were the Galenists’ knowledge and medicines outdated, but the practitioners themselves did not perform their duty in times of crisis. At the start of the 1665 outbreak in London, Galenists had “cowardly and unworthily run away, leaving this great City destitute of their Help, when it most stands in need of it.” The Galenists, “whose function obliges them to stand out to the last” had failed in their duty to protect the city’s inhabitants “to the utmost of their power.” The Society would never abandon the city in times of plague: Thomson

[85] Nedham, *Medela medicinæ,* 248, 215.
[86] O’Dowde, *The Poor Man's Physician, 1665,* 4, 30.
[87] Bolnest, *Medicina instaurata*, page unnumbered.
[88] Nedham, *Medela medicinæ,* 207.
[89] Ibid., 208.
[90] O’Dowde, *The poor man's physician,* 91.
[91] Nedham, *Medela medicinæ,* 203.

stated that would rather lose his life than violate the "band of charity" towards his neighbours, and "dedecorate that illustrious profession I am called to."[92]

To further prove that the College cared little for their duty, the Society also accused the College of caring more for money and power than for the advancement of knowledge and the treatment of patients. Part of Thomson's pamphlet discusses how the Galenists had "domineered the World and deceived it." He argued that Galenists followed their methods "to the destruction of millions, cry up this method, a tedious way to cure Diseases, but a short one to get money." He believed that the "noble science" had now "become a meer mercenary or meretricious business… A very Trade to get money, an Imposture to serve your own ends." He adds that had chemical physicians "prostituted our selves and the Art, or taken those indirect courses which ye have done, we are certain we might have been possessours of Riches and Honours equal with you."[93]

Alongside criticisms of the College and Galenic medicine, Society members provided numerous reasons for the supremacy of chemical medicine. As Helmontian medicine was "true Christian medicine," and its physicians more godly; it had the ability to treat the new, modern diseases that had emerged in more recent times. These diseases (such as worms, Agues, and French Pox), resulting from "*Venerous* and *Scorbutick* Ferments," required new modern treatments, which the Society claimed the College would be unable to produce. Nedham argued that "not a man of the old Faction knows how to conjure down a poor Ague, whilst the old Women and Mountebanks everywhere do shame them." The Ancients' knowledge and methods for treating diseases did not apply to the modern world: "the old Rules and Remedies of curing them are quite out of doors, seldom doing any good, but generally hurt."[94] However, chemical medicine had the ability to treat these new diseases, and thus it was in a better position to cure plague.[95]

Members of the Society, like O'Dowde and Bolnest, also argued that chemical treatments were safer and purer than Galenic medicine. O'Dowde found it "most true, that chemical medicines

[92] Thomson, *Loimologia,* 2. For the College's recommendation that people should leave infected areas, see above chapter 1.
[93] Thomson, *Galeno-pale*, 3, 14, 15.
[94] Nedham, *Medela medicinæ,* 29
[95] Cook, *The Decline of the Old Medical Regime in Stuart London,* 146.

well prepared, as well as applied, are above all others the safest, pleasantest, and most effectual means, both for conservation of health, and the cure of all diseases whatsoever."[96] Chemical medicines were not full of impurities; by contrast the Galenists made their medicines by "jumbling Ingredients at adventure."[97] The Society argued that chemical treatments (like those involving mercury) were not poisonous, as the College had made them out to be. In fact, this accusation, according to Thomson, was hypocritical, as the Galensists now "frequently" made use of chemical treatments. Chemical medicines were only deadly if they were placed into the hands of the "inexperienced" Galenists who "make the world believe that their methods of fixing and sweetening the chemical medicines makes them safe for use."[98] Bolnest argued that "Galenists are not fit to use Paracelsian Medicines (until they have entered the Chymical Schools, and Laboratories)."[99] Chemical medicine should therefore not be diluted by the Galenists: every man "that is an enemy to the Doctrine of Helmont, cannot possibly arrive to be a true Chymical Philosopher. He may indeed be like one, as the ape is that to be like a man, and therefore most deformed."[100] Eradicating the 'pseudochymsitry' of the College would therefore allow better, safer treatments to be produced by the Society.

Not only were the Society's chemical preparations better than those of the College's, but their method of obtaining medical knowledge was far more effective. Members of the Society (like Nedham and Thomson) argued that the College's university learning was not enough to make advancements in medicine.[101] The Society's methods of observation and experimentation allowed them a better understanding of the human body and treatment of different diseases. Nedham argued that every member of the Society, even the least accomplished "hath skill enough in Medicine, to furnish a score of the ordinary *Master* Drs." "True Physical Learning," according to Nedham, lay outside of "the Common *Scholastick Road*."[102]

[96] Cook, *The Decline of the Old Medical Regime in Stuart London,* 148; O'Dowde, *The poor man's physician*, 14.
[97] Nedham, *Medela medicinæ*, 453.
[98] Thomson, *Galeno-pale,* 83.
[99] Bolnest, *Medicina instaurata*, 145.
[100] Thomson, *Galeno-pale,* 36.
[101] Nedham, *Medela medicinæ*, (page unnumbered); Thomson, *Galeno-pale,* 41.
[102] Nedham, quoted in Bolnest, *Medicina instaurata*, (page unnumbered).

Therefore, the Society believed that encouragement should be given to practitioners of chemical medicines, in order to "establish new Doctrines, new Methods and Rules of Curation agreeable to the new frame of humane nature, and to the new *Phenomena* of Diseases."[103] As Nedham stated "because Diseases vary, therefore we Will Varie Arts of Cure; and though there be A Thousand sorts of strange Distempers steal On us, wee'll have a Thousand waies to heal."[104]

The College's Response

The College's participation in the pamphlet war suggests a fear of the threat posed by the Society to Galenic medicine.[105] Sprakling (the first College member to participate in the pamphlet war) included a plea for a new charter for the College in his pamphlet, while other members similarly appealed to important figures like Gilbert Sheldon (the archbishop of Canterbury) for their support.[106] The College's overall aim in their engagement with the Society was to prove that there was no need to reform the current medical system or the principles behind it. In its response to the Society's pamphlets, the College not only defended Galenic medicines and methods, but also vilified members of the Society by comparing them to "quacks" and "empericks." However, the College did not dismiss the use of chemical remedies completely. As we will see, many College members actually endorsed their use under certain conditions.

It is again important to note that religious belief formed a part of the College's rebuttal of the Society's criticisms. The College disputed the Society's accusations that they were heathen, and members (like Hodges) even emphasised the support that Galenic medicine had from the Church. In his introduction, Hodges stressed a "neer alliance between *DIVINITY* and *MEDICINE*," and compared the Society's attack on traditional medicine to an attack on the Clergy.[107] This religious element will be looked at in greater detail in chapter three.

Part of the College's argument in the pamphlet war focused on defending Galenic knowledge, medicines and methods. The Galenic view of the human body, as well as its medicines, were

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[103] Nedham, *Medela medicinæ*, 2.
[104] Ibid., 214.
[105] Wear "Early Modern Europe," 320.
[106] Robert Sprakling, *Medela ignorantiae; or A just and plain vindication of Hippocrates and Galen from the groundless imputations of M.N.* (London: 1665; EEBO), 4.
[107] Nathaniel Hodges, *Vindiciæ medicinæ & medicorum*, (page unnumbered).

superior, as it was founded on ancient wisdom that had been effective in treating patients for centuries. Hodges argued that "the *Science* of *Medicine* is not only already *invented* and *discovered*, but adorned with *intelligible Rules* and *Aphorisms*, and thereby improved to *general use*."[108] The Galenic understanding of the human body had also long been used to understand and treat diseases. Sprakling argued that "it must be granted by all, that these gross notions of humours and temperaments, have served eminently to the cure of great diseases for many hundreds of years…"[109] Galenic remedies also had the ability to perform certain functions that chemical medicines could not.[110] College members had university education and qualifications, which they stressed were fundamental for practicing physik. Hodges argued that "*Studiousness* and *industry* do compleat a *Physician*."[111] Without proper training, he argued, it was impossible to understand the causes and symptoms of disease and how to properly use medicines to treat them.[112]

The College also vilified the Society. As Thorpe argued "negative notions of 'quackery' and 'empiricism' were central to the debate of the pamphlet war."[113] College members made frequent comparisons between chemical practitioners and "quacks" and "empericks" in order to damage the Society's reputation and emphasise the importance of having the College in control of medical provision. When appealing to the clergy in his pamphlet, Hodges referred to "the boldness both of our common *Empericks* and upstart *Pseudochymists,* that they presume to entertain as great hopes of their prevailing over all *ACADEMICKS*, as the *CHURCHES Enemies* impatiently expect a Revolution."[114] Like quacks, Society members had no formal training or qualifications, which meant that allowing them to practice physik and create remedies was extremely dangerous. Hodges stressed the importance of the current laws imposed by the College that stopped unqualified practitioners from practicing medicine. He argued that "the *Law* which restrains the *Empericks* doth chiefly respect the people, that the opportunities of their harming themselves might be taken away, and all mischief thereby prevented."[115] The College even

[108] Hodges, *Vindiciæ medicinæ & medicorum*, 4.
[109] Sprakling, *Medela ignorantiae*, 46.
[110] Ibid., 32.
[111] Hodges, *Vindiciæ medicinæ & medicorum.,* 113.
[112] Ibid., 135.
[113] Thorpe, "In the Middest of Death," 102.
[114] Hodges, *Vindiciæ medicinæ & medicorum*, (page unnumbered).
[115] Hodges., 32.

accused Society members of sedition. Nedham was accused of not only atheism and cruelty, but being involved in a medical conspiracy against the government.[116] Twysden argued that an attack on the College was equivalent to an attack on the king.[117]

The College reinforced the Society's image as quacks by accusing them of having very little medical knowledge of the human body and also of diseases like plague. Sprakling argued that chemical ideas of plague and disease were unconvincing, as Nedham was vague in his medical understanding and explanations.[118] Nedham's discussion of Galen was contradictory and his complete dismissal of Galenic remedies was also ignorant. Sprakling stated that Nedham refused to reveal the effects that sympathy and antipathy produce, and he put too much stress on the idea of the archeus, "which he so much loveth, and without any other ground than that of Sympathy, closely adhere to."[119] Hodges similarly argued that there was no point in examining pseudochymists "*pretended Cures*," as their "*expressions* and *language*" alone revealed "how little they understood the *Diseases* which they treat of."[120] This was evident in their "performances" when treating patients. Hodges listed numerous occasions when chemical practitioners failed to properly diagnose different diseases.[121] College members also argued that it was ignorant to believe that all diseases could be cured (as both quacks and chemical physicians claimed), as multiple factors contributed to a patient's recovery, like "*impatience* and *refratoriness*."[122] This was true especially in regards to plague, "which being the *Rod of the Almighty* to punish mens Impieties, cannot by any *medicinal means* be frustrated of its designed execution."[123]

This lack of medical knowledge meant that the Society's chemical remedies and methods of treatment were ineffective and dangerous. In regards to the plague, Hodges argued that "pretend" chemists "do surpass even the *Pest* itself in its destructiveness."[124] The disciples of

[116] Cook, *The Decline of the Old Medical Regime in Stuart London,* 154.
[117] Twysden, in Cook, *The Decline*, 154. On the religious context, see further chapter 3.
[118] Sprakling, *Medela ignorantiae*, 46, 32.
[119] Ibid., 82.
[120] Hodges, *Vindiciæ medicinæ & medicorum,* 135.
[121] Ibid., 132-33.
[122] Hodges, *Vindiciæ medicinæ & medicorum*., 36.
[123] Ibid., 35.
[124] Ibid., 225.

Hippocrates and Galen would "weep blood seeing that chymist who profess a contrary way of Physick," who are "permitted without restraint by their malevolent reproaches, scorns, and unartificial remedies to blaspheme Medicine which is the gift of the great God."[125] Chemical physicians pretended to be offering a "panacea and universal medicine," and often refused to reveal the contents of their preparations, because if they were revealed there would be "no doubt but that the meanest capacity might censure their *worthlessness* or *danger*."[126] Galenic medicine was therefore safer and more effective than chemical. Tywsden argued that "no man has been lost by the adhering to the precepts of physick…whereas hundreds daily are cast away by the preposterous use of Remedies, Especially Chymical ones slovenly prepared by these Mountebanks, and as immethodically applied at adventure."[127]

The Society members' lack of formal university education and qualifications (as well as their emphasis on experimentation instead of book-learning) were also criticised throughout the College's pamphlets. Hodges condemned those who had "either satisfied the *UNIVERSITIES* nor any other legall Judges concerning their Abilities and fitness to undertake the most difficult Profession of Physick."[128] He argued that universities would suffer if the Society was given formal recognition. The Society would "scorn and vilifie" a university's book-learning and allow anyone they saw fit to enter, resulting in the "excellent science of medicine" falling into the hands of "*ignorant* and *illiterate Practisers*." This would mean that the people would have to rely on "such *Assistants* as *Gun-smiths, Heel-makers, Taylors, and the rest*."[129]

Similarities between Galenist and Helmontian Ideologies

The pamphlet war suggests that there were two competing and irreconcilable ideologies on medicine and plague. But the polemical nature of this war also exaggerated the differences between the College Galenists and the Society's Helmontians. There were similarities of viewpoints between them as well as differences. As we will see in the next chapter, although

[125] Ibid., 98.
[126] Hodge, *Vindiciæ medicinæ & medicorum*, 132.
[127] John Twysden, *Medicina veterum vindicata* (London: 1666; EEBO), 113-14.
[128] Hodges, *Vindiciæ medicinæ & medicorum*, 4.
[129] Ibid., 134, 135.

both sides of the pamphlet war claimed the other to be un-Christian, there was considerable overlap between them in their belief that the primary origin of plague was divine. In terms of the causes of plague, Helmontians did not deny the role of contagion in spreading plague, and also agreed on the effect that external factors could have in causing plague. Polluted and corrupt air affected the archeus just as Galenic miasma could corrupt the humours. In 1665, Thomson argued that plague could be contracted from "external forces," like a "peculiar venemous gas, or subtil poyson, generated within, or entering into us from without…."[130]

Conversely, Galenists did not entirely dispute the "psychological" causes of plague that Helmontians tended to stress. It was part of the Galenist tradition to consider the influence of emotions in generating plague in the body. An imbalance in one of the passions, among the non-naturals, had a serious effect (in Galenist terms) on the humours. Fear was an extreme emotion that needed to be moderated for balance to be regained. The Galenic idea that fear made the body more vulnerable to plague was not dissimilar from the Helmontian notion that fear that could affect the archeus. Both groups therefore encouraged the feeling of more positive emotions in order to prevent the effect that fear could have on the body; as chemical physician William Simpson stated, disgust and fear could cause an "inward putrefaction to overspread the body."[131] It was not entirely clear that the archeus was so different from the natural heat or spirit that Galenists argued needed to be moderated with a proper balance of humours and non-naturals. Newton argued that Helmontians used the term 'nature' interchangeably with 'archeus.'[132] In fact, Slack argued that iatrochemists "contributed little to a clearer understanding of the origins of plague," the only difference to Galenic theory being a difference in terminology, rather than a change in an understanding of plague.[133]

In terms of the treatment of plague, the similarities between Helmontians and Galenists were closer still. Although Helmontians typically rejected Galenic methods of bloodletting and purging, their medicines often achieved the same purpose: expelling the plague poison from the

[130] Thomson, *Loimogloia*, 4.
[131] Simpson, *Zenexton ante-pestilentiale*, 26; Claire Turner, "Intersensory Experiences of the Plague in Seventeenth-Century London," *Social History of Medicine* 36, no. 1 (2023): 12.
[132] Newton, *Misery to Mirth*, unpaginated.
[133] Slack, *The Impact of Plague*, 250.

body through methods like sweating. Like Galenists, they advocated cleansing the air, although iatrochemists recommended fumigants like sulphur. Mirroring the advice of College members, Simpson warned that certain material objects and textures could retain “contagious effluvias,” through which “contagious Disease may arrest the body.” For example, “the pestilent odor may lurk in old rags, garments, paper, sweepings of houses, [and] stone-walls.”[134]

Despite the intense vilification of the Society, moreover, College members were not completely against the use of chemical remedies. Leading up to the outbreak, there had in fact been a slow integration of chemical remedies into traditional Galenic medicine, so much so that some historians argue that a “marriage” between the two medical beliefs was taking place.[135] The College had employed an official chemist to carry out experimentations and develop medicine, and had been incorporating chemical remedies into their pharmacopeia. Even in 1618, the College’s *Pharmacopoeia Londinensis* included a section dedicated to chemical preparations, and 122 chemical remedies were present in an edition published later in the year.[136] In 1666, Twysden stated “have we not Books enough stuffed with Chymical preparations?”[137] He continued to criticise the Society for attempting to monopolise chemical learning.

The College’s support for chemical remedies is evident in the pamphlet war. Sprakling stressed the importance of appreciating both Galenic and chemical medicines. He stated that “infinite instances might be given of the commodiousness and necessity of our still retaining the Galenical *remedies*, although we do not reject, but in some cases deservedly prefer, the Chymical ones.” The “gallant Art of Chymistry” should “enjoy its due honour, for the delightful variety of operations, pleasantness and efficacy of Remedies, clear discovery of the nature of Vegetals, Animals and Minerals, correction of deleterial, and otherwise unsure Medicines; facility and in many cases, cheapness of cure.” Sparkling even admitted that Galenic and chemical medical views could complement each other by providing a fuller understanding of the human body. The Galenic doctrine of “elements, humours and temperaments explained the appearances of bodies, and their affections in a gross and general manner, without descending into more particular

[134] William Simpson, cited in Turner, “Intersensory Experiences of the Plague in Seventeenth-Century London,” 8.
[135] Thorpe, “In the Middest of Death,” 75.
[136] Wear, *Knowledge and Practice*, 353.
[137] Twysden, *Medicina veterum vindicate*, 205.

explanations of abstruse and occult causes." However, the chemical philosophy, could "more apertly explaineth them, by further diving composites into their constituent and seperable parts; the process where the great Physicians of our Age do therefore exceedingly applaud and advance."[138] As Johnson later argued: "the judicious and learned do not build the praises of Galen on the disgrace of van Helmont, but honour both according to their respective worth, and are ready to confess that the German on Galen's shoulders might possibly see more than he."[139]

The College's dispute with the Society had less to do with opposition to chemical treatments than with a desire to protect the College's authority over medical practice. The use of chemical remedies, according to the College, was to be subject to certain conditions. Chemical medicines were only effective and safe to use when approved and created by the College. Qualified physicians were better equipped to recognise whether chemical remedies were effective or dangerous. Hodges even argued that qualified physicians "have been the chief Promoters of *Chymistry*, and are *best qualified* to bring it to *perfection*." In fact, "the *laywful Physicians* in this *Kingdom* are the truest *Chymists*."[140] This was due to their qualifications, which were the "principal requisites for the study and practice of chymistry"[141] College members therefore argued that it was not necessary for total reform of the medical system, as the Galenists had already incorporated the chemical medicines they deemed useful into their practices. As Hodges claimed (in the quotation at the start of this chapter), the conflict was pointless.

The 'Failure' of the Society of Chemical Physicians

Despite the apparent threat that the Society posed to the College, it would ultimately fail to establish itself as a group in London. In April or May of 1665, O'Dowde, Nedham and Thomson had an audience with King Charles II to argue for formal recognition of the Society. There is no evidence of this audience in the English State Papers, and there is conflicting evidence on how the meeting went.[142] Although Thomson had stated they received "favourable Countenance"

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[138] Sprakling, *Medela ignorantiae*, 31, 33, 45.
[139] Johnson, quoted in Cook, *The Decline*, 154.
[140] Ibid., 110.
[141] Hodges, *Vindiciæ medicinæ & medicorum*, 110, 117-8, 135.
[142] Cook, "The Society of Chemical Physicians," 74; Peter Elmer, *Medicine in the Age of a Revolution* (Oxford: Oxford Academic, 2023), 123-4.

from the King, Nedham had felt “chidden rather than countenanced” during the audience. College members who attended the meeting also stated that the Society was accused of being anti-establishment and of being quacks.[143]

Historians have suggested numerous reasons for this ‘failure.’ According to Cook, the numerous plague-related deaths of key figures in the group (such as O’Dowde and Starkley) contributed to the Society’s decline.[144] Other historians, agreeing with members of the College, have suggested that the Society’s failure was largely due to the College’s success in portraying members of Society as “quacks.” As Thorpe states, the College “expertly utilised the language of anti-quackery to procure the disapproval of the King, who understood the Society’s protests against the College as anti-establishment.”[145] For example, William Johnson’s comparisons of the enthusiasm of chemists with religious enthusiasm of “fanatiks,” may have appeared to be a “prelude to social and political anarchy” to those in power. According to Elmer, it was the “inability of its proponents to overcome the stigma of social and intellectual subversion that clung to iatrochemists for much of this period.”[146] But internal dissension within the group may also have been a cause of its demise. The “mixed religious and political persuasions” perhaps made it difficult for members of the group to cooperate with each other. Thomson had to “utterly disowne” Bolnest for causing trouble over a contract from the King to be a physician at the port of Southampton.

The Society’s disappearance may also be explained by its failure to establish a monopoly over chemistry and to win over enough support for its own remedies. This was due not only to the appropriation of chemical medicines into the College’s pharmacopeia, but also to the difficulty the Society had in distancing itself from the irregular practitioners and their medicines in London’s increasingly competitive market. Thorpe argues that their readymade medicines were easily replicated. It was perhaps also difficult to convince contemporaries that ‘delicious’ remedies were more effective than the Galenic remedies that had been used for centuries.

143 Thomson, *Galeno-pale*, 103-4; Nedham in Bolnest, *Medicina instavrata*, 13.
144 Cook, *The Decline of the Old Medical Regime in Stuart London*, 180.
145 Thorpe, “In the Middest of Death,” 104.
146 Elmer, *Medicine in the Age of a Revolution*, 134.

According to Wear, by the end of the seventeenth century, "Helmontian medicines…had largely disappeared from view."[147]

But the 'failure' of the Society by no means meant the failure of Helmontian ideas. Elmer states that the thirty-five chemical practitioners who signed the 1665 petition "represented the tip of a very large iceberg." The result of the conflict between the Society and College "continued to shape medical thinking for much of the rest of the century."[148] King Charles II continued to show support for chemistry after 1665, and a campaign began at court in 1667 to promote chemistry. Trade in chemically prepared medicines was also to become more popular by the end of the seventeenth century, and by this point, chemical medicines were being prescribed by physicians across the religious and political spectrum. Courses in chemistry were also created, not only by private individuals, but by university and learned bodies like the Society of Apothecaries. Although the Society failed to overturn the College and its traditional ideas and treatments of plague in 1665, it perhaps provided the basis for greater momentum to challenge the College in the future.

In conclusion, traditional Galenic ideas of plague were being increasingly challenged by 1665. As this chapter has demonstrated, the works of Paracelsus and van Helmont impelled a growing number of contemporaries to challenge Galenic caution theories and treatments for diseases like plague. Galenic ideas of the six non-naturals and the humours as the most important constituents of the body were dismissed by Helmontians in favour of focus on the archeus as the main determinant of a body's health. Chemical remedies for plague were promoted by Helmontians over Galenic allopathic treatments for plague. Tensions between Galenists and Helmontians increased in 1665 when the Society was formed, and the pamphlet war that ensued between them and the Society seemed to represent a heightened threat to the dominance of the College and Galenic ideas.

This 'war' appears to lend weight to the argument that a crisis such as an epidemic could act as a catalyst, generating new medical approaches to the body and disease. In the longer term,

[147] Wear, *Knowledge and Practice*, 366.
[148] For this and the following, see Elmer, *Medicine in the Age of a Revolution.*, 123, 147, 148.

Helmontian ideas did eventually take hold, and Galenism was to lose its position as the primary theory for explaining the body's health. But it does not appear that the Great Plague had much effect on this process. The outcome of the polemical debate between the College and Society during the visitation was limited. The differences between Galenists and chemical physicians were not as great as the pamphlet war seemed to indicate, and the College was flexible enough to appropriate some of the chemical approaches to medicine favoured by the Society.

There were also other reasons why the Helmontians did not make significant headway during the Plague and its immediate aftermath. This chapter has covered the 'natural' debates on plague between the Galenists and Helmontians, but this ignores a key part of the understanding of plague at this time. As we will see, the next chapter will look at the influence of religion on ideas of plague which members of the College and the Society also shared.

Chapter Three

Religion and Medicine in 1665

"The neer alliance between *DIVINITY* and *MEDICINE*, whose relation is as intimate as the Union of *Soul* and *Body*, hath setled such a Sympathy in both Professions, that they necessarily partake of the Infelicity and Prosperity happening to each other."

Nathaniel Hodges, *Vindiciæ medicinæ & medicorum*, 1666

The conflict between Galenists and Helmontians largely focused on differing views on the nature of the human body and on the natural treatment for plague. But there was a wider context in which these views were often placed. Calamities like droughts, fire and plague had long been attributed in Christian Europe to the hand of God, whether directly, or (as was more common in the seventeenth century) through secondary causes.[1] Plague itself was not simply "an impersonal, natural force," resulting from miasma and contagion and therefore treatable by physicians and regulated by the government. It was also thought to be related to society's moral state: plague was sent as a punishment for the sins of mankind.[2] As Wear argues, "Christianity offered both an explanation for illness and a cure."[3] Ideal health was seen as a combination of both spiritual and physical factors.[4] Religion was still part of the "medical marketplace" in early modern Europe, in both Protestant and Catholic countries.[5]

Religious responses to plague by 1665 had been affected by the Reformation, and there were certain differences between Catholic and Protestant cities or countries in how they dealt with plague, at least in relation to differing understandings of sin and its expiation. Catholics believed

[1] Karen Jillings, *An Urban History of the Plague: Socio-economic, Political and Medical Impacts in a Scottish Community, 1500-1650* (Oxon: Routledge, 2018), 39.
[2] Ibid., 63.
[3] Andrew Wear, "Religious Beliefs and Medicine in Early Modern England," in *The Task of Healing- Medicine, Religion and Gender in England and the Netherlands,* eds. Hilary Marland and Margaret Pelling (Rotterdam: Erasmus Publishing, 1996), 147.
[4] Christi Sumich, *Divine Doctors and Dreadful Distempers: How Practicing Medicine Became a Respectable Profession* (Leiden: Brill Academic pub, 2013), 6.
[5] Wear, "Religious Beliefs and Medicine in Early Modern England," 145.

that repentance for sin, and punishment due from sin, involved a combination of internal contrition and good deeds. These could involve the veneration of relics, pilgrimages to holy sites, as well as prayers to saints. Before and after the Reformation in Catholic countries there was greater emphasis on prayers to saints like St Sebastian, St Roch and the Virgin Mary, as well as special masses and processions against plague. But Protestants, in varying degrees, believed practices like prayers to saints and pilgrimages were superstitious, and that faith alone would gain God's favour.[6] In England, Protestants developed new forms of public prayer to use on days of public fasting in every major epidemic after 1563.[7] Protestants also tended to place greater emphasis on communal contrition instead of individual acts of piety and charity. For example, widespread communal fasting (rather than the individual fasting practiced under Catholicism) was seen as more important as it was believed to be a greater display of repentance, and therefore be more likely to gain God's mercy.

But the differences in emphasis between Catholics and Protestants did little to alter the traditional religious understanding that God was the ultimate cause of plague, and that He had brought it about due to mankind's sins. In responses to plague, there was more a difference in emphasis than in approach. Although by 1665, Protestants placed greater emphasis on communal acts of repentance and prayer, public processions and supplications still happened in Catholic countries, and Protestants as well as Catholics were still expected to undertake repentance in private.[8] In any case, the Reformation did not disrupt the relationship between Galenism and Christianity. Galen's views had been incorporated into a Christian framework; and Catholic medical theorists had strongly linked the health of the body with that of the soul, and the natural causes of plague with the workings ultimately of God. These views, which were not matters of doctrinal dispute, passed relatively uninterrupted into Protestant contexts. Galenic texts continued to be used in Protestant and Catholic universities, and medical practices were not majorly different. The only major challenge to Galenism, as we have seen, was from the

[6] Janna Coomans, Léa Hermenault, Rogier van Kooten, and Claire Weeda, Plague, "Religion and Urban Space in Sixteenth-Century Antwerp," *Social History of Medicine* 37, no. 3 (2024): 587.
[7] Paul Slack, *The Impact of Plague, in Tudor and Stuart England*, (London: Routledge & Keagan Paul, 1985), 30.
[8] For this and the following, see: Mary Lindenmann, *Medicine and Society in Early Modern Europe* (Cambridge: Cambridge University Press, 1999), 209.

adherents of chemical medicine. This chapter will return to this debate by considering whether Galenists and Helmontians diverged from a religious perspective.

By the time of the Great Plague, the various shades of English Protestant opinion (including Calvinism and Quakerism) did not strongly affect religious or medical responses.[9] However, some historians have questioned the general importance of religion (of any denomination) in medical theory. It is argued that the "increasing secularisation" of society was changing the way contemporaries viewed disease and the options they had to treat ill health.[10] The seventeenth century witnessed a "slow but steady dismantling of the religious basis for understanding disease."[11] Sumich argues that people were becoming "less dependent upon religious consolation and more reliant upon medical care." This was a period in which "historians generally acknowledge the rise in prominence of the physician."[12] This is related to the decreasing space that medical pamphlets on plague gave to religion. Slack observed that in 1625-6, one third of them dealt with the natural causes of plague, but that in 1665-6, almost two-thirds did (out of 46 publications). He added that most writers, even divines, were more cautious when assigning the role of providence in plague, and fewer were attributing plague to wholly supernatural causes. By 1665, plague writers made an "almost cursory" mention of God as the cause of plague and repentance as a cure, before offering a wide variety of natural explanations and remedies. "God's hand having been relegated to the background," Slack argued, meant that it was a concern with secondary causes that tended to create the majority of disputes in 1665. Observations of infection and the conditions which bred it, were helping to "demolish extravagant claims that supernatural intervention alone explained the phenomenon."[13] Wear agrees with Slack that the decreasing number of religious treatises on plague was a "sign of lessening in the religious significance [attached to] plague," and that medical treatises reflected a similar "decrease in religious sentiment." Physicians such as Hodges and Boghurst, Wear argues, were drawing clear lines between medicine and religion; their pamphlets represented a "rejection of the supernatural and

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[9] Peter Elmer, *The Healing Arts: Health, Disease and Society in Europe* (Manchester: Manchester University Press, 2004), 105.
[10] Sumich, *Divine Doctors and Dreadful Distempers,* 64.
[11] Sienna Craig, "Father, Son, and Holy Plague: How the Information of the Time Caused the Spread of the 1665 Plague," Dartmouth College, 2021. https://course-exhibits.library.dartmouth.edu/s/anthro7/page/plaguehistory
[12] Anslment, quoted in Sumich, *Divine Doctors and Dreadful Distempers*, 63, 64..
[13] Slack, *The Impact of Plague*, 244, 247, 254.

of special acts of God," thus drawing "lines of demarcation between the domains of religion and medicine."[14]

This chapter will test these general observations by comparing a sample of sermons that deal with plague in 1665 with a sample of medical tracts by physicians.[15] Sermons certainly had a different agenda than physicians' texts: inevitably, they placed greater emphasis on religious responses to plague and used the outbreak of the epidemic to convey spiritual messages.[16] The purposes of plague pamphlets produced by medical writers were different from those of sermons, and they did give greater attention to natural causes of plague and treatments – though God continued to be accorded an important role in these causes and treatments. But attention needs to be given to the overlaps between the two types of treatise. Sermons used the language and ideas of physicians, and vice versa. This is not unsurprising, since clergymen and physicians could share similar outlooks or even careers. The medical training of physician at a university level, included an education in theology.[17] Some clergymen became physicians, such as Richard Napier, for example.[18] These overlaps also tend to belie generalisations about the declining importance of religion in medical theory.

Preachers and Physicians in 1665: Divergent Views

There were some key differences of emphasis between preachers and physicians in their responses to plague. John Edwards (1637-1716), a Calvinistic divine working at Trinity Church in Cambridge during the outbreak, drew a clear distinction between the 'plague of the body', the current pestilence, and the 'plague of the heart.' For Edwards, the 'present plague' ultimately served as an occasion to urge people to avoid sin and reform their spiritual lives: "As you have the *Plague* of the *Body* wasting in your streets, so you are to take notice of a *worser*, even the

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[14] Andrew Wear, *Knowledge and Practice in English medicine, 1550-1680* (Cambridge: Cambridge University Press, 2000), 291-2.
[15] This section uses a sample of four sermons from around 1665. These are by John Edwards, the Chaplain of Cambridge (1637-1716), Richards Kingston, Minster at St James, Clerkenwell (1635-1710), John Featly, Chaplain to Charles 1 (1605 – 1666) and the minister Thomas Brooks, (1608-1680).
[16] Sumich, *Divine Doctors and Dreadful Distempers,* 218.
[17] Cook, *The Decline of the Old Medical Regime in Stuart London*, (London: Cornell University Press, 1986), 80
[18] Lauren Kassell and Robert Ralley. "Prayer and Physic in Seventeenth-Century England," *Early Science and Medicine* 26, no. 5/6 (2021): 480.

Spiritual Plague of your *Hearts*." This was a plague that physicians were unable to treat: only spiritual medicine could "*wash out the spots of sin*."[19] Edwards argued "there are *Doctors* who prescribe Physick, which leavs the Patient as sick as it found him: he is sick at *Heart*." Moreover, although sin, like the bodily plague, "sweeps all before it and *seldom gives Quarter*," it did so "in a *more terrible* manner."[20] The spiritual plague seizes "on the *best* part, the *soul* of man," and is more dangerous, as it was invisible and "hard to be discerned."[21] It "destroys more *silently*, so more suddenly than the *Bodily Plague*." It also "*sticks closer*, and *stays longer*" and spreads much further, poisoning "all our duties, actions, and performances." The plague of the soul also had a greater mortality rate than that of the body. The bodily plague "may kill its thousands, but this [plague of the soul] it's ten thousands." Sinfulness was key to illness. Bills of mortality every fortnight showed how many died from the bodily plague, but many more souls died weekly from the spiritual plague: "more *souls* perish then *bodies*."[22] Richard Kingston (1635-1710), a Minister at St James in Clerkenwell, insisted that "the destruction of the body is but a *momentary pain*, but that of the Soul is *commensurate* to the *duration* of it, which is to all *Eternity*." Cure of the bodily plague is "uncertain" but the cure of the soul plague is "infalliable" as long as one turns to Christ.[23]

Inevitably, therefore, sermons referring to plague are concerned far more than medical tracts with denouncing the illness of sinful behaviour. Kingston referred to sins such as Sabbath breaking, "*uncharitableness*," lust, "Excess in *Eating* and *Drinking*," revealing apparel, excess pride and even "*Rebellious murmuring*."[24] Vincent similarly castigated "the old drunkards, and swearers, and unclean persons are brought into great straits; they look on the right hand, and on the left, and Death is marching towards them from every part."[25]

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[19] John Edwards, *The Plague of the Heart* (Cambridge: 1665; EEBO), 17.
[20] Richard Kingston, *Pillulæ pestilentiales,* (London: 1665; EEBO), 25.
[21] Edwards, *The Plague of the Heart*, 10
[22] Ibid, 11, 12
[23] Kingston, *Pillulæ pestilentiales,* 25, 30
[24] Kingston, *Pillulæ pestilentiales,* For further comment on the concerns of governing bodies in London about social order, see chapter four.
[25] Thomas Vincent, *God's Terrible Voice in the City,* quoted in Sumich, *Divine Doctors and Dreadful Distempers,* 228.

Preachers did draw comparisons between the two kinds of plague, but often in ways that still made them distinct. The comparisons John Edwards made were in many ways metaphorical, and ultimately served his purpose of explaining and healing spiritual illness. He argued it would be "worth our while, to search into the nature of this *deadly disease*, to shew the resemblance between the *spirituall* and *bodily Plague*, and to know the nature of *the one* by *the other*."[26] Thus, it was useful to describe both plagues as "poisons," one corrupting the blood, the other the soul. The sinner was like a leper, "his soul a very Spittle of diseases, sicknesses, sores and bruises." Inner sins were like outer marks of illness: "*boiles and swellings*, *spots* and the like *tokens* discover themselves in the outward parts. And are there not as sad breakings out of sin, are there not fouler blemishes and spots upon every wicked man?" Kingston also argued that bodily plague attacked the vital spirits and oppressed them, while sin "blinds the understanding, corrupts the will and so *poisons* all our *Intellectual faculties* that we cannot see the *light* of *Faith*."[27]

Yet despite the clear distinctions that preachers made between bodily and spiritual plague, the two were unquestionably linked. The 'hand of God' was apparent behind the present plague; it had been sent by God, as a punishment for the sins of mankind, and these could be individual or collective. Plague showed the "finger of God," and one of his "three arrows" alongside war and famine.[28] It was the result of "God's anger, inflamed by *Sin*," which mankind had brought upon themselves, as they had in the Bible in Egypt and Jerusalem.[29] There was "*divine superintendency* in all our calamities."[30] This punishment was well-deserved. Kingston argued God "never *sendeth Evil upon us,* before we *have it in us*." God had punished mankind "but *we cause*, and after a sort *force* him to do it. *God inflicteth strikes*, but we *deserve* them. *God striketh*, but *we provoke*."[31] Mankind had sinned, and God justly "strikes our *heads* with *giddiness*, drawers *paleness* on our *faces*, and dyes our *Skins* with *purple*."[32] It was useless to flee, for God's wrath would follow: "Be sure that thou flyest not away from the Town where

[26] Edwards, *The Plague of the Heart*, 19.
[27] Kingston, *Pillulæ pestilentiales,* 21.
[28] Ibid., 14; Wear, *Knowledge and Practice in English Medicine,* 279.
[29] Kingston, *Pillulæ pestilentiales,* 15.
[30] Edwards, *The Plague of the Heart*, 19.
[31] Kingston, *Pillulæ pestilentiales,* 50.
[32] Kingston, *Pillulæ pestilentiales,* 9.

Infection is, that thou mayst sin *more securely* in another place: remember God sees thee, and can send his *flying arrows* after thee."[33]

The causal links that preachers detected between the two kinds of plague did not necessarily bring their views closer to those of physicians. Preachers placed far more emphasis than physicians generally did in 1665 on the divine causes of plague, as we will see. Some were also emphatic about the irrelevance of 'natural' causes. "Say not then," John Edwards insisted, "that the influence of the starrs and heavenly bodies, or the late glaring Comets which appeared, were the causes of the *burning feavers* and *malignant distempers*, and even of this fatall *Pestilence*, which *sweeps* so many into their graves." "*Philosophers* and *Naturalists*" were permitted to search into the *secondary* and *physicall* causes of this dreadfull distemper; but as *Christians* and those that live by *higher principles*, you are *first* to *look up* unto God, and then *down* into your selves, and there behold the *Hand* of the *Lord* stretched out against you."[34] Brooks argued that physicians who focused on factors like the corruption of the air of malignancy of the planets were "physitians of no value" who were unable to "look above second causes, to the First Cause, that cannot look to the wheel within the wheel."[35] To Brooks, plague was ultimately "the extraordinary immediate power and work of God, without the intervening of any second cause or humane operation."[36]

This emphasis on the divine causes of plague made preachers more concerned than physicians with the need to seek spiritual remedies for it. For some preachers it was dangerous to focus only on one's physical health and rely too much on natural remedies.[37] Religious preventatives and remedies for plague were therefore essential to combatting plague. Advice in sermons typically involved dealing with sin. Kingston stated that the treatment had already been revealed in scripture: "If my people which are called by my name, shall humble themselves, and pray, and seek my face, and turn from their wicked ways: Then will I hear from heaven and will forgive their Sin, and will heal their Land."[38] Kingston referenced the case of King Asa in scripture, who

[33] Edwards, *The Plague of the Heart*, 44.
[34] Ibid., 20.
[35] Brooks, *A heavenly cordial*, 3-4.
[36] Ibid., 4.
[37] Sumich, *Divine Doctors and Dreadful Distempers*, 56.
[38] Kingston, *Pillulæ pestilentiales*, 51.

during his sickness had made the mistake of looking "more after the physician than after God." He had not considered that "the *infirmity* of his *soul* was to be *healed* as well as that of his *body*, and therefor look'd for *natural remedies* only."[39] It was important to avoid this fault; one must "acknowledge the *hand of God* in this *Sickness,* and something *above nature*."[40]

Therefore, the "plague-antidote" consisted of three spiritual, rather than natural, "ingredients": humility, prayer and repentance. Humility involved recognising a deep sense of "unworthiness" and acknowledging one's "own vileness and enormity" of the actions that had "provoked his just *displeasure.*"[41] Therefore, to avoid pestilence, it was crucial to "see the odiousness of sin" in oneself, and "be afraid to offend God."[42] Prayer was just as important, and prayers and meditations were frequently published during an outbreak appealing for God's mercy.[43] It was not enough to simply call oneself a Christian. It was vital to be a "*good* and *pious Christians*," placing your trust completely in God and praying frequently.[44] The prayer had to be earnest and fervent and "without ceasing."[45] It must express "ready adoration of the Holyness," and ask for forgiveness for sin so that God would effect a cure.[46] However, prayer would never be fully effective unless one repented from sin. Repentance involved "*Compunction* or *Contrition* for *Sin*," "*confession of sin*" (involving "grief, sorrow and hatred of sin") and "*conversion from Sin to God*."[47] Fasting was also frequently suggested as effective repentance; it helped to "promote piety and devotion."[48] Therefore, a combination of humility, prayer and repentance was necessary to prevent and treat pestilence. Only with this would God "*hear from heaven, forgive our sins and heal our land*."[49] As we will see in chapter four, there were other public and religious responses to plague that emphasised this need.

[39] Kingston, *Pillulæ pestilentiales,* 18-19. Old Testament: 2 Chronicles 16.
[40] Ibid., 19.
[41] Ibid, 56.
[42] Edwards, *The plague of the heart*, 14.
[43] Sumich, *Divine Doctors and Dreadful Distempers,* 220.
[44] Kingston, *Pillulæ pestilentiales* 72.
[45] Ibid, 79.
[46] John Featley, *A divine antidote against the plague,* (London: 1665; EEBO), 75.
[47] Edwards, *The plague of the heart,* 17, 15.
[48] Ibid., 38.
[49] Kingston, *Pillulæ pestilentiales,* 85.

Preachers and Physicians: Convergent Views

The strong emphasis that preachers placed on spiritual illness and its healing did not mean, however, that their views on plague were fundamentally different from those of physicians. Despite insisting on the ultimately divine causes of plague, not all divines were critical of secondary or natural explanations. John Edwards conceded that naturalists "were permitted" to examine the secondary causes, even if these had to "give way to His *providence*."[50] Slack suggests that divines (as well as other writers) were becoming increasingly cautious in assigning every outbreak of plague to the immediate hand of God.[51] The preacher Vincent did argue that while "peculiar providences" could happen, they were becoming less common. During Biblical times there was "an immediate hand of God in the disease" as God made "greater discrimination between the bodies of the righteous and the bodies of wicked." But now, plagues appeared more gradually through contagion and "whatever extraordinary hand of providence do send them as punishment for Sin" they did not have "that ministration of angels in the inflicting of them, more than other diseases."[52] Kingston acknowledged that God could send plague through secondary causes, as he had in the Bible. Although the real cause of plague was the "*latent Corruption* within us," infected air, corrupt humours and contagion from the sick could play a role in the "natural part" of plague.[53] Secondary causes were being acknowledged by preachers as important, but the ultimate cause of these was still divine.

For preachers, divine and natural causes were compatible explanations for plague outbreaks, if the one was given primacy over the other. At the same time, healing the body overlapped with healing the soul because body and soul were inextricably linked.[54] The comparisons made in sermons between plagues of body and heart were more than metaphors. Sinning produced physical symptoms. Although sin was a "distemper and sickness of the soul," it could have a

[50] Edwards, *The plague of the heart,* 20.
[51] Slack, *The Impact of Plague*, 247.
[52] Thomas Vincent, quoted in Slack, *The Impact of Plague,* 247.
[53] Kingston, *Pillulæ pestilentiales,* 16-7
[54] Wear, *Knowledge and Practice in English Medicine*, 29-34.

physical effect.[55] The sinner was "always in a feaver," and could experience pain, vertigo, and changes in emotions. Sin could even produce physical maladies which were "as ill boading to the *Soul* as the other to the *body*."[56] These included boils, swellings, spots, and "tokens."[57] To John Edwards, such physical effects were the "*sad breakings out* of sin," the "palpable *risings* of uncleanliness," and the "*swellings* and *tumours* of pride."[58] Sin could even worsen bodily plague: "*sin* which is the *plague* of the *Soul*, begets the *Plague* of the *Body*."[59] Infection of the soul could even come from contact with, or even sight of, a corrupted body: St John and his scholar made haste from the bath where "they espyed *Corinthus*, that Arch-heretick, to be there, as they feared infection from the very *water* that mans limbs were washed in."[60]

In connecting bodily and spiritual illnesses, the views of sermons and medical texts converge more closely. The language preachers used about the body, and the need to balance the humours and dispositions of the body to avoid illness, drew heavily from Galenic traditions. Pestilence was a "poison" which "spoils the agreement and harmony of the parts of the body."[61] Spiritual and bodily Plague were about "distempers" of body and heart. The present plague was a "dreadful distemper;" sin bred distempers of the body; the source of distemper lay in the heart. Like physicians, preachers urged people to avoid "intemperate" living. This aligned with virtue and the avoidance of sin: drunkenness and swearing were to be avoided. Even dietary recommendations could converge: "*keep a diet*, in order to the *preserving* of thy self from the *Souls Plague*, urged John Edwards; "too high and plentifull a feeding increaseth any disease in us; see that thou be *moderate* in the use of the creatures."[62] Moderation applied to both body and soul: "Indulge not an intemperate course of living, for *death is in the pot* which is *set on* by *luxury* and *wantoness*."[63] Staying away from "*Schools* of *Vice*, *Shops* of *Sin*, and *Nurseries* of *Prophaness* and *Lewdness*…" was about avoiding dangers for the soul, but it was also about

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[55] Edwards, *The plague of the heart,* 3.
[56] Kingston, *Pillulæ pestilentiales,* 26.
[57] Edwards, *The plague of the heart*, 6-7.
[58] Ibid.
[59] Kingston, *Pillulæ pestilentiales,* 21.
[60] Edwards, *The plague of the heart,* 15. See also discussion of the role of fear in 'causing' plague by Galenist physicians in chapter one.
[61] Ibid., 3.
[62] Featley, *A divine antidote against the plague,* 18-19.
[63] Edwards, *The plague of the heart,* 19.

avoiding excess that damaged the body.[64] Like the bodily plague, sin was "*Epidemicall* and *catching*," and people could corrupt themselves and in turn corrupt others. Conversing with "*wicked men*" meant a person could be "*tainted* by their Impurities." Associating with "notorious sinners" and those with plague-sores means that "you partake in their sin; your commerce with them draws the infection to yourselves."[65] As we will see in chapter four, both the views of physicians and preachers on the effects of moral corruption converge in public responses to plague by the city government.

Divines therefore did not completely reject natural medicine, and sometimes argued that natural preventatives and remedies for plague would work in combination with faith. John Edwards declaimed: "Thou mayst repair to the Physitian, but remember that thou *seekest* to God *first* and *beggest* his *blessing chiefly*; for it is only under the conduct of *Divine Providence*, that those *outward means* and *supplies*, helps and *medicines* do take effect."[66] The medical metaphors used by preachers eased fluidity between physical and spiritual healing, above all because the health of body and soul were regarded as inseparable.[67]

Physicians and Religion: Divergences

One of the chief differences of emphasis between sermons and medical texts on the subject of plague is the role each ascribed to God in causing plague. As we will see, physicians did not discount divine intervention as the primary cause, but gave more, and more varied, attention to the secondary causes through which God operated. A greater number of medical writers were now arguing that God was more likely to send plague through secondary causes, and some pamphlets now focused solely on the natural aspects of plague.[68] As Sumich argued "it was

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[64] Edwards, *The plague of the heart*, 14.
[65] Kingston, *Pillulæ pestilentiales*, 14-15, 23.
[66] Edwards, *The plague of the heart*, 43.
[67] For further discussion of medical metaphors in English theology, see David Harley, "Medical Metaphors in English Moral Theology, 1560-1660," J*ournal of the History of Medicine and Allied Sciences* 48, no 4 (1993): 396-435.
[68] Lloyd A. Moote and Dorothy C. Moote, *The Great Plague: The Story of London's Most Deadly Year* (Maryland: The Johns Hopkins University Press, 2006), 67. Gideon Harvey in *A discourse of the plague*, (London, 1665; EEBO) for example, does not specify supernatural causes of plague; Anon, *The plagues approved physitian* (London, 1665; EEBO), also does not include supernatural causes of plague (but does include a prayer to prevent it).

becoming difficult to attribute plague solely to the will of God without considering secondary causes." These causes could be more easily "studied and were in theory controllable."[69] Hodges acknowledged the role of God, who unleashed plague as "his *severe judgement* to punish mankind," but argued that this did not mean that one should "wholly to desist from all manner of search into *natural causes*, on the knowledg of which depends the *Cure*, procured both by our *devotion*, and the *commanded use* of *natural means*."[70]

Some argued that God sent plague solely through secondary means. Boghurst stated that like war and famine (which God sent "by the ministry of known and second causes"), it was unreasonable to believe that pestilence was created "de novo and immediately from God."[71] Quincy shared this view: "although too great a regard cannot be had to the Author of our Beings," one should avoid ascribing "every calamity to the immediate exertion of the almighty power." It seemed "much more worthy of the Divine Being so to order it, that from the Course of second or natural Causes, Punishments shall pursue Offenders, than to imagine the frequent Exertion of his Power in a Way supernatural to inflict such Punishments."[72] Garencières appeared to make a greater separation between the natural and supernatural causes of plague, stating that it could be caused by God or "from a peculiar and mediate disposition, and configuration of the Starrs and Planets."[73]

Physicians also appear to have been drawing stronger lines between their role and that of divines.[74] Hodges argued that "the great God's Purposes are Secrets too awful for Mortals to pry in to." It was "sufficient "to the Purpose of a Physician, to assign natural and obvious Causes; and where such are discoverable, it is unworthy of him and the divine Art he professes, as well as an Affront to good Sense, to have Recourse to any other."[75] Thus too, medical tracts were far more focused than sermons on the 'particular symptoms and phenomemna of plague" and the 'natural' remedies for it.[76]

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[69] Sumich, *Divine Doctors and Dreadful Distempers,* 222-3.
[70] Nathaniel Hodges, *Vindiciae Medicinae & Medicorum* (London: 1666; EEBO), 196-197.
[71] Wear, *Knowledge and practice in English medicine,* 291.
[72] Hodges, *Loimogloia,* (London, 1720: EBO), 233.
[73] Theophilvs Garencières, *A mite cast,* (London:1665; EEBO), 3.
[74] Wear, *Knowledge and Practice in English Medicine*, 291-2.
[75] Hodges, *Loimologia,* 31.
[76] Slack, *The Impact of Plague,* 247-8.

Physicians and Divines: Convergences

For all the emphasis on natural causes and remedies, medical pamphlets in 1665 still reveal the importance of religion. The majority continued to include a section dedicated to God at the beginning. As Sumich argued, the idea that plague was the result of God "was so ubiquitous that it is difficult to find a publication of any kind, religious or secular in nature, which did not begin with this premise, whether published in 1500 or 1700."[77] Even though there was growing confidence in explaining plague through secondary causes, this did not remove belief that God punished sin with plague. The attention paid in medical texts to God as the primary cause did vary though. Some were very brief if not perfunctory. But others included lengthier discussions with specific references to biblical passages, similar to sermons written by divines. Some even maintained that plague could occur without the concurrence of natural causes. Kemp argued that plague could be "extraordinarily sent from God," a belief, he argued, that was shared by everyone, including physicians.[78] This convergence was especially likely in a medical writer who was also a minister: Kephale ascribed plagues to the direct wrath of God.[79] Simpson discussed pestilence "whereby God is pleased to permit multitudes of people to be swept away, and thereby, as it were, to thin the Earth."[80]

Medical writers therefore could also see a connection, like divines, between plague and sin. Accordingly, some medical pamphlets listed sins that were likely to cause plague or contribute to its spread. Like sermons, they denounced sins such as drunkenness, lust and rioting. The poor were especially prone to these sins, because they were "not only deprived but also depraved."[81] Hodges argued that certain suburbs of London were full of the "unruly poor." [82] He added that as a result of quarantine, the poor were more likely to commit sins like rioting and drunkenness

[77] Sumich, *Divine Doctors and Dreadful Distempers,* 220
[78] William Kemp, *A brief treatise of the nature, causes, signes, preservation from, and cure of the pestilence collected by W. Kemp* (London: 1665; EEBO), 2.
[79] Richard Kephale, *Medela pestilentiae,* (London: 1665; EEBO), 7.
[80] William Simpson, *Zenexton ante-pestilentiale,* (London: 1665; EEBO), 1.
[81] Jillings, *An Urban History of the Plague,* 55.
[82] Dekker and Hodges, quoted in Sumich, *Divine Doctors and Dreadful Distempers,* 229.

since they "have nothing to do but to commit those sins, which certainly deserve, and infallibly bring plague upon them."[83]

Despite the increased focus on secondary causes and natural treatments for plague, therefore, religious prevention was still important to physicians. Slack also argues that while physicians were focusing more on natural causes and treatments, this "had not removed the necessity to seek religious protection and consolation against its continuing hazards."[84] Thorpe writes that "the vernacular medical writers of 1665 maintained that the surest preventative measure against plague was the protection of the soul."[85] Some physicians stressed the superiority of supernatural remedies over natural ones. Kemp argued that "faith and repentance, prayer and patience, which although not prescribed by *Galen* or *Hyppocrates,* nor found out by *Paracelsus,* nor sold by Chymists or Apothecaries, are revealed by God himself, approved by the Prophets and Apostles, and may be had for asking, and never fail'd those that us'd them."[86] While there were many good natural remedies, Kemp argued, physicians had still not found a way to protect people from normal diseases, let alone "supernatural maladies." Instead, "coelestial and Supernatural Medicines are of a far more Noble and Certain Operation, and if any may be called *The Hands of God,* these are they."[87] Medical writers typically suggested "repentance, prayer and, eschewing sinful behaviour," in order to prevent plague.[88] Prayer and repentance were important at both a personal and collective level. In 1665, Hodges stressed the importance of personal repentance, and also endorsed monthly prayers and public fasts as they helped to prevent the corruption of air and disperse "pestilential steams."[89]

Although medical writers were much greater advocates for natural preventatives and treatments than divines, many still argued that they were only effective when combined with God's blessing. Hodges argued that "by *God's blessing* and the *care* and *skill* of *experienced*

[83] Hodges, *Loimoglia*, 7. For further comment on governmental concerns about the immorality of the poor, see chapter four.
[84] Slack, *The impact of plague,* 254.
[85] Thorpe, "In the Middest of Death," 171.
[86] Kemp, *A brief treatise of the nature, causes, signes, preservation from, and cure of the pestilence*, 3.
[87] Ibid., 4.
[88] Sumich, *Divine Doctors and Dreadful Distempers,* 238.
[89] Hodges, *Loimologia*, 13.

Physitians very many recover."[90] The start of Cocke's section on natural preventatives against plague for the poor was titled "the cure God permitting." A combination of his instructions, "with God's blessing" could preserve one from plague.[91] Without God's blessing, Cocke argued "neither master Paul, nor Apollo, Galenist, nor Chymist, food nor physick can do nothing."[92] Repentance for one's sins was also important before turning to medicine. Hodges argued it was important first to "exhort the infected, that they have due regard to the almighty power," through "confessing and seeking Forgiveness for Sin." In addition, it was also important to implore "His Blessing upon those Remedies and Means for Recovery which even the most skilful Physician can prescribe."[93]

A combination of both supernatural and natural remedies was often recommended by medical writers. During every major outbreak of the seventeenth century, including that of 1665, the College published a pamphlet for preservatives and remedies for plague "both spiritual and temporal." It had sections dedicated to natural remedies for the "plague of the body" and also sections on remedies for the "plague of the soule," which they thought were important for aiding the natural remedies.[94] Ultimately, Christian Galenic medicine traditionally assumed a connection between bodily and spiritual health. The balance of the humours and of the passions partly depended on maintaining moderation and temperance. Although Galenist physicians focused on the somatic effects of these processes, they shared a general understanding with the divines that body and soul were linked.

Medical advice also borrowed the language of vice and virtue used by divines. The spiritual section of the College's pamphlet in 1665 included a metaphoric recipe for remedying plague that was based on "virtue, Christ's grace and humility."[95] Just as divines used medical metaphors to explain the effects of spiritual illness, so physicians used religious and medical language to convey the importance of supernatural remedies. For example, the College suggested taking the

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[90] Hodges, *Vindiciae Medicinae & Medicorum*, 225.
[91] Thomas Cocke, *Advice for the poor* (London, 1665; EEBO), 1, 3.
[92] Moote and Moote, *The Great Plague,* 102.
[93] Hodges, *Loimologia*, 152.
[94] Royal College of Physicians of London, *The Kings medicines for the plague*, (London: 1604; EEBO), unpaginated.
[95] Sumich, *Divine Doctors and Dreadful Distempers,* 227.

“herb of patience,” the “herb of Uertue” (the doing of good) and the “*Treacle of hope*.”[96] Spiritual alternatives to natural ingredients were also recommended. Instead of white Ginger one could take the “hot Ginger of loue towards God & they neighbour,” and in place of elder-leaves, one could use “*Elders Examples*, following and imitating the Elders of Israel.” The pamphlet also ends with two prayers. One is for those who had not been visited by the plague yet, emphasising to them the importance of confessing their sin: without it they deserved “all Plagues and punishments in this life…damnation both of body and soule.” The other is a prayer for those who had already been visited by plague, and it pleads for God’s mercy.[97]

Physicians, like divines, considered God to be the best physician. Perhaps some physicians took this a little further than divines would have allowed. Some claimed their healing abilities had also been granted by God. God had created the physician, according to Hodges, and had bestowed upon him the talents needed to treat diseases like plague.[98] Physicians referred to a “natural connection between God and the physician,” presenting themselves as the “hands of God” and the approved “heirs of God’s healing power.”[99] Cocke argued that God had bestowed “a small Talent” upon him.[100] Medical pamphlets also sometimes cited biblical passages which made references to the importance of physicians. Yet while divines generally did not speak of the talents of physicians in this way, both converged in accepting the primary importance of God in the process of healing. Thus, as Sumich writes, the inclusion of these references to the divine was not just customary, but “indicative of a culture of healing” among physicians that assumed the involvement of God.[101]

However, there were some religious differences of opinion even among clergymen about response to the plague’s outbreak, especially with regard to fleeing the infected city (referred to by historians as “flight ideology”). Some divines, like Edwards, believed fleeing to be futile and impious, which not only sinful behaviour but neglectful of Christian charity. But others

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[96] Royal College of Physicians of London. *The Kings medicines for the plague,* unpaginated.
[97] Ibid.
[98] Sumich, *Divine Doctors and Dreadful Distempers,* 28.
[99] Ibid., 221.
[100] Cocke, *Advice for the poor,* 6.
[101] Sumich, *Divine Doctors and Dreadful Distempers*, 27.

suggested that staying “presumes upon God’s protection.”[102] Defoe later stated that in 1665 “though it is true that a great many clergymen did shut up their churches, and fled as other people did, for the safety of their lives,” some continued to “officiate, and to keep up the assemblies of the people by constant prayers, and sometimes sermons or brief exhortations to repentance and reformation, and this as long as any would come to hear them.”[103] There seems to be a similar discourse over fleeing amongst medical writers. As seen in chapter one, most medical writers advised people to flee the plague in order to avoid miasma. But others discouraged fleeing on religious grounds, as the physician Herring had written in 1625: “so long as they carry their sinne with them, the Lord will find them out, and his hand will reach them wheresoever they are.”[104]

Helmontians, Galenists and Religion

The importance of religion to later seventeenth-century medicine is also apparent in the views of Helmontians. At one level, ironically, religion came to form a crucial point of difference between them and Galenists. Helmontians asserted that their beliefs and practices were more Christian than those of Galenists, and worked hard to create an image of their practitioners as more godly than Galenists. According to Elmer, the views of Paracelsus “seemed to offer an alternative, more Christian approach to nature and natural philosophy - one that was consonant with the teachings of the Bible.” Both Paracelsus and van Helmont emphasised their closer connections with the Christian faith. Paracelsus drew repeated inspiration from the two books of divine revelation: the book of scripture and the book of nature. He often quoted Ecclesiasticus 38:1, which emphasised honouring the physician, “for the most high hath created him.” Paracelsus also connected chemistry to the Bible: by noting that Creation was a chemical act that had been described in the Book of Genesis.[105] Similarly, van Helmont referred to himself as “but a bell, calling the faithful to the Temple, which remains at the top of the tower, outside.”[106] The

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[102] For detail on this discourse in the sixteenth century, see Spencer J Weinreich and Roy Porter, “How (Not) to Survive a Plague: The Theology of Fleeing Disease in Sixteenth-century England, *Social History of Medicine* 33, no 2, (2020): 355-76,

[103] Daniel Defoe, *Journal of the Plague Year* (London: 1722; Gutenberg Project), unpaginated.

[104] Francis Herring, *Certaine rules, directions, or advertisements for this time of pestilentiall contagion*, (London: 1628; EEBO), page unnumbered.

[105] Elmer, *The Healing Arts: Health, Disease and Society in Europe 1500-1800*, 111.

[106] Georgiana Hedesan, *An Alchemical Quest for Universal Knowledge* (London: Routledge, 2016), 193.

Christianity of Paracelsus and van Helmont was often referenced by Helmontians in 1665 as part of the argument for the superiority of Paracelsian and Helmontian views over those of Galenists. Helmontians in 1665 often praised Paracelsus and van Helmont for their religious views. Bolnest stated that there was no page in Paracelsus' works that "in which he doth not, and more than once or twice, with a true Christian regard, and reverance, name and mention both the Name of God, and also of our Saviour himself."[107] Thomson saw Helmont as "ordained in these last times by especial providence of God, for the comfort and relief of a distressed Man."[108]

Part of the Helmontian attack on Galenic medicine was based on the idea that its roots lay in Paganism. From the 1560s, accusations that Galenism was anti-Christian were being increasingly emphasised. For example, in 1585, Richard Bostoke (1530-1605) a parliamentarian and Paracelsian propagandist stated that Galenism had no Christian core, and that its practices were not sanctioned by God. He also argued that the Galenist and Aristotelian focus on natural and secondary causes was to the "detriment" of the first cause: God.[109] In 1665, the paganism of Galen was often referenced by Helmontians in an attempt to damage the reputation of the College. Thomson stated that Helmont had been "ordained" by God to find the "gross Errours and notorious abuses in Physik." The "bloody course" of Galenists, according to Thomson, "ought to be voted cruel and unchristian, the Life or Soul being seated in the Blood, God having created the Medicines of the Earth, not Bleeding, cutting holes in the Skin, Blisterings, and such like Butchering Tortures, to cure miserable man."[110] Galenist uncharitableness to the poor as well as the tendency of Galenist physicians to flee the area was also seen as un-Christian to Helmontians. Therefore, religion was "an integral part of the debate between rival systems."[111]

Yet the religious differences between Hemontians and Galenists were more apparent than real, and as with medical differences, they were exaggerated by polemical conflict. Galenism had so long been assimilated into Christian tradition, that very few clergymen were concerned about its origins in pagan Antiquity. Helmontian religious beliefs about plague were very similar to those

[107] Edward Bolnest, *Medicina instaurata* (London: 1665; EEBO), 37.
[108] George Thomson, *Galeno pale* (London: 1665; EEBO), 4.
[109] Elmer, *The Healing Arts*, 110.
[110] Thomson, *Galeno pale*, 4, 8.
[111] Wear, *Knowledge and Practice*, 33-4; Thomas O'Dowde, *Two letters concerning the cure of the plague*, (London: 1665; EEBO), unpaginated.

of Galenists. Diseases like plague, Paracelsus had argued, could come "supernaturally via the heavens," and were brought about by sin and a dissolute lifestyle.[112] This view was perpetuated by chemical writers during the outbreak. In 1664, one such author believed God to send plague either spiritually, "as that which comes immediately from God" or naturally, "when as God (punishing men) works by secondary causes, and uses them as his instrument and rod."[113] Thomson similarly believed plague to be brought about by sin, referring to "this pestilence which God in judgement hath sent upon us."[114] Helmontian ideas of alleviating plague, repentance and faith, also mirrored those of Galenists. Bolnest had learnt from Paracelsus "that Faith is most powerful, and can both cause, and cure Diseases, nay more, it will both Save and Damn."[115] To O'Dowde, God, "even in his greatest severity…delights in mercy, and easily heals our infirmities."[116] Just as God had bestowed the gift of healing upon Galenists, so also had He upon Helmontians. Bolnest had no doubt that in times of plague, "by that method which God hath been please to communicate to me," thousands could be preserved from the grave.[117] Helmontian medicines "with God's blessing" could be effective in fighting diseases.[118] Helmontians also employed religious imagery when describing their medicines and practices, and in ways that were compatible with Galenist views on the non-naturals. The idea of separating "pure, spiritual seeds from impure bodies (a central feature of Paracelsian chemistry) possessed obvious parallels in Christian teaching concerning the relationship between soul and the body and the separation of the good and the evil at judgement day."[119] Thus, as the Society of Chemical Physicians declaimed:

> … the great God, who hath given us a heart and light to search into the mysteries of Nature, and the mysterious nature of diseases, will so second our endeavours by his special blessing, as to make us and our Remedies as his own hands, to secure the sound, and save the sick from this devouring.[120]

[112] Charles D. Gunnoe, "Paracelsus, the Plague, and *De Pestilitate*," *Early Science and Medicine* 24, no. 5/6 (2019): 519.
[113] Anonymous, *The method of chemical philosophie and physick*, (London: 1664; EEBO), 237.
[114] George Thomson, *Loimologia* (London: 1665; EEBO), 9.
[115] Edward Bolnest, Medicina instaurata, 37.
[116] Thomas O'Dowde, *The poor man's physician,* 2.
[117] Bolnest, *Medicina instaurata*, 37.
[118] Marchamont Nedham, *Medela medicinæ*, (London: 1665; EEBO), 46.
[119] Elmer, *Medicine in the Age of a Revolution*, 111-12.
[120] The Society of Chemical Physicians, *An advertisement from the Society of Chymical Physitians* (London: 1665; EEBO), 1.

During the 1665 outbreak, the College considered it important to combat the accusations regarding religion made by the Society. As seen in the opening quote of this chapter, Hodges felt it was crucial to emphasise a "neer alliance" between medicine and religion at the start of his pamphlet when appealing to the Archbishop of Canterbury.[121] College members tried to present the Society as anti-Christian. Hodges compared the attack of the Society on the College with the attack on the Church by the "Empirical Divines, who as rudely treated peoples Souls, as the present Quacks in Physick do their Bodies, their crude and extemporary Effusions directly answering the others unskillful and dangerous Medicaments." He added that "*Empericks* and upstart *Pseudochymists*", presumed "to entertain as great hopes of their prevailing over all *Academicks,* as the *Churches Enemies* impatiently expect a Revolution."[122] Johnson similarly criticised the Society, who "do by chemistry just as our fanatics do in religion: both being equally ignorant, and both enemies of the truth."[123]

College members also worked to combat the "heathen" image of Galen presented by Society members. As Sumich argued, "medical practitioners were as frightened of atheism as anyone else in seventeenth-century society was, and they were equally concerned with matters of religion and religious orthodoxy both in their personal lives and in their practice of medicine."[124] This was not only because of a personal belief: it was also a societal expectation that physicians presented themselves as devoted and pious Christians, as it would ensure that in times of crises (like outbreaks of plague), contemporaries would turn to them instead of quacks and particularly in 1665, iatrochemists. During the pamphlet war, Hodges emphasised that many had gone to great lengths to prove that physicians and philosophers like Galen "saw the Books of Moses," and proved their "devotion and piety." Hodges does grant that the Ancients were heathens, but argues that this did not mean that the views and practices of Galen were anti-Christian. The ancients could not be expected to be acquainted with the "deep mysteries of Religion", but they possessed "rational souls" and "sufficient sense", and God had "endowed these *Heathens* with

[121] Hodges, *Vindiciæ medicinæ & medicorum*, 2.
[122] Ibid.
[123] Johnson, quoted in Cook, *The Decline*, 154.
[124] Sumich, *Divine Doctors and Dreadful Distempers,* 23; Roy Porter, *Health for Sale: Quackery in England 1660-1850*, (Manchester: Manchester University Press, 1989), 5.

extraordinary gifts and *abilities* for the *good* and *welfare* of *Mankind*." They had therefore "pointed out directly the *way* to us in our *disquisition* of natural *truths*."[125]

Despite the increased focus on the natural causes and remedies for plague in 1665, religion still played an important role in medical thought, certainly in the cases considered here. The attitudes of divines and physicians are difficult to separate. The ultimate purpose of sermons was to convey pastoral messages about sin, and this led to an emphasis on spiritual remedies as a remedy for plague. However, not all sermons denied the value of natural remedies, and many used Galenic language and views about the body. Plague pamphlets produced by medical writers differed in purpose from sermons in their focus on what divines called the 'plague of the body' rather than the 'plague of the heart.' They generally placed greater emphasis on the secondary causes of plague and included a wide variety of natural treatments. But religion still formed an important part of their understanding of plague. God's hand was never completely removed from plague; secondary causes were still understood to result from the indirect intervention of God; and many physicians continued to stress the importance (and sometimes superiority) of spiritual remedies. A combination of spiritual and natural remedies was often recommended, but God's blessing was still typically needed for natural remedies to work. Ultimately, plagues of the 'body' and the 'heart' were understood to be connected, both by divines and by physicians following Galenic tradition. The emphasis on the relationship between Christianity and Helmontian medicines also indicates the continued importance of religion in medicine in 1665. Not only was religion used by Helmontians to make their practices and medicines more appealing to a Christian society, but it was used to criticise "heathen" Galenic medicine. Members of the College also considered it important to combat the anti-Christian accusations made by the Society during the pamphlet war. Having evaluated the medical and religious views about plague, the next chapter will assess how these views were put into practice by civic authorities during the outbreak.

[125] Hodges, *Vindiciæ medicinæ & medicorum*, 139, 141.

Chapter Four

Government and Plague in 1665

> …[I]t hath pleased *Almighty God* to send forth his destroying *Angel* amongst Us, to scourge and chastise a stiff-necked and perverse Generation of People, by spreading the *Black-Cloud* of *Plague* and *Pestilence*… but hath also out of his *Divine Justice*, even now brought it to the very *Doors* of many who have sleighted his gracious *Tenders* and *Mercies*…[1]
>
> *(From a sermon included in the Orders from the Lord Mayor and Court of Aldermen, 1665)*

So far, this thesis has considered the variety of medical views on plague, and the extent to which religion influenced these views in 1665. This chapter considers how far medical views were applied in practice, or at least how far they influenced the measures taken to combat plague. The Orders issued by the city government, in tandem with the royal Privy Council, included a range of practical measures to halt the advance of plague, and on the face of it, these were more to do with social issues. They repeated orders that had been issued in earlier periods of plague over the last century and a half. This reflected a long tradition of civic government that considered its duty to protect the common good and ensure peace between citizens under its jurisdiction.[2] At one level, the city corporation's efforts to prevent the spread of infection and to care for the sick were part of its wider concern with the regulation of social order.

London was difficult to administer, after all. Its two main centres of government, royal and city, generally worked in tandem, but arrangements were complicated, contributing to "political dysfunction."[3] The city's Guildhall, with its Lord Mayor and Court of Aldermen, had clear jurisdiction over the ninety-seven parishes within the city's original city walls, but its authority

[1] Court of Aldermen, *The Orders and Directions, of the right honourable the Lord Mayor and Court of Aldermen,* (London: 1665; EEBO), 1.
[2] Margaret Dorey, "Controlling Corruption: Regulating Meat Consumption as a Preventative to Plague in Seventeenth-Century London," *Urban History* 36, no. 1 (2009): 24.
[3] Lloyd A. Moote and Dorothy C. Moote, *The Great Plague: The Story of London's Most Deadly Year* (Maryland: The Johns Hopkins University Press, 2006), 49.

was less effective over the sixteen parishes outside the walls, the five Westminster parishes and the ten to twelve "outparishes" in Middlesex and Surrey.[4] These suburban outparishes accounted for four fifths of the households in the metropolis, including the vast majority of labouring families and poor who were often the perceived source of disorder, pollution and indeed disease.[5] London's population by 1665 had risen ninefold since 1550 to 500,000, the result of the influx of immigrants. Political turbulence during the civil war of the 1640s had created unrest which the recent restoration of the monarchy in 1660 had not entirely settled. Religious dissenters were still a concern of the royal government.[6] The advent of plague added to social problems not just because of the death toll, but also because of the disruption to employment, infrastructure and food supplies. Undoubtedly, therefore, regulations against plague reflected the long-standing anxiety of city authorities to the threat of social disorder.

But the sermon included at the beginning of the 1665 Orders, cited above, points to the continuing importance and influence of religion in guiding the city attitudes towards the advent of plague.[7] This also reflected traditions of civic government that regarded the moral as well as physical welfare of citizens to lie within its remit. The measures it took against plague were also more than practical. The civic government was strongly influenced by the physicians who advised them, especially the College of Physicians which promoted Galenic ideas about treating illnesses of the body. These too were interlinked with religious ideas. But in an urban context they took on a communal dimension. Galenic notions of health could be applied not only to the individual, but also to the collective health of the "urban body" or "body politic."[8] This chapter explores the continuing importance of both religious and Galenic ideas in the city government's response to plague. It will also consider the effectiveness of these regulations during the outbreak. As we will see, these orders proved difficult to enforce.

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[4] Vanessa Harding, "1665: London's Last Great Plague," Gresham College, 2012. https://www.gresham.ac.uk/watch-now/1665-londons-last-great-plague

[5] Moote and Moote, *The Great Plague,* 24; Ian W. Archer, "Government in Early Modern London: The Challenge of the Suburbs", *Proceedings of the British Academy* 107 (2001): 133–47.

[6] Moote and Moote, *The Great Plague,* 9.

[7] Christi Sumich, *Divine Doctors and Dreadful Distempers: How Practicing Medicine Became a Respectable Profession* (Leiden: Brill Academic pub, 2013), 234.

[8] Janna Coomans, *Community, Urban Health and Environment in the Late Medieval Low Countries* (Cambridge: Cambridge University Press, 2021), 243.

Plague Regulations and Social Disorder in Early Modern England

Government orders issued during the 1665 outbreak of plague were not new or unique. Other European countries, such as Scotland and France, and the Italian city states, had long been implementing government regulations against plague. But official regulations were slow to develop in England. Historians have suggested several reasons for this. Royal government in England was more centralised than in many other regions of Europe, but this tended to make the enactment of nationwide regulations more difficult: cities in Italy, for example, with more autonomous governments, were quicker to enact more localised civic measures. Slack argues that an English policy for public health only began in 1518, with measures set up to deal with plague, involving both royal and local governments in cities.[9]

The impetus behind this development may have been due partly to a "humanist desire" to put England's social policy "on a par" with other Renaissance states. But the strongest impetus appears to have come from rising concerns with social order: the 1518 regulations against plague closely followed the promulgation of sumptuary regulations of the previous year. Recent epidemics (such as the sweating sickness in London in 1517, as well as an outbreak of plague at the end of the year) likely created a greater urgency to enact change.[10] Slack suggests that the rebuilding of Bridgewell palace for Henry VIII to stay created a greater need in the city to combat disease and social disorder. More recent historiography suggests that the king's fear of infection and a "collective court memory" of the effects of disease were perhaps the most influential.[11] The 1518 orders were a royal proclamation, devised by the king's chief minister, Cardinal Wolsey, and released by Henry VIII for London to deal with pestilence. This policy involved marking plague-infected houses by hanging bundles of straw from them, although individuals under quarantine could still leave the household if they carried a white rod to identify themselves. Regulations, similar to those produced in 1518, were recommended to the aldermen

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[9] Slack, *The Impact of Plague*, 58.
[10] Ibid., 201.
[11] Euan Roger, "'To Be Shut Up': New Evidence for the Development of Quarantine Regulations in Early-Tudor England," *Social History of Medicine* 33, no. 4 (2020): 1077–1096. No page number for online version.

of London in every plague outbreak up to 1563, and new orders such as those that addressed miasma, and particularly contagion, were introduced.[12]

Over the next sixty years, English towns began to develop further plague precautions, but a central policy for the country was slow to appear. According to magistrates, there had been "great slackness" by government authorities in implementing regulations against plague. The aldermen in London, for example, had decided to postpone the implementations of regulations against plague in 1535-6, "trusting to God that the sickness shall cease."[13] In 1577, the Privy Council also accused London of slackness in imposing quarantine on houses besides those of "the poorer sort." The Privy Council noted "great negligence and remiss slackness of the citizens" in following orders. The orders that would later be created were said to be due partly to the negligence of citizens, "who by very disorder, and for lacke of direction do in many partes wilfully procure the increase of this general contagion."[14] It was clear, though, that local wards and parishes were under some financial pressure to enforce regulations: before 1570, there were no payments made in London for watchmen, nor subsidies collected for those in isolation or for the sick. In the meantime, concern with social disorder had increased: poor laws had been introduced in 1572 and 1576. The rapid growth of London's population in particular prompted greater action to regulate poverty and vagrancy. This coincided with an increasing concern by 1570 to combat the "smoldering and persistent infection" across England.[15] Foreign influences were also important. Italian physician Ceasare Aelmare had also sent a project to William Cecil (chief minister to the queen) with suggestions to combat "plague and other calamities which aggravate poverty in London."[16]

Therefore, influenced by the plague regulations of countries like Italy, and pushed by an urgency to address social disorder as well as diseases, in 1578 the Privy Council sent the Lord Mayor a draft of prevention measures for plague. This was shaped by the chief minister William Cecil for the "staying of the infection of the plague" to be introduced nationwide and enforced by Justices

[12] Slack, *The Impact of Plague*, 202.
[13] Ibid.
[14] Elizabeth I, *Orders through meet by her majesty and her privy council to be executed through the Countries of this Realm*.., (London: 1578; EEBO), page unnumbered.
[15] Slack, *The Impact of Plague*, 207.
[16] Ibid., 208.

of the Peace.[17] By March 1579, the orders (totaling seventeen) were in print.[18] These orders were given statutory support in 1604 (during which penal sanctions for violating quarantine were imposed), but it took until the 1630s for the monarchy to actively enforce obedience to them.[19] For example, London in particular had difficulty in implementing plague orders, not only due to financial issues, and trouble in getting the College and city clergy to implement orders, but also due to challenges associated with regulating orders in the wider area and suburbs of London. The London guildhall had published an additional book of plague orders in 1583 with more detailed instructions for controlling plague in the city itself, such as instructions for parishes.[20] But these orders were "less demanding" on quarantine regulations and taxation, until they were revised to match the rest of the nation in 1608. However, these orders proved to be no more effective in mobilising civic authorities to combat plague than those in 1518. According to Slack, the orders "turned the attention of local governors in new directions, orchestrated previously haphazard local endeavors, and permanently shaped administrative habits in the English provinces."[21] In the London suburbs, measures against plague were issued in March 1630, in conjunction with a proclamation against vagrancy, and plans in 1633 were considered by the Privy Council for a metropolitan board of health and new wards to enforce the city's authority in these areas – but these appear to have been resisted by the city perhaps because the task was too great.[22] Although orders were revised after the Great Plague in 1666, Plague Orders determined policy throughout the kingdom until the plague finally vanished.[23]

During the 1665 outbreak, the Orders were communicated through various levels of government. The main regulations were those from the king and the Privy Council, who were made up of various individuals, including chief ministers of state, nobles and bishops. They acted as an advisory body to the King during crises like plague, and had the power to enact orders to control its spread (often on the advice of physicians). The Privy Council reissued the Plague Orders,

[17] Slack, *The Impact of Plague*, 208.
[18] Elizabeth I, *Orders through meet by her majesty*, page unnumbered.
[19] Sumich, *Divine Doctors and Dreadful Distempers,* 218.
[20] Slack, *The Impact of Plague*, 214.
[21] Ibid, *The Impact of Plague,* 210.
[22] Archer, "Government in Early Modern London," 136-7.
[23] Slack, *The Impact of Plague*, 209.

which were the same as those published in the last outbreak in 1646, with only a few additions.[24] In 1666, the king (who had fled London alongside his courtiers in July) also released nationwide proclamations to be followed by “all Justices of Peace, Mayors, Bayliffs, and other Officers” who aimed to prevent the spread of plague.[25] The Lord Mayor of London (Sir John Lawrence) and the Council of Aldermen at Guildhall enforced these Orders and also published additional orders for London, as well as the advice of the College. London’s 130 parishes (and their vestries) were given the largest responsibility for implementing these orders and were the principal sources of assistance during the outbreak.[26]

The briefer Mayoral Proclamation issued to the aldermen of the ward on 4 July 1665 indicates the kinds of orders that were made at a local level.[27] These show again that the regulation of plague was an extension of the city government’s assumed role in regulating social order. To “obviate the increase of plague within the city and its liberties”, with “God’s blessing,” the aldermen were instructed first to ensure that no vintner, innholder, ale-house keeper and the like were to receive customers, except guests of innholders “with sobriety and moderation.” They were to conduct weekly wardmoot inquests to inquire whether any “offences and disorders” had been committed in any tavern, inn, coffeehouse, or any other “place of common entertainment.” “Nusances, and such like” were the most “perilous offences.” All houses of “inmates or undersitters which have been the principal means of increasing infection within this City” were to be avoided. No one was to “cry Ballads in the Streets” or to hawk any goods. All schools were to close, especially dancing and fencing schools. A careful watch was to be set up at the gates and landing places to prevent the “ingress of all Vagrants, Beggars, loose and dangerous people.” Dogs, cats and other vermin that were killed were to be carried away with the “soil and other filth” by the ward raker. Churchwardens, constables and other officers were to be “very active and diligent” in searching out any “unlawful and disorderly tipling, gaming, labouring, rowing on the river.” [28]

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[24] Walter Bell, *The Great Plague in London in 1665* (London: John Lane The Bodley Head Ltd, 1924), 75. Additions to these regulations included orders regarding the airing of hackney coaches after an infected person had been carried inside, and an increase of quarantine time from 28 days to 40 days in 1665.
[25] King Charles II, *Rules and Orders, To be observed by all Justices of Peace, Mayors, Bayliffs, and other Officers…*, (London: 1666; EEBO), 1
[26] Moote and Moote, *The Great Plague*, 15.
[27] For a facsimile of this plague order, see Bell, *The Great Plague in London in 1665*, 117.
[28] Ibid.

These orders were intended to be practical measures to combat the spread of plague as an aspect of social order. But it is important to recognise that social and moral issues were considered to be inextricably interlinked. After all, the "diligent" officers were specifically told to seek out "unlawful and disorderly" behaviour that led to the "profanation of the Lord's Day."[29] Moreover, plague regulations were also grounded fundamentally grounded in Galenic principles, which as we have seen were fundamentally entwined with Christian ethics. The plague regulations were in fact based on advice that had come from physicians, above all the College of Physicians which endorsed these principles. In creating the first draft of Plague Orders in 1578, the Privy Council had sought advice from the College of Physicians and the subsequent Orders were published together with the Advice offered by the College.[30] The College also advised both the Privy Council and the London government. Its physicians, or at least some of them, were also actively involved on the ground in managing plague policy and caring for the sick. In 1665, the London government assigned four members of the College to different parts of the city, "to take care of such Persons and Families in this time of Infection."[31] These were Dr Hodges, Dr Thomas Witherley (who were appointed "joint chiefs"), Dr Edward Harman and Dr Thomas Gray.[32] Seven more doctors also offered their services voluntarily, without payment.[33] But the application of Galenic principles to government responses to plague was not just the result of the involvement of the College physicians in these measures. It is also explained by more fundamental assumptions about how the health of the urban community was maintained.

The Urban Body and Galenic Health

The London magistrates inherited a tradition, based on classical ideas and developed in the medieval period, that envisaged polities as organic bodies. A city was a type of corporate body in which "each part performed its allotted role smoothly, without friction, in the service of the

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[29] For a facsimile of this plague order, see Bell, *The Great Plague in London in 1665*, 117.
[30] Slack, *The Impact of Plague*, 209.
[31] Nicholas Davis, *The Resolution of those Physitians presented by the Colledge* (London, 1665), 1.
[32] James Leasor, *The Plague and the Fire*, (Kelly Bray: The House of Stratus, 2001), 66.
[33] Bell, *The Great Plague in London in 1665, 104.*

whole."[34] This "urban body" or "body politic" imagined the various parts of the body to be members of society that were arranged hierarchically. For example, the head and the heart were typically magistrates, while the feet were often the artisans.[35] This idea emphasised the importance of collaboration and order, with everyone working towards the common good. But as the head of this body, the magistrates had a particular responsibility to ensure the good of all. In a sermon to Parliament in 1646, Puritan minister Anthony Tuckney emphasised the role of the king and public authorities as physicians to the urban body: "although all Monarches now cure not the Kings evil; yet all both Kings and Magistrates should, as occasion and need shal be, have both skill and will to cure greater and more dangerous diseases in the body Politick."[36]

The long-standing metaphor of the body was also influenced by Galenic medical theory. Since the later Middle Ages, the ideal community had been imagined as a body whose health needed regulating in the same way as a natural body.[37] As discussed in chapter one, the health of a body, in Galenic terms, involved a dynamic process of maintaining a temperate balance between the humours and among the six non-naturals. Analogously, the urban body was also to be temperate in complexion, and this involved holding the equivalent of non-naturals in balance. Galenic medical ideas "provided much more than the basis for medical curative practices..."; they offered ways to manage cities like London.[38] Much of the standard legislation that regulated city life, especially concerning sanitation, can be explained as the attempt to implement Galenic advice on non-naturals. Coomans, discussing cities in the Low Countries, argues that policies on urban health had four main goals: "well functioning infrastructures, sufficient and high-quality water and food, organised waste disposal, [and] a morally healthy community."[39] These were all goals that related to Galenic theory.

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[34] Carol Rawcliffe, *Urban Bodies- Communal Health in Late Medieval English Towns and Cities* (Woodbridge: The Boydell Press, 2013), 78; Margaret Healy, *Fictions of Disease in Early Modern England: Bodies, Plagues and Politics* (New York: Palgrave, 2001), 16–17.
[35] Peter Elmer, *Medicine in an Age of Revolution* (Oxford: Oxford Academic, 2023), 13.
[36] Ibid. The 'king's evil' refers to the skin disease of scrofula which kings of England had claimed the miraculous power to cure since the thirteenth century (which Puritans in particular had disputed).
[37] Rawcliffe, *Urban Bodies*, 78.
[38] Ibid.
[39] Coomans, *Community, Urban Health and Environment in the Late Medieval Low Countries,* 5.

Just like a body, a city needed to have clean air. Jenner argues that during the sixteenth and early seventeenth centuries "the idea of cleanliness was bound up with that of sweetness."[40] Civic authorities in London, as elsewhere, had long legislated against poor air quality and "noxious" smells.[41] Bad smells were associated with miasma, and were thought to contribute also to corruption of the humours. "Dirty" crafts and trades like the tanners had been subject to legislation to improve air quality. Gutters and ditches that collected mixtures of rainwater and refuse had to be cleaned up since they too could produce miasma and "noxious vapours."[42] Legislation concerning the removal of waste and the reduction of coal smoke was intended to improve air quality.[43] Animals such as dogs, cats and swine were also thought to contribute to miasma, as well as spreading plague through contagion. For example, pigs scavenging on human remains were considered to pose a risk of releasing miasmic vapours from dead bodies into the air. By the end of the fifteenth century, most English towns had put regulations in place to prevent pigs from roaming in the streets.[44]

A healthy body also needed a steady flow between "repletion and evacuation."[45] Water regimes in cities helped maintain this flow. Stagnant, polluted water had long been seen as a source of contagion and miasma. Cities increasingly sought to maintain uncontaminated and flowing sources of water. Since the Middle Ages, London was developing a conduit system that carried water from country brooks and the Thames to collection areas in the city.[46] Measures were enacted to reduce the risk of flowing bodies of water (like the Thames) from being polluted by domestic refuse (such as from privies or activities like cooking and cleaning), as well as waste from crafts like butchers, tanners and brewers.[47] By 1415, the London authorities had begun to wall the banks along the crowded areas near the Thames to reduce the amount of waste polluting

[40] Leona Skelton, *Sanitation in Urban Britain, 1560-1700* (London: Routledge, 2015), 40.
[41] Alexandra Logue, "'Saucy Stink': Smells, Sanitation, and Conflict in Early Modern London," *Renaissance and Reformation / Renaissance et Réforme* 44, no. 2 (2021): 61.
[42] Logue, "Saucy Stink," 62.
[43] William M. Cavert, "The Environmental Policy of Charles I: Coal Smoke and the English Monarchy, 1624–40," *Journal of British Studies* 53, no. 2 (2014): 310.
[44] Rawcliffe, *Urban Bodies,* 159.
[45] Coomans, *Community, Urban Health and Environment in the Late Medieval Low Countries,* 41.
[46] Moote and Moote, *The Great Plague,* 49.
[47] Rawcliffe, *Urban Bodies,* 21.

the waterway, and in 1463, Londoners had been prohibited from emptying privies "into the fleet and Walbrooke rivers."[48]

The disposal and management of waste were also important, and the period between 1560 and 1700 in particular saw significant development in "sophisticated and efficient" methods of waste disposal and "insanitary nuisances."[49] There were regulations for keeping the streets clean. By 1560 in most towns it was expected that householders would keep their streets clear and clean once a week.[50] Civic authorities appointed scavengers and rakers to remove waste from the streets.[51] Londoners were also prohibited from throwing the contents of chamber pots from windows, and could also face imprisonment for throwing "any manner of carrion, stinking flesh, rotten fish or any rubbish [and] dung" into gutters, sewers and ditches.[52] The Court of Common Council in 1617 had ordered wards to identify individuals who had thrown filth into streets or rivers. Strict regulations on waste removal from tanneries (which could pollute waterways), and butcheries (due to concerns of corruption of animal carcasses) were also put into place. [53]

A body also needed a steady flow of healthy food and drink. Maintaining a clean water supply in cities was difficult, which also explained why ale was drunk, and why breweries had to be regulated. The quality of foodstuffs had to be regulated. As early as 1275, royal edicts were issued to improve the inspection and availability of foodstuffs, with heavy penalties for those selling corrupted meat.[54] Ordinances in London in 1363 were already warning victuallers against retaining goods that were "corrupt and stinking."[55] The regulation of markets and marketplaces, and the physical conditions in which food was sold, were constant themes in most city by-laws. By the seventeenth century, London's sixteen markets were regulated by numerous orders from the city which included orders for maintaining the quality of food.[56] A Mayoral proclamation in

[48] Rawcliffe, *Urban Bodies*, 206.
[49] Skelton, *Sanitation in Urban Britain*, 1.
[50] Ibid., 79.
[51] Andrew Wear, *Knowledge and Practice in English medicine, 1550-1680* (Cambridge: Cambridge University Press, 2000), 317.
[52] Logue, "Saucy Stink,' 79.
[53] Margaret Dorey, "Unwholesome for Man's Body? Concerns about Food Quality and Regulation in London c1600-c1740," (PhD Diss. The University of Western Australia, 2011), 89.
[54] Rawcliffe, *Urban Bodies*, 235.
[55] Ibid., 239.
[56] Charlie Taverner, "Moral Marketplaces: Regulating the Food Markets of Late Elizabethan and Early Stuart London," *Urban History* 48, no. 4 (2021): 610.

1614 stated that it was the responsibility of "all well governed Kingdomes Common Wealths Cities and Countryes" to ensure that "breade meate and drinckes of all sorte to be sold offered or put to sale for the sustenance of mankind… be good sweete sound and holesome for man's body."[57]

Good health in the Galenic physiology was a moral as well as a material state. As we will see, this belief influenced plague regulations. The sixth non-natural concerned the moderation of the soul's 'accidents' or passions. The passions of citizens, their social and moral behaviour, had to be moderated too. As Rawcliffe argues, urban health did not consist simply of "drains, privies and conduits… but also of the rich and poor alike behaving in a manner that seemed appropriate to God."[58] City magistrates had also long considered it their spiritual duty to legislate on dissolute behaviour. This included acts that addressed drunken disorder, such as alehouse keepers being required to have licenses from local magistrates, bans against tippling (1604) and fining and prosecuting drunkards (1606). Acts were issued against blasphemy, such as the 1605 acts that forbade profane references to God, Christ or the Trinity in entertainments like stage-plays. Magistrates also imposed restrictions on the Sabbath day; in 1655, the mayor and corporation believed that contempt of the Sabbath day and other sins made London "like Sodom."[59]

Plague Orders for the Urban Body

The Flow of Air, Food and Waste

These Galenic ideas about the health of the city's body were also behind the specific measures taken in 1665 against the plague in London. Orders implemented throughout the city before and during the visitation, much like orders in many cities in response to plague were aimed at reducing miasma and contagion.[60] This response appeared in several key areas, each of which

[57] Dorey, "Unwholesome for Man's Body?" 83.
[58] Rawcliffe, *Urban Bodies*, 115.
[59] Bernard Capp, *England's Culture Wars: Puritan Reformation and its Enemies in the Interregnum, 1649-1660*, (Oxford: Oxford Academic, 2012), 157, 7, 101; Jillings, *An Urban History of the Plague*, 129-34
[60] Jillings, *An Urban History of the Plague*, 52-63.

will be discussed in greater detail below: removal of waste and other sources of infection, the improvement of air quality, regulations on burials, food and drink and also the moral health of the city. It is important to note that many of these regulations were difficult to enforce, which will be addressed later in this chapter.

The fear of miasmic air prompted orders concerning air quality. Civic authorities encouraged fumigation of houses as recommended by the College, as well as fumigation in the streets.[61] Plague orders by the king suggested keeping fires burning in public meetings in churches, with fumes to correct the air burnt in them.[62] The Lord Mayor ordered that "every six houses on each side of the way are to joyn together to provide one great fire before the dore of the middlemost inhabitant," with one or more individuals appointed to ensure the fires continued burning.[63] Orders from the Lord Mayor suggested two large fires (smeared with tar and juniper or cedar) should be placed in parishes between four and six in the morning and between eight and ten at night.[64] With the approval of the king, from 5 September, fires were also lit throughout London for three days and nights in hopes to "correct and purify the air." The areas that civic officials believed to be more prone to disease were particularly targeted, such as the north and south banks of the Thames; in these areas they fumigated waste "that was constantly billowing up there and routed river rats and other vermin from their burrows."[65]

As animals were seen as another source of miasma and carriers of contagion, there were several orders in London concerning their regulation during the outbreak. As discussed in chapter one, the perception of these animals living a 'liminal lifestyle,' traveling between homes and in public areas, prompted concerns by civic authorities over allowing animals to roam free during plague.[66] No cats, dogs and pigs were to be kept within the city, and holding areas for cattle were ordered to be removed out of the city. Any swine or strays that were found on the streets would be seized and the owners prosecuted. Killing the animals was considered the best way to ensure

[61] Stephen Porter, *The Great Plague* (Stroud: Amberley Publishing Plc, 2009), 42.
[62] King Charles II, *Rules and Orders*, 1.
[63] Proclamation By Sir John Lawrence, Lord Mayor of London, September 5, 1665, in Moote and Moote, *The Great Plague*, 217.
[64] Brooke Humphrey, *Cautionary Rules for Preventing the sickness: published by Order of the Lord Mayor* (London: 1665; EEBO).
[65] Moote and Moote, *The Great Plague*, 220.
[66] Skelton, *Sanitation in Urban Britain*, 39.

infection was not spread. In June 1665, the Guildhall released orders for the killing of cats and dogs. Constables and beadles were sent through the streets at the end of June to order householders to kill “all their dogs of what sort of kind soever before Thursday next ye furthest”; failure to comply with this order before the deadline would lead to prosecution.[67] Many animals were killed throughout the outbreak. In St Margaret’s Westminster alone, during the whole period of plague, a dog catcher was paid for burying 353 dog corpses, and the corporation dog catchers was paid for culling 4,380 dogs.[68]

Many plague orders were also related to the ‘evacuation’ and ‘repletion’ of the urban body. The removal of waste and other sources of infection was a key focus of government orders in 1665. Every householder and shop keeper was to ensure that streets outside their homes were kept clean and swept all week long. [69] On 11 May 1665, The Lord Mayor asked the city aldermen to notify inhabitants in their ward that “from henceforth every morning they cause the streets and channels before their doores to be watered, swept and cleansed of all manner of dirt, filth and rubbish.”[70] Waste was also to be handled correctly throughout the visitation: filth was to be carried away by rakers, and vaults were not to be emptied into gardens near the city.[71] Many orders were also implemented regarding the removal of animal carcasses. Animals “killed or lying dead” in the streets were to be carried away by the raker of every ward.[72] Neglecting these orders, the mayor stated, would put at citizens in “peril.” Cleaning the streets would help air quality too, for it would “prevent those unsavoury and noisome smelles and stenches thence ariseing (which hath a pestiferous influence on a man’s body).”[73]

But food was still needed to keep the urban body of citizens healthy. Fears about corrupted food increased during outbreaks of plague as part of a wider anxiety about an unclean urban environment, prompting greater regulations.[74] Care was to be taken to avoid “unwholesome fish,

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[67] Skelton, *Sanitation in Urban Britain*, 116.
[68] Porter, Stephen. *The Great Plague*, 41-42.
[69] Moote and Moote, *The Great Plague: The Story of London’s Most Deadly Year*, 55.
[70] Ibid, 50.
[71] Lord Mayor and Aldermen of the City of London, *ORDERS Conceived and published by the Lord MAJOR and Aldermen of the City of London, concerning the infection of the Plague*, (London: 1665; EEBO).
[72] Proclamation by the Lord Mayor of London, 1665 in Bell, *The Great Plague in London in 1665,* 117.
[73] Moote and Moote, *The Great Plague,* 56.
[74] Dorey, “Unwholesome for Man’s Body?,” 21.

or flesh, and of musty corn," and brewers and tipling houses were to be investigated for "musty and unwholesome cask."[75] One plea to the Major and other magistrates of London (which was published in both ecclesiastical and medical texts) during the outbreak had asked the city to implement regulations on the trade of butchery throughout the city. It stated that the "main cause[s] of Diseases" was "the Butchers in blowing their meat," a practice which butchers used to provide a fresher appearance to the meat, but one that many contemporaries believed to corrupt the meat and in turn the humours of the body.[76] The flow of food into the city was also crucial during the outbreak, since the government had restricted street markets and other places to buy food. Only two trades were carried out on the waterways during the outbreak, coal from Newcastle and the corn trade from the coast. The Bear-Key market at Suffolk maintained a supply of butter, cheese and corn throughout the outbreak.[77] Within the city, Watchmen provided food to those who were shut up, and parishes were responsible for distributing food to the poor.

The Flow of People

Plague regulations had most to say about the movement of people about the city. Restrictions on gatherings of people were severe. Most public assemblies were prohibited to limit contagion. This was why schools were closed, and dancing schools were to be "utterly prohibited."[78] The city's law courts also halted their regular functioning (moving from Westminster to Oxford), and parliament was postponed and planned to meet in October in Oxford.[79] "Hawkers of wares" were also not allowed to serve the public, and inns were only able to sell food and drink from doorways as long as customers took them away to eat at home.[80]

Similar concerns were reflected in the gatherings of people to deal with the dead, as well as the living. There were also strict orders for the burial of plague victims. Public assemblies at all

[75] Lord Mayor and Aldermen of the City of London, *Orders conceived and published,* (page unnumbered).
[76] Claire Turner, "Intersensory Experiences of the Plague in Seventeenth-Century London," *Social History of Medicine 36,* no. 1 (2023): 12, 6.
[77] Daniel Defoe, *Journal of the Plague Year*, (London: 1722; Gutenberg Project), unpaginated.
[78] Bell, *The Great Plague in London in 1665*, 117.
[79] Moote and Moote, *The Great Plague,* 116; *A Proclamation concerning the prorogation of the parliament. London*: John Bill and Christopher Barker, August 30, 1665.
[80] Moote and Moote, *The Great Plague,* 1665, 116.

burials, plague or otherwise, were forbidden throughout the visitation.[81] To avoid spreading the plague and causing further panic amongst citizens, authorities ordered that the burial of plague victims be done quickly, and at "most convenient hours" either before sunrise or after sunset, with the "privity of the Churchwards or Constables, and not otherwise."[82] Burials were not to take place in a church during common-prayer, sermon or lectures.[83] No children were to be permitted during a burial of a plague victim to come near the corpse, coffin or grave.[84] Burial of plague victims was also about reducing the effects of miasmic air. Churchyards were not to receive the bodies of victims unless they had large spaces available for them, away from other bodies. The graves were to be at least six feet deep, and were not to be opened for a year so that they could not infect others.[85]

Quarantine was the most comprehensive measure taken to restrict the movement of people. It was partly based on a Galenic understanding of contagion, aimed at restricting the movement of infected individuals. It was also very much related to the need to preserve a healthy dynamic flow between humours and non-naturals within the urban body. Just as potentially miasmic air from tanneries and slaughterhouses had to be directed away, and corrupted food and drink had to be prevented from appearing in marketplaces, so it was that a diseased part of the body had to be separated from another part. Quarantining was to be achieved at several levels. England's "first line of defense" against plague from overseas was the quarantine of ships (including their cargo and passengers) from infected ports.[86] Fears of plague from Holland in 1664 had prompted the Privy Council to implement stricter control over waterways into the city. Ships and vessels entering the Thames estuary were to quarantine for forty days, and those that entered London without a certificate of quarantine would be shut up, whether they had carried plague or not.[87]

Internal quarantine measures for those people infected by plague had long been part of city regulations. They had developed slowly from the policy of isolation in 1518, and by 1636,

[81] Lord Mayor and Aldermen of the City of London, *Orders conceived and published,* (page unnumbered).
[82] Ibid.
[83] Ibid.
[84] Ibid.
[85] Ibid.
[86] Moote and Moote, *The Great Plague*, 14.
[87] Bell, *The Great Plague in London in 1665,* 4.

further provisions including padlocking for quarantined houses, payments for warders and nurses, and taxes towards expenses from plague.[88] Some individuals were sent to pest houses, if they could not be isolated at home. These were specifically designed for isolating those with diseases like plague: the king had ordered each city and town to create spaces for pest houses in case of a plague outbreak.[89] During the Great Plague there were five pest houses in London and Westminster.[90] These were located outside of the city walls. However, the majority of plague victims were shut up in their own homes. This procedure began in April 1665, after the College advised the Privy Council that this order would help to limit the spread of infection. The Privy Council then ordered the chief justice to pass this onto all magistrates, and by the end of the month, the first houses were shut up in St-Giles-in-the-Fields.[91]

Once a case of plague had been identified, parish authorities would impose quarantine on the infected household (if its members were not sent to a pest house, shed or hut).[92] The building was padlocked and a red cross with the words “Lord Have Mercy Upon Us” was painted across the door to identify the infected building.[93] Quarantine would last forty days, or longer if another person within the house fell ill before the forty days were up.[94] Houses were to be appointed with two Watchmen (one for the day and one for the night) who would carry halberds and ensure that no infected person left the house. Watchmen also performed other duties for sick families, such as bringing them food, water and medicine, and conveying messages to doctors on the family’s behalf.[95] Once the household was deemed free from infection (through an inspection by civic

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[88] Bell, *The Great Plague in London in 1665*, 4.
[89] King Charles II, *Rules and orders*, 1. For discussion of the role and function of pest houses in early modern Britain, as well as the development of pest houses in London, see: Aaron Columbus, ‘To Be Had for a Pesthouse for the Use of This Parish’: Plague Pesthouses in Early Stuart London, c. 1600–1650. Urban history, 1-21 (2022) 127-135.
[90] Conor Mosli-Lynch and Nicholas O’Shaughnessy, “Pepys’ Plague: How the Reaction of the Individual, Society and the Medical Profession to the Great Plague of 1665 is similar to our experience of Covid-19,” *J Med Biogr* 20, no. 2 (2022): 95-101
[91] Leasor, *The Plague and the Fire*, 62.
[92] King Charles II, *Rules and orders*, 1.
[93] Nathaniel Hodges, *Loimologia*, (London: 1720; EEBO), 8; Samuel Pepys, “Wednesday 17th June, 1665” in *The Diary of Samuel Pepys*, edited by Matthews William et al. 11 Volumes, (London: Harper Collins Publishers, 1971), 130.
[94] Hodges, *Loimologia*, 7.
[95] Bell, *The Great Plague in London in 1665*, 106.

officials), the house would be reopened, washed and fumigated, and a white cross would be placed on the door for a further twenty days, to alert the public.[96]

There were many orders to reduce the chances of infection during the process of quarantine. It was forbidden to remove an infected person from a house when they were sick (besides to an approved location like a pesthouse). An infected person could not be conveyed out of the house in which they were quarantined and any house that received an infected person would also be shut up for twenty days.[97] If someone entered a sick home they would be shut up in their own home.[98] Hackney coaches that had been carrying an infected person had to be aired and left empty for five to six days before being used again. Strict orders were also issued about the environment surrounding those who had been infected (some of which also related to reducing the risk of miasma). Infected chambers were to be well aired and purified with fire and perfumes before being used again, and had to be done at the appointment of an examiner. Goods belonging to infected persons, including their bedding and apparel from their chambers, were to be separated out from those of the non-infected.[99] Items such as clothes, bedding, garments and furniture were not allowed to be taken out of the infected house.[100] It was forbidden to sell old apparel or bedding, or hang them from shops and windows. Purchasing infected items from an infected house within two months of plague being present in the house would also result in the buyer's house being shut up for at least twenty days.[101]

The restrictions placed on the movement of most people in areas of quarantine were not applied to the people designated to keep them in place. As noted, College physicians were among those who took care of the sick in quarantined areas, and also oversaw the activities of the searchers.[102] But many other people were appointed with different roles to ensure that quarantine was "enforced on a parish-to-parish basis."[103] Examiners and searchers of "good sort and credit,"

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[96] Thorpe, "In the Middest of Death," 210.
[97] Lord Mayor and Aldermen of the City of London, *Orders Conceived and Published*, (page unnumbered).
[98] Ibid.
[99] Ibid.
[100] King Charles II, *Rules and orders*, 1.
[101] Lord Mayor and Aldermen of the City of London, *Orders Conceived and Published*, (page unnumbered).
[102] Leasor, *The Plague and the Fire*, 67. They also had some oversight, for instance, of searchers who did not perform their duties properly.
[103] Thorpe, "In the Middest of Death," 209.

were appointed in every parish in London by visiting houses.[104] Examiners were given the power to “command restraint of access” if there was doubt that plague was present, and were to give orders to the Constable to shut up a house if infection was found. [105] Searchers (typically women, of “honest reputation") were also crucial to London’s quarantine system, and had been employed by parishes since the 1570s. Their role was to identify and report cases of plague (sometimes accompanied by a physician) by reviewing the body and reporting on the cause of death. If plague was found, searchers would notify parish authorities, who would use this to gather data for bills of mortality and initiate quarantine.[106] ‘Chirugions’ were also appointed to assist searchers and to ensure that a “true report” was made of the disease.[107] As we will see, the employment of good and honest people appointed to this role was crucial, not only because it ensured proper regulation of infected individuals, but also because it ensured that abuse of these positions did not occur. Responsibility was placed on ordinary citizens to declare themselves if they became infected though. Orders by the mayor asked individuals to declare themselves to an examiner within two hours of developing physical plague symptoms.[108]

Searchers and surgeons needed to move about the streets. Orders typically suggested that they were to identify themselves in public by carrying a three-foot-long red rod or wand to indicate their proximity to plague as well as to ensure that they themselves maintained this distance from sources of plague during their work. They were also not to take up other employment during a visitation. They were asked not to go into houses that they had not been directed to go to and were to abstain from company, especially if they had had recent contact with the infected.[109]

Individuals were also appointed to care for those in quarantine. Wear argues that the “most attentive of the paid carers” were the “nurse-keepers,” as many infected with the plague would not have had the means to be seen by a licensed or unlicensed physician.[110] There has been some disagreement in historiography over the competence of plague nurses.[111] Nurses were often

[104] Lord Mayor and Aldermen of the City of London, *Orders Conceived and Published*, (page unnumbered).
[105] Ibid.
[106] Thorpe, “In the Middest of Death,” 209-10.
[107] Lord Mayor and Aldermen of the City of London, *Orders Conceived and Published*, (page unnumbered).
[108] Ibid.
[109] Ibid.
[110] Ibid.
[111] Wear, *Knowledge and Practice*, 338.

vilified by contemporaries. For example, Hodges argued that in 1665, nurses, "out of Greediness to plunder the Dead" would intentionally strangle their patients, determining their death to be a "Distemper in their Throats," and would even secretly "convey the pestilential Taint from the Sore of the infected to those who were well."[112] However, many historians have argued that nurses were "competent providers of practical medical care," and have placed them as part of the organised system of healthcare in London parishes. 'Nurse-keepers' often performed multiple duties, such as obtaining medicines, preparing food and doing housework, but were also often familiar with basic healthcare.[113]

Spiritual and Physical Disorder

Like medical writers and divines, the government's policies were also informed by a religious understanding of the plague. This could manifest itself with direct references to the words of preachers. As we saw, the 1665 Orders start with a reprint of a sermon titled "The Plague of the Heart," which attribute plague to the wrath of God. It also listed sins that the magistrates, like the divines, saw as particularly damaging, such as "*wicked and abominable Oaths*" and vices like "*Whoredom, Drunkenness, Sabbath-breaking*."[114] The Mootes argue that these decrees were "multipurpose," linking "existing laws against profaning the Lord's Day with punishment of licentious behaviour that spread the infection and further provoked God's anger."[115]

Magistrates in 1665 therefore emphasised the importance of repentance and appeasing God. Defoe notes that even before the plague broke out, when only the "first apprehensions" were dawning upon common people, the government "encouraged their devotion, and appointed public prayers and days of fasting and humiliation, to make public confession of sin and implore the mercy of God to avert the dreadful judgement which hung over their heads."[116] When plague broke out, the only public gatherings that the Privy Council permitted and encouraged during the 1665 outbreak were special plague services at "cathedral, abbey and parish churches," which

[112] Hodges, *Loimologia*, 8.
[113] Thorpe, "In the Middest of Death," 221.
[114] The Lord Mayor and Court of Aldermen, *The Orders and Directions*, 1.
[115] Moote and Moote, *The Great Plague*, 116.
[116] Defoe, *A Journal of the Plague Year*, unpaginated.

began in June and took place in all London churches (and throughout the rest of the country).[117] Services took place mid-week and Sundays, and special fast day services were permitted on the first Wednesday of every month. This fasting suggests the continuing importance of repentance at a communal level. Ministers were also permitted to preach to large crowds, despite other regulations prohibiting congregations of people. Collections for the poor during these services, the king stated, would hopefully result in God removing "his severe hand from amongst you and us."[118]

The magistrates' Orders included regulations that attempted to control sinful behaviour. These reflected not only the spiritual attitudes of preachers but also the Galenic principles of physicians. As Sumich argues, the Orders "rested upon the deep-seated assumption that disease was the product of disorder." Humanity could conquer plague "only by cleansing society of such physical and moral ills as poverty, popular disturbance, drunkenness and filth of all kinds."[119] From a Galenic perspective, this was a somatic disorder. Many of the Plague Orders had a dual purpose, aiming to protect the urban body against physical as well as moral corruption. Regulations on the trade of butchers, for example, reflected desire to control the sin of gluttony.[120] Disorderly behaviour was prohibited, especially on Sundays. The mayor ordered parish authorities to prevent activities such as "disorderly Tipling in Taverns, Alehouses, Coffee-houses and Cellars," which were the "common Sin of this time."[121] The prohibition of other entertainments such as gaming, rowing on the river, plays and the singing of ballads, and the closure of the Theatre on 5 June by the Lord Chamberlain, was part of this offensive to cure the urban body of sin.[122]

Prohibitions on pleasures during plague also reflected Galenic principles. Moderation was the key to balancing the citizen body's non naturals, especially the 'passions.' To encourage moderation, restrictions were placed on feasting, especially by companies in London and at

[117] Defoe, *A Journal of the Plague Year*, unpaginated.
[118] Karen Jillings, *An Urban History of the Plague: Socio-economic, Political and Medical Impacts in a Scottish Community, 1500-1650,* (Oxon: Routledge, 2018), 13, 142.
[119] Sumich, *Divine Doctors and Dreadful Distempers*, 230.
[120] Turner, "Intersensory Experiences of the Plague in Seventeenth-Century London," 6.
[121] Court of Aldermen, *Orders Conceived and Published,* (page unnumbered).
[122] Moote and Moote, *The Great Plague,* 116.

dinners in places like alehouses and taverns.[123] Travelling guests in taverns and inns in London were also asked to maintain "sobriety and moderation."[124] These were places which physicians had often associated with excesses that upset the balance of bodily humours. They were also places of useless pleasures to which the idle resorted. Besides tavern- and theatre-goers, regulations in 1665 targeted "loose persons and idle assemblies." Idleness was itself an evil that unbalanced the body, and had moral and physical effects. According to physicians, it caused disease by disturbing the balance between rest and activity, allowing harmful substances to accumulate in the body.

There were members of the body politic who were traditionally targeted as sources of physical and moral disorder. The "poor and unruly" had long been attributed with the "physical and moral prerequisites for contagion."[125] Collections were to be made during public prayers and fasts, and parishes were to provide emergency services to the poorest such as hiring a doctor, apothecary or surgeon to treat the infected.[126] Aiding the sick would help to stop the spread of plague which seemed to begin and continue mostly among the poor.[127] The crowded conditions that the poor lived in, gave off a "foul offensive smell" worsened the "fumes of the pestilence." But the moral behavior of the poor as well as their physical conditions were also suspect. The Orders focused on the types of poor who were associated with "disorder" and "lacke of direction"; they "willfully procure[d] the increase of this general contagion." Policies on public health during plague were shaped by the idea that the "sick, disorderly poor [were] responsible for spreading plague."[128]

If the poor living in crowded conditions were contributors to moral and physical contagion, worse were the poor who wandered. The need felt to regulate the flow of people within the urban body was especially sharp when it came to vagabonds. "Rogues and wandering Beggars that swarm in every place about the City," were a "great cause of the spreading of the Infection." Thus "no wandering Begger [was to] be suffered in the Streets of this City, in any fashion or

[123] Moote and Moote, *The Great Plague* 116.
[124] Ibid.
[125] Sumich, *Divine Doctors and Dreadful Distempers*, 219.
[126] Moote and Moote, *The Great Plague*, 100.
[127] Brooke, *Cautionary Rules for Preventing the sickness*, 2.
[128] Ibid., 3.

manner whatsoever upon the penalty provided by the Law to be duly and severely executed upon them."[129] In an attempt to isolate the plague in St Giles, on 21 June the Privy Council ordered officers of adjoining parishes to place warders along the streets and passageways from St Giles to stop not only those coming from infected areas, but vagrants and other "loose persons".[130] Watches were also mounted along the landing areas and gates along the Thames "to restrain and prevent the ingress of all vagrants, beggars, loose and dangerous people" from the outer parts into the city and liberties.[131] Dangerous people also included certain religious sects. Illegal meetings of dissenters were often targets for arrest out of for fear that they "might be plotting an uprising against the absent king and cathedral dean under the cover of plague."[132]

The Extent and Effectiveness of the City Government's Response

Not all of the orders for preventing plague during the outbreak were complied with, and some caused debate. On the face of it, such dissent might indicate that Galenic principles were being questioned, not just by those who adhered to chemical medical principles. Even Hodges, from the College of Physicians, queried the government's lighting of fires during the outbreak, arguing that the physicians concerned were "diffident of the success" of the fires, as the "Air in itself was un-infected." To Hodges, these fires were a "fatal mistake" that resulted in the deaths of thousands. They were a "showy and expensive" project that had "no effect."[133] Quarantine was also frequently debated, on both medical and religious grounds. Hodges argued that quarantine was ineffective: "it was to no Purpose, for the Plague more and increased." The "tedious Confinements of the sick and well together" only increased the number of deaths. [134] Boghurst disagreed with the shutting up of entire households: "as soon as any house is infected, all the sound people should be had out of it, and not shut up therein to be murdered." Quarantine also resulted in emotional distress. To Hodges, the fear, anxiety and "dismal aprihensions" of those shut up, made them "an easier Prey to the devouring Enemy."[135] The red cross placed on

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[129] Court of Aldermen, *Orders Conceived and Published*, (page unnumbered).
[130] Porter, *The Great Plague*, 31.
[131] Moote and Moote, *The Great Plague*, 116
[132] Ibid.
[133] Hodges, *Loimogloia*, 18-25.
[134] Ibid., 62
[135] Ibid., 7.

the door of a quarantined house also created fear (an emotion which chapter two and three showed increased an individual's susceptibility to infection). As Hodges stated "many who were lost might not be alive, had not the tragical Mark upon their Door driven proper Assistande from them."[136] Some Helmontians also emphasised the psychological effects of quarantine: Thomson believed it could lead to depression. Quarantine was also condemned on religious grounds. Defoe referred to the practice of quarantine as a "very cruel and unchristian method."[137] This sentiment was shared by some physicians. Hodges believed quarantine to be "abhorrent to religion and humanity."[138] Overcrowded congregations in churches also concerned some medical writers, who thought these congregations would spread infection faster.[139]

Some measures against plague were not eagerly accepted, and proved to be very difficult to enforce. Quarantine was a controversial matter amongst contemporaries, and evidence suggests that regulations were not always followed. Riots resulted from the shutting up of the first house in St Giles, with participants releasing those inside by breaking down the door (though there were no more demonstrations after this).[140] Wealthy individuals would also sometimes move sick servants to outhouses in the night to avoid being infected. For example, Pepys recorded a maid who had been "falling sick of the plague" being moved to an outhouse.[141] There were also incidences of individuals killing themselves to avoid their families also falling sick. [142] Moreover, contemporary accounts show numerous incidences of the sick and healthy interacting. Pepys had seen "a person sick of the sores" being carried past him by Grace-church in a hackney coach, and had also seen infected individuals begging on the streets. [143] Some individuals also managed to escape quarantine themselves. Pepys stated that Mr John Wight's maid had escaped through the window of their quarantined house and had run away.[144] Defoe notes that before officers were ordered to place padlocks on the outside of quarantined homes, some shut-up

[136] Nathaniel Hodges, quoted in Leasor, *The Plague and the Fire*, 63.
[137] Defoe, *A Journal of the Plague Year*, unpaginated.
[138] Hodges, *Loimologia*, 11.
[139] Leasor, *The Plague and the Fire*, 71.
[140] Ibid, 62.
[141] Samuel Pepys, *The Diary of Samuel Pepys Vol VI: 1665*, edited by Robert Latham and William Matthews (London. G Bell and Sons, 1972), 181.
[142] Leasor, *The Plague and the Fire*, 65.
[143] Samuel Pepys, September 14th, cited in Mosli-Lynch and O'Shaughnessy, "Pepys' Plague," 98; Pepys, *The Diary of Samuel Pepys Vol VI: 1665*, 225.
[144] Ibid.

individuals would create two or three keys for the locks to their houses or unscrew the locks to escape quarantine when watchmen had been sent on an errand. Another contemporary described the psychological state of those shut up: "Death is now become so familiar and the people so insensible of danger, that they look upon such as provide for the public safety as tyrants and oppressors. "[145] Even individuals appointed to enforce quarantine regulations had broken rules. For example, Watchers were noted to be susceptible to bribery and would sometimes leave their posts.[146] Some Watchers would also swindle money from families.[147] This suggests that the effectiveness of plague regulations was largely dependent not only on the compliance of individuals, but also on the "honest reputation" of those appointed to deal with plague.

Other measures proved to be just as difficult to enforce. The Mayor had stressed the difficulty in enforcing the cleansing of streets on the 26 May. This was perhaps not only due to the inconvenience it caused to contemporaries, but also to the financial impact and difficulty of gaining enough water for poorer residents.[148] Individuals were still attending funerals, and there were too many victims to restrict burying to the night.[149] Pepys emphasised this problem: "but, Lord, to consider the madness of the people of the town, who will (because they are forbid), come in Crowds along with the dead Corps to see them buried."[150] Pepys had even seen two or three burials on the bankeside in "broad daylight" with at least forty or fifty people following along with them.[151] The vast number of plague victims meant that churchyards were full, resulting in mass burials in large holes in the ground (referred to as "plague pits"). Mass burials happened most often in the larger suburban parishes of London.[152] Harding also suggests these mass burials were perhaps also due to financial constraints on parishes.[153] As Defoe stated "Tis certain they died by heaps and were buried by heaps; that is to say, without account."[154] For example, in at St Botolph Aldgate on 6 September, plague victims begun to be placed in a 'great

[145] Contemporary account, quoted in Bucholz and Ward, *London: A Social and Cultural History*, 316.
[146] Bell, *The Great Plague in London in 1665*, 107.
[147] Leasor, *The Plague and the Fire*, 63.
[148] Moote and Moote, *The Great Plague*, 56.
[149] Porter, *The Great Plague*, 48.
[150] Pepys, *The Diary of Samuel Pepys Vol VI: 1665*, 211.
[151] Ibid., 6 September, 1665, 214.
[152] Leasor, *The Plague and the Fire*, 67.
[153] Vanessa Harding, *Burial of the Plague Dead in Early Modern London*, in: J. Champion (ed.) *Epidemic disease in London*, (London, UK: Centre for Metropolitan History), 59.
[154] Defoe, *A Journal of the Plague Year*, 246.

pit' and by the 20th, the pit contained 1,114 bodies.[155] Defoe noted that despite strict orders to stop people from coming to the pits, this was difficult to enforce. For example, he references one of the great pits in Finsbury (within the parish of Cripplegate), in which many individuals "came and threw themselves in, and expired there."[156] The fear of inspecting graves also meant that gravediggers often lacked supervision, and many corpses were not buried at the required depth.[157] Many could not afford a coffin, which were already in short supply. There were not enough people to collect coffins, resulting in many being left on the streets to await collection. This in turn likely increased the risk of infection.[158]

Much of this non-compliance may be explained by the impossibility of imposing draconian restrictions on people. Escaping quarantine to some might have seemed a way to escape infection, or to escape a place of horror. There seem to be no hints in these sources that recourse to religion, or the need to ask for God's help or mercy, was avoided. Physicians do not seem to have lost faith in Galenic principles. Hodges' complaint about quarantine was more about the effect on those quarantined than a departure from any Galenic understanding of the need to control the movement of diseased peoples. It was the "tedious Confinements of the sick and well together" that increased the number of deaths.[159] The "dismal aprihensions" that he argued killed people in quarantine were in line with Galenic principles that melancholy unbalanced the humours. With this, Paracelsians were in agreement. Hodges' disagreement with the policy of using fires to purge miasmic air was not a show of dissent against Galenic belief in miasmas; and he supported his "conjectures … by the Authority of Antiquity, and *Hippocrates* himself."[160]

In conclusion, Galenic and Christian principles continued to influence government regulations against plague in 1665. Official legislation, informed by the College, had been developing since 1518, and in 1665 these orders were overseen under several layers of authority, from the King's nation-wide orders, to regulations implemented within each of London's parishes. But Galenic ideas on how to regulate the urban body had a much longer history. The six non-naturals had

[155] Harding, *Burial of the plague dead in early modern London*, 59.
[156] Defoe, *A Journal of the Plague Year*, unpaginated.
[157] Ibid.
[158] Porter, *The Great Plague*, 49.
[159] Hodges, *Loimogloia*, 62.
[160] Ibid., 19-20.

long underpinned the sanitary measures taken by urban authorities and had guided the development of urban regulations to deal with air quality, the flow of water, disposal of waste, access to food and drink and the moral health of the population. These principles were also applied to plague orders in London during the 1665 outbreak, which sought to control the flow of air, food and waste, as well as the flow of people through measures like quarantine. These regulations had a dual purpose. As well as addressing miasma and contagion, civic authorities sought to address spiritual disorder in the urban population. This resulted in orders that not only addressed physical illness, but the spiritual sickness of the urban body, through regulating disorderly behaviours and groups of people. Although regulations such as quarantine raised considerable debate and problems of enforcement, these issues did not diminish the underlying importance of Galenic ideas of health.

Conclusion

> "In 1665 and 1666 there died about two hundred thousand men, women and children of the pestilence, which was a visitation beyond any formerly in this Nation: and I hope and pray that God will never send the like, and that we nor our Posterity after us may never feel such another judgement."
>
> (Letter written by Dr Thomas Grumble to Leonard. W. Cowie. Cited in Moote and Moote, *The Great Plague*, 261.)

Thomas Grumble's prayers were seemingly answered, for over the next few years deaths from plague declined in London. In 1666, there were 1,998 plague deaths, falling to thirty-five in 1667, to fourteen in 1668 and to two in 1669. Civic authorities would continue to keep a plague column in the Bills of Mortality until 1703, but the last death recorded in this column was one in a "remote downstream parish" in 1679. Southern England would experience occasional outbreaks and plague deaths over the next decade.[1] London would never suffer an epidemic like that of 1665-66 again.[2]

However, the fears of another outbreak would remain. Pepys feared that pestilence would return again to England after another twenty years, as it had done in the past. The next time, he estimated, plague would take the lives of 120,000 in the capital.[3] Plague continued to affect other places throughout Europe, such as in 1720 and 1722 in Marseilles, and would prompt the republishing of pamphlets from the Great Plague, including London's plague orders.[4] Defoe republished the Bills of Mortality from the Great Plague, and physicians' works on plague, such as Hodges' *Loimologia,* were translated from Latin to English.[5] Physicians held onto the diagnosis and treatments for plague in their medical casebooks.[6] The government would continue to be wary of threats of plague, introducing new quarantine measures on ships in 1720. Fears of plague also continued to produce religious responses: there were national fasts on 16 December

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[1] Lloyd A. Moote and Dorothy C. Moote, *The Great Plague: The Story of London's Most Deadly Year,* (Maryland: The Johns Hopkins University Press, 2006), 259.

[2] See works on the disappearance of plague, for example, in Paul Slack, *The Impact of Plague in Tudor and Stuart England,* (London: Routledge & Keagan Paul, 1985), 311-37; Andrew B. Appleby, "The Disappearance of Plague: A Continuing Puzzle," *The Economic History Review 33*, no. 2 (1980): 161-73. https://doi.org/10.2307/2595837.

[3] Moote and Moote, *The Great Plague*, 263.

[4] See: A collection of very valuable and Scarce Pieces relating to the last plague in the year 1665 - 1721. Welcome Collection.

[5] Moote and Moote, *The Great Plague*, 266; Slack, *The Impact of Plague*, 328.

[6] Moote and Moote, *The Great Plague,* 265-6.

1720 and 8 December 1721. These prompted the publishing of sermons, which warned of the current sins of that time.[7]

It is significant that these medical and religious reactions to plague in the eighteenth century so resembled reactions in 1665. One of the main arguments of this thesis is that continuities in responses to plague were more evident than changes. Medical ideas about the causes and treatments of plague that appeared in pamphlets and were implemented by the city authorities, were fundamentally conservative. Crises such as epidemics are sometimes assumed to stimulate medical advances, but as recent historiography has argued, 'progress' in medicine was not a linear process. This thesis has examined the ideas current during the plague to emphasise not just how nonlinear but also how slow-moving the process was. There were signs of change but these seem significant only in hindsight. This thesis has also stressed how much medical ideas were bound up with religious ones. These continuing close ties were also evident in the practical measures that the city government took to combat plague.

For centuries, Galenist approaches to health had dominated thinking among educated physicians. The seventeenth century is often seen as a period of revolutionary change in medicine, which potentially challenged this dominance. There was an expanding 'medical marketplace' in London, in terms of available practitioners, treatments and ideas. The growing variety of licensed and unlicensed practitioners, seemed to challenge the predominance of the College of Physicians which had long held sway over professional medicine and perpetuated Galenic ideas of health as the superior medicine. But as argued in chapter one, the crisis of plague did not appear fundamentally to threaten the position of Galenic ideas or the College. Plague pamphlets produced during the plague show little sign that ideas on the causes of plague were changing, or that Galenic physicians saw the need to alter their ideas. Miasma and contagion were still identified as the chief causes of plague external to the body. The corruption of the four humours, as well as imbalances of the six non naturals remained the chief internal causes of plague. Galenic recommendations for preventing and treating the plague still involved correcting miasmic air, reducing the chances of contagion, or following a regimen to restore balance in the

[7] See for example, N. Carter, *A Sermon preached at the Chapel at Deal in Kent* (Kent: 1721), T. Newlin, *God's gracious Design in inflicting National Judgements* (Oxford, 1721), cited in Slack, *The Impact of Plague*, (London: Routledge & Keagan Paul, 1985), 423.

non-naturals. There were disagreements amongst medical writers, such as on the causes of miasma, and therapies such as bloodletting (especially by 1665), and the ingredients used for plague remedies were changing, but the fundamental understanding of plague in these pamphlets remained Galenic, and was perhaps not finally changed until the late nineteenth century, when germ theory was proposed.

There were alternative ideas available in the medical marketplace which might have presented a more serious challenge to Galenism. The works of Paracelsus and van Helmont were becoming increasingly influential by 1665, and the formation of the Society of Chemical Physicians suggests that there was some desire for change. The Helmontians seem, in hindsight, to represent part of a trend towards modern medical approaches, in that they emphasised the importance of observation and experimentation, as well as advocating the use of chemicals in treating patients. Some of their views look rather less 'modern,' but they potentially worked against Galenism. Helmontians rejected humoural theory, and the six non-naturals, arguing instead that plague resulted from provocation of the 'archeus.' They also stressed a connection between the physical and psychological, stating that the imagination could make one more receptive to disease. Treating plague involved the use of "sweet" chemical medicines that calmed the archeus, and also management of the imagination and negative emotions. By 1665, chemical remedies were becoming increasingly popular, and plague appeared to present an opportunity for the Society to advertise their wares. The Society claimed that Galenic methods were outdated. The 'pamphlet war' between the Society and the College throughout the outbreak also suggests an increasing desire for reformation of orthodox medicine. Yet ultimately, neither Galenism nor the College were overthrown. Instead, it was the Society that withered and disappeared.

However, the pamphlet war does perhaps hide changes that would ultimately lead to the eventual decline of Galenism. Above all, the polemic exaggerates the extent to which College physicians were conservative and Society physicians innovative. Many practitioners in London were already combining both Galenic and Helmontian practices when treating plague. Some College physicians even conceded to the potential benefits of chemicals in the treatment of plague. The Helmontian theories did not represent a completely new understanding of plague. The 'progress' towards modern medicine was certainly not linear. The evidence of the plague pamphlets and the pamphlet wars shows that continuity and change in medical practices and ideas were often tied up together.

The continuities and conservatism in medical ideas are most apparent in the place that religion still occupied in medical thought. Even Helmontian accusations that Galenists were 'heathen' show the importance of religion to debate. Historians such as Slack and Wear noted a decrease in religious ideas of plague in medical pamphlets by the outbreak – in the sense that more emphasis was placed in them on the 'natural' rather than on the direct divine causes of plague. Again, this might imply a trend towards the modern secularisation of medical ideas. Yet this would overplay the extent to which physicians, including College members, continued to insist on the divine origins of 'natural' causes, as well as to recommend religious remedies for plague. As we saw in chapter three, Galenist pamphlets were imbued with religious language and imagery. Comparisons between medical pamphlets and the sermons of divines are therefore instructive, for there are striking similarities between them. Moreover, although divines placed a greater emphasis on the direct divine causes of plague, and tended to use plague as an opportunity to teach of the dangers of sin, they did not deny the secondary causes of plague or the use of natural medicines (since these too derived from God). This may suggest that religious and medical responses were to some extent changing in tandem. But they were still closely entwined.

The continuing importance of the duality of medical and religious understandings of plague is shown in their application by the city government during the outbreak of plague. As argued in chapter four, the orders to deal with plague can be read as an extension of traditional ideas. Galenism, alongside the concept of the 'urban body' had long informed the way in which civic authorities regulated the physical and moral health of the population. Plague orders released throughout the epidemic were part of this tradition. Methods to control plague, such as the cleansing of the streets, the culling of animals and quarantine were all designed to control miasma and contagion. But these orders also had a spiritual aspect. Civic authorities continued to encourage religious methods of prevention during the outbreak, and plague orders were also aimed at controlling the moral health of residents. However, these orders (especially quarantine) were met with resistance and cynicism, and they tended to break down in the face of high mortality rates. So although these orders proved difficult to put into practice in 1665, this did not mean that Galenic, or religious, principles were any less important. Moreover, revisions to plague orders made in 1666 following the outbreak were very minor.

The findings of this thesis could be developed and tested further with more research. It became evident that the divide between the College of Physician and the Chemical society, and between Galenists and Helmontians, was more blurred than some of the polemics suggested. A more detailed investigation of individual physician casebooks (including ones that are still in archives) would be worth pursuing to uncover some of the complexities of influences on physicians. Similarly, further archival work could be done on individual civic authorities (such as members of the Council of Aldermen) to uncover their influences, particularly religious, and their connections with parishes and wards.

Moreover, the focus on this thesis on the debates between physicians by no means covers the full range of medical responses to plague in 1665. Many historians have looked at the alternative medicines that contemporaries sought during periods of plague, which were sometimes not based on Helmontian or Galenic approaches. These include medicines by quack doctors, and also medical care that took place in the home, which included folk remedies, oral traditions and herbal remedies preserved in family recipe books. The influence of these practices could be examined further - though, too, the continued importance of religious beliefs in these practices would be worth exploring.

A further dimension to the practice of medicine would be added by considering the involvement of women.[8] The practice of medicine, at the level of College of Physicians, was closed to women, but as noted, many women participated in helping those afflicted with plague. How did this involvement change or entrench patriarchal attitudes to women, which were also connected to religious outlooks? Ideas of medicine were also highly gendered, and Galenism in particular perpetuated views about the weakness of the female body. Did the plague outbreak, which affected men and women equally, have any effect on altering Galenic views, and if not, why not?

[8] See for example a recent study: Lara Thorpe, "'At the Mercy of a Strange Woman': Plague Nurses, Marginality, and Fear during the Great Plague of 1665," in *Women on the Edge in Early Modern Europe*, eds. Aidan Norrie and Lisa Hopkins (Cambridge: Cambridge University Press, 2020), 29-44. More general studies: D. R. Curtis, "The Female Experience of Epidemics in the Early Modern Low Countries," *Dutch Crossing 45*, no. 1 (2020): 3-20.

In considering all these questions, the continuing importance of religious attitudes, as well as traditional ideas of medicine, will form part of the answer. The "Union of Soul and Body," a view prevalent in medical, religious and civic attitudes, remained powerful, long after the Great Plague of 1665 was over.

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