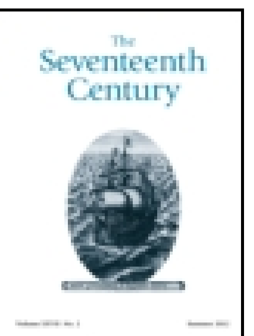

The Seventeenth Century

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/rsev20

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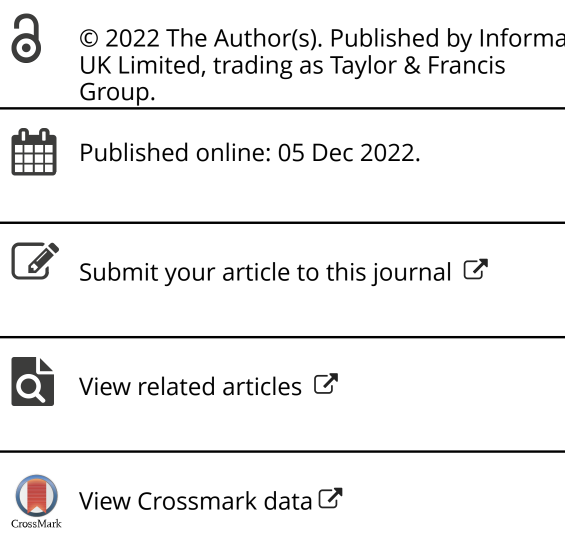
To cite this article: Stewart Mottram (2022): Deluge and disease: plague, the poetry of flooding, and the history of health inequalities in Andrew Marvell's Hull, The Seventeenth Century, DOI: 10.1080/0268117X.2022.2142656

To link to this article: https://doi.org/10.1080/0268117X.2022.2142656



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Published online: 05 Dec 2022.

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THE SEVENTEENTH CENTURY
https://doi.org/10.1080/0268117X.2022.2142656

Deluge and disease: plague, the poetry of flooding, and the history of health inequalities in Andrew Marvell's Hull

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ABSTRACT
This article redresses a predominant focus on London among historians of health inequalities by turning to the port town of Kingston upon Hull and offering the first demographic analysis of burial records from Hull's 'great plague' of 1637–38. The article shows how the social history of plague intersects with the flood metaphors of Hull poet, Andrew Marvell (1621–78) and his father, the Reverend Andrew Marvell (*c*.1584–1641). The article offers new understanding of Marvell as an estuary poet immersed in the floods, plagues, and environmental hazards that were a feature of life in Hull and London. It finds that Hull's poorest householders were over three times more likely to die of plague in 1637–38 than Hull's merchants, and argues that these are health inequalities reinforced by Marvell's flood metaphors, which liken to Noah those with the financial means to flee from plague, while unjustly condemning the perceived impieties of the poor.

ARTICLE HISTORY
Received 29 July 2022
Accepted 28 October 2022

KEYWORDS
Andrew Marvell (1621–1678); Reverend Andrew Marvell (*c*.1584-1641); history of health inequalities; environmental humanities; flooding in English literature; plague in English history

Introduction

The concept of health inequality is a new coinage for an age-old problem. Although the seventeenth century sounded the death knell for the last major plague outbreak in the British Isles, one legacy of plague that has outlived the 1600s is the uneven distribution of deaths across different socio-economic groups. These are inequalities which the UK's unequal experience of the COVID-19 pandemic and predicted post-pandemic recovery rates have only served to increase.[1] Faced with evidence of still-widening health gaps in the present, what can we learn from the history of health inequalities as these are revealed in the records of plague deaths and public health management in seventeenth-century England? There is increasing interest across the humanities, health, and social sciences in the history of health disparities in England, and while much of this research is focused on the nineteenth and twentieth centuries, social historians have revealed how far poverty was a factor in determining risk of death from plague in early modern London, mapping burial rates onto the available socio-economic data for London parishes to develop a comprehensive overview of health inequalities across the capital between 1560

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[1]Bambra *et al*., *Unequal Pandemic*; Mishra, 'Health Inequalities'.

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and 1665.[2] These are welcome developments, yet the predominant focus to date on the burial registers of early modern London raises important questions about the translatability of recent scholarship to other urban settings across England with equally rich archival witnesses to rates of plague mortality in the seventeenth century. Redressing this, the present article focuses on the East Yorkshire port town of Kingston upon Hull, and offers the first demographic analysis of surviving burial records from Hull's 'great plague' of July 1637–July 1638, the most devastating plague outbreak recorded in Hull's 800-year history.[3] The article reconstructs from Hull's surviving civic records the seventeenth-century processes of plague management in Hull, and uses the detailed demographic information contained in burial entries for those identified as having died of plague in 1637–38 to reconstruct the socio-economic profiles of plague victims and show how far health inequalities were aligned with socio-economic realities in seventeenth-century Hull. The article finds that only 3.1% of Hull's merchant class succumbed to plague in 1637–38, compared to 10.3% of unskilled labourers. Hull's poorest householders were therefore over three times more likely to die of plague than merchants and professionals, despite both groups living in close proximity, within a compact urban setting in which wealth and poverty were evenly distributed.[4]

The social history of plague in seventeenth-century Hull also intersects with the life and literature of one of this century's most significant English poets. Andrew Marvell (1621–78) was a writer who divided much of his life between the estuary regions of Hull and London, two major English ports through which plague frequently passed; Marvell survived some of the most severe epidemics of plague in the seventeenth century, in Cambridge (1636) and London (1665), and his family had direct experience of Hull's great plague of 1637–38 and were shut up on 'suspicion of the infeccion' in autumn 1637.[5] Marvell's father, the Reverend Andrew Marvell (*c*.1584–1641), wrote several surviving plague sermons in Hull in 1637–38, and plague also shapes the metaphors of Marvell's own poetry, notably in Marvell's Latin commendatory poem to the Hull physician, Robert Witty's translation of James Primerose's *Popular Errours* (1651). In his poem, *Dignissimo suo Amico Doctori Wittie*, Marvell alludes to Primerose's commentary in *Popular Errours* on the 'errour' that tobacco was a preservative against the plague, with Marvell instead proposing smoking as a remedy for the 'base plague [*improba scribendi pestis*]' of writing, because the paper of printed books provided convenient spills for lighting pipes.[6] Marvell's early Latin and lyric poems, including his earliest surviving poem, *Ad Regem Carolum Parodia* (*c*.1636), also contain metaphors of deluge and disease which echo similar uses, in seventeenth-century plague sermons and plague manuals, of flood metaphors being used to liken the deadliness of plague to the disasters of the biblical deluge. The present article therefore looks to new sources in English literature to enrich our understanding of the social history of plague inequalities. In so doing, it offers new insights into Marvell's poetry, recognising the involvement of his

[2]Wistow, 'Health Inequalities'; Cummins, *et al*., 'Living Standards'. Other metropolitan studies of plague inequalities include Evans and Evans, 'Plague'; Finlay, *Population*; Hollingsworth and Hollingsworth, 'Plague mortality'.
[3]Hull History Centre, U DX5/4, 'A Table of Numbers contained in this part of the Register'.
[4]Evans, 'Origins', 34 (fig. 1.11).
[5]Hull History Centre, C BRB/3, 451.
[6]'*Dignissimo*', l.6 and l.11n, in Smith, ed., *Poems*, 175-77 (Estelle Haan's translation, in Ibid., 177).

metaphors of deluge and disease within wider seventeenth-century discourses that fall back on biblical archetypes of the Flood to imply that plague was a 'punishment' for the sins of the suffering. While floods and pandemics today may be regarded as 'collective calamities', Kate Rigby shows how the early modern mindset 'decoded' these calamities 'as punishment for transgression' – a 'punishment paradigm' which exacerbated pre-existing inequalities because implying that those most affected by inundations and epidemics were also those most deserving of the 'punishment' inflicted upon them.[7] Reading Marvell's metaphors of deluge and disease in light of the article's detailed examination of Hull's burial records from 1637–38 and the evidence of inequalities these reveal, the article concludes that the poor were doubly disadvantaged in urban settings like Hull, not only bearing the brunt of plague outbreaks, but also condemned, in sermons and poems, for their cause. The article therefore makes a cross-disciplinary contribution to our knowledge of plague in seventeenth-century literature and social history and shines an important light on Marvell's own relationship to plague and plague inequalities. The article therefore contributes to recent ecocritical readings of the 'green Marvell' but argues for the necessity of a new 'green-blue' approach to Marvell's poetry – an approach that recognises Marvell as an estuary poet immersed in the 'green-blue' regions of London and Hull, and in the environmental hazards – floods, plagues, and other diseases – that were a particular feature of life, and death, in these liminal zones between land and sea.[8]

Deluge and disease in Marvell's poetry

Like plague, flooding has always affected those most vulnerable to its impacts and least equipped to cope with its consequences. Just as reports on recent flood events in Hull in 2007 and 2013 recognise a 'recovery gap' among the city's most deprived affected households, so the civic records and parish registers of seventeenth-century Hull show that poorer households, then as now, were similarly disadvantaged by unequal exposure to plague and other environmental hazards.[9] Today, addressing inequalities in people's resilience to flooding is an urgent societal challenge, given that human-induced climate change is increasing the frequency and severity of storms and causing 'more frequent and intense compound coastal flooding events as sea levels continue to rise'.[10] Yet climate change was also a factor in increased storminess in the seventeenth century, with the language of environmental hazard in literature reflecting increases in actual extreme weather events across the 1600s, a century climatologists regard as the climax of the Little Ice Age (*c*.1200–1700).[11] Estimated mean annual temperatures for England plummeted by just under 1°C between 1550 and 1650 – a rate of *decline* almost precisely mirroring the mean annual Central England temperature *rise* of 1°C between 1920 and 2019. As increased storminess leading to coastal and fluvial flooding is a known consequence of global heating today, so the changing climate of early modern England brought with it a spate of cold, wet springs and summers, leading to the flooded fields and failing crops

[7]Rigby, *Dancing*, 16-17.
[8]For an overview of recent 'green' approaches to Marvell, see Remien, *Concept of Nature*, 84, n.9.
[9]Ramsden, *Living*, 23.
[10]Seneviratne, *et al*., 'Weather', 1599-1600.
[11]Bradley and Jones, eds., *Climate*, 658-60.

reflected in the frequent re-issuing of dearth orders across the late sixteenth and early seventeenth centuries.[12]

The meteorological metaphors of Andrew Marvell's poetry reflect the storminess of their period of composition but also make moral assumptions about victims of flooding, applying the 'punishment paradigm' to an interpretation of these unusual weather events. Written against the backdrop of the third English civil war (1650–51), Marvell's *Upon Appleton House* (1651) uses flooding as a metaphor for political and religious unrest. Surveying the grounds of Nun Appleton, the rural retreat of Marvell's employer, the former lord general of the parliamentarian army, Thomas Fairfax, Marvell sees signs of civil war amid Fairfax's embattled gardens, woods, and water meadows.[13] Nun Appleton's gardens, for example, are fortified in Marvell's poem against 'proud Cawood Castle', which as a former episcopal palace embodies the poem's wider fears that Charles II of Scotland's invasion into England in July 1651 might spark a royalist uprising in northern England.[14] So too, the poem's meadows are 'a camp of battle' (l.420) traversed by that other threat to the stability of England's fledgling Commonwealth, the sectarian threat represented by the levelling mowers, whose work in cutting the grass leaves behind a field of stubble – 'a levelled space' (l.443), Marvell writes, and 'naked equal flat, | Which Levellers take pattern at' (ll.449–50). The Levellers, whose stand at Burford in 1649 Thomas Fairfax had been instrumental in suppressing, still threatened social order at the time Marvell was writing his poem: Derek Hirst and Steven Zwicker note there was Leveller insurgency targeting land drains nearby Nun Appleton in summer 1651, which no doubt fuelled the fears that Marvell's imagery reflects.[15] When the Fairfax estate at Denton, some thirty miles upstream of Nun Appleton, 'sets ope its cataracts' (l.466), or sluice gates, and the river Wharfe bursts its banks, the poem's speaker retreats from the flooded meadows to the 'growing ark' of the nearby wood:

> But I, retiring from the flood,
> Take sanctuary in the wood;
> And, while it lasts, myself embark
> In this yet green, yet growing ark;
> Where the first carpenter might best
> Fit timber for his keel have pressed.
> And where all creatures might have shares,
> Although in armies, not in pairs (ll.481–88)

Marvell's 'first carpenter', Noah, is the archetypal flood survivor. He is the 'just man' who is saved from the cataclysmic 'flood of waters' that God sends to destroy the 'wickedness' of the world. Genesis 6 makes clear that the flood Noah survived was not a natural 'disaster' but a supernatural event, authored by God as punishment for 'the wickedness of man'.[16] As Milton writes of Noah's Flood in *Paradise Lost*, 'Flood overwhelmed, and them with all their pomp | Deep underwater rolled'.[17] In a period where floods, as *Upon Appleton House* bears witness, were often likened to the biblical Flood, so

[12]Seneviratne, *et al*., 'Weather', 1599-1600; Lamb, *Historic Storms*; Bohstedt, *Politics*, 69-70.
[13]For readings of the poem in the context of the third English civil war and Scottish invasion of England in August 1651, see Hirst and Zwicker, 'High Summer'; Mottram, *Ruin*, chapter 5.
[14]*Upon Appleton House*, l.363, in Smith, ed., *Poems*, 210-41.
[15]Gentles, 'Fairfax'; Hirst and Zwicker, 'High Summer', 252-53.
[16]Hammond, *et al*., *King James Bible*, Genesis 6.5.
[17]Milton, *Paradise Lost*, ed. Lewalski, 11.748-49.

water out of place in these contexts automatically came to carry a moral burden. To survive a flood – as Marvell's speaker does, by retiring to the woods – is to put yourself in the position of Noah, Milton's 'reverend sire' (XI.719) – a position that implicitly passes moral judgement on those more vulnerable to flooding's dangers and depredations.

Cristina Malcolmson is among critics to read the flood in *Upon Appleton House* as a metaphor for the poem's moral condemnation of the meadows' 'tawny mowers' (l.443), whose actions represent 'the excessive violence that would occur' if Levellers and Diggers were allowed to put their 'theologically and ideologically unsophisticated … ideas into effect'.[18] By putting readers in mind of Noah's Flood, Marvell clearly exaggerates the scale of flooding at Nun Appleton, viewing the flooded meadows through the same 'multiplying glasses' (l.462), or distorting lens, through which Marvell views the larger-than-life fleas and grasshoppers elsewhere in the poem.[19] Yet speaking as Noah from the sanctuary of this 'green, yet growing ark' (l.484), the woods, Marvell's flood metaphor is more than mere whimsy, for it is the moral enormities as well as physical heights of the flooded waters that Marvell's comparison between the flooded Wharfe and biblical Flood helps magnify. The fact that Marvell's description of the flooded Wharfe borrows metaphors, as Nigel Smith notes, from Ovid's retelling of another great Flood myth – his description of a world turned upside down in *Metamorphoses* I:295–6 – only adds to the moral subtext of Marvell's meaning.[20] Ovid, like the writer of Genesis, also equates deluge with divine punishment – Deucalion's flood, for Ovid, is the product of Jove's pronouncement that 'all | Shall swiftly by deserued vengeance fall' – and Marvell was not the only seventeenth-century writer to incorporate the language of Ovid's diluvian myth into an understanding of the biblical deluge.[21] Milton does similar in his prophetic vision of the biblical flood in *Paradise Lost* XI, which also borrows from Ovid's account of Deucalion's flood.[22]

Seeing floods from a safe distance is a characteristic standpoint for the speakers of Marvell's poems. In 'The Character of Holland' (1653), Marvell's speaker sneers at the 'half wet' Dutch from the comparatively drier 'British sand', casting aspersions at Holland's moral bankruptcy – Amsterdam, he writes, is a 'bank of conscience' that trades in schism and 'strange | Opinion' – and over-ingenious attempts to reclaim 'new-catched miles' from the sea.[23] Sectarianism and land reclamation both stand, for Marvell's speaker, as tokens of Holland's overweening pride, encapsulated in the poem's image of impoldered land as a 'wat'ry Babel' (l.21). This pride the poem sees as directly responsible for Holland's 'daily deluge' (l.27) from the North Sea – a deluge also described through Marvell's Ovidian paradoxes, where 'the fish oft-times the burgher dispossessed, | And stay not as a meat but as a guest'.[24] Where in *Upon Appleton House* Marvell's speaker retreats to the 'growing ark' of the woods, in 'Character of Holland' the ark itself has struck and split on Holland's impoldered ground – an image, in this poem,

[18]Malcolmson, 'Garden Enclosed', 261-62.
[19]For Marvell's comparison of grasshoppers to giants, see lines 369-76; for cows as fleas, see lines 457-64.
[20]*Upon Appleton House*, ll.477-80n, in Smith, ed., *Poems*, 230.
[21]Sandys, *Ovid's Metamorphosis*, A3v.
[22]Milton, *Paradise Lost*, ed. Lewalski, 306 (note to XI.712-53).
[23]'Character', ll. 53, 2, 73-74, 18, in Smith, ed., *Poems*, 246-56.
[24]'Character', ll.29-30, in Ibid.; compare Sandys, *Ovid's Metamorphosis*, A4r: 'One, takes a Hill: One in a Boat deplores; | And, where He lately plow'd, now strikes his Oares. | O'r Corne, o'r drowned Villages He sailes: | This from high Elmes intangled Fishes hales'.

of moral shipwreck, not salvation. Marvell's speaker firmly inhabits the moral high (and dry) ground, speaking for and from a position of English moral superiority, where 'now of nothing may our State despair | Darling of Heaven, and of men the care' (ll.145–6).

Marvell's earliest extant poem, an imitation of Horace's *Carmina* I.ii, '*Ad Regem Carolum Parodia*' (1636–37), is similarly written from the vantage of a speaker retreating from rising waters, although in this poem the threat comes not just from flooding but an outbreak of plague. The poem, written while Marvell was at Trinity College, Cambridge, was published within a Cambridge University collection of poems celebrating the birth, in March 1637, of Henrietta Maria and Charles I's fifth child, Anne.[25] Replacing Augustan Rome with Caroline Cambridge, Marvell's *Parodia* sees 'the scholar cast aside his gown and [abandon] the town in terror [*Cum toga abjecta pavidus reliquit* | *Oppida doctus*]', in the face of two divinely-authored events, the rising waters of the rivers Cam and Granta and the 'dreadful thunderbolt [*diri* | *Fulminis*]' of plague.[26] Whereas Horace, in *Carmina* I.ii, focuses solely on the 'Uxorious flood [*Vxorious amnis*]' caused by the storminess of the river Tiber, Marvell significantly combines flood with plague, attributing both to the 'thunderbolt [*Fulminis*]' (l.2) of 'Jupiter's sanctioning [*Jove comprobante*]' (l.19).[27] In doing so, Marvell points to similarities in how flood and plague were imagined in the seventeenth century, as divine punishment for collective sins, as well as to similarities in how people reacted to these divine 'thunderbolts' in Marvell's day. As the speaker in *Upon Appleton House* retires to the 'growing ark' of the wood to avoid the rising river Wharfe, so 'running to the hills' was also standard practice in the face of rising waves of plague infection in the mid-seventeenth century. As Leona Skelton writes, 'most contemporaries understood that plague was contagious' but believed it spread by 'plague miasmas' – poisonous vapours associated with what John Evelyn called the 'Stink and Darknesse' of insanitary living conditions in crowded urban streets.[28] Small wonder, then, that those able to do so would flee the stink of the city in time of plague for the 'good and pure *Aer*' of hilly countryside.[29]

As a student at Trinity College, Marvell most likely followed his poem's scholar and 'abandoned the town in terror' in the face of the escalating epidemic. The plague reached Cambridge from London in October 1636, forcing colleges to close, with fellows and scholars given leave of absence to return home.[30] Although most of Cambridge's 16 colleges in Marvell's day had rural manors in outlying villages to which fellows could retreat, Marvell – as a poor sizar – must plausibly have returned home to Hull, where by summer 1636 the plague outbreak, which first reached Hull in July 1635, had largely abated, with Hull remaining relatively plague free throughout the remainder of 1636, before the major outbreak of July 1637–July 1638 (Figure 1).[31] Marvell returned to Cambridge at some point in 1637, collecting his sizar's livery money of 6s 8d in this year.[32]

[25]See discussion of context, in Smith, ed., *Poems*, 5-9.
[26]'*Parodia*', ll.11-12 and 1-2 (Estelle Haan's translation, in Ibid., 8-9).
[27]Horace, *Poemata*, A8r (John Conington's translation, in Conington, trans., *Odes*, 3).
[28]Skelton, *Sanitation*, 38; Evelyn, *Fumifugium*, a1 v.
[29]Evelyn, *Fumifugium*, B1v; Dobson, *Contours*, fig. 1.1.
[30]Von Maltzahn, *Chronology*, 22.
[31]Morgan, *History*, 222; Dyer, 'Bubonic Plague', 316; Lord, *Great Plague*, 54; For the onset of plague in Hull in 1635, see Tickell, *History*, 308.
[32]Von Maltzahn, *Chronology*, 22.

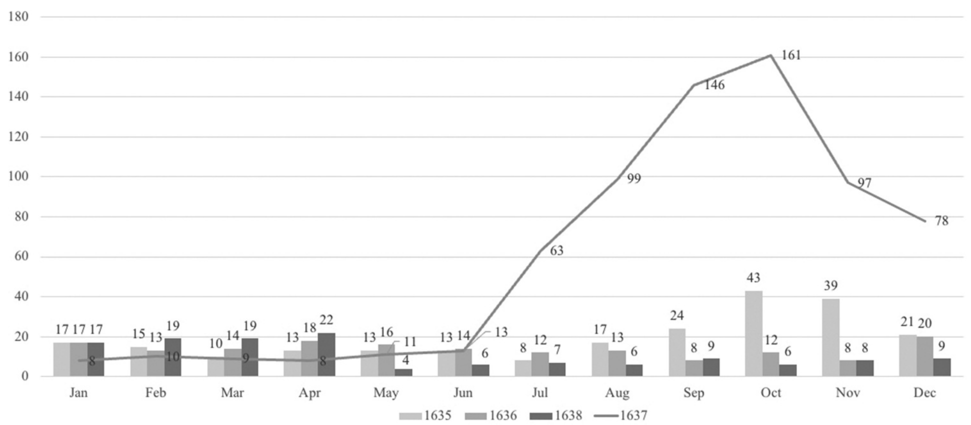

Figure 1. Monthly burials: Holy Trinity, Hull. 1635-38.

Exchanging the 'horrid stinks' of plague-hit towns for wholesome country airs must have seemed so self-evidently sensible to Marvell's contemporaries as barely to require explanation, still less defence.[33] 'Gods Judgements', Thomas Willis writes, 'are a mighty *Flood*'.[34] Therefore, as Marvell's lifelong friend, the Presbyterian physician, Robert Witty, observes, in his translation of fellow Hull physician James Primerose's *Popular Errours* (1651), 'if a mans calling hinder not, no man will suffer himself to be perswaded to stay among those that are sick of the Plague.[35] But what of those unable to flee the flood of plague for the sanctuary of higher, drier ground? Bound by ties of family or service, the urban poor were disproportionately affected by England's strict public health regulations, enshrined in law since 1604, which gave powers to local authorities to shut up houses 'of such persons out of the which there shall die any of the Plague', confining the sick with the sound for at least 'sixe weekes'.[36] For Willis, the poor in these conditions can do little but 'Prepare for Death' side-by -side the sick, for ''Tis not a poor *Paper-wall* can keep out [Death's] *burning dart*'.[37] 'Deprived of the society of men', the shut-up are left without even the spiritual succour of church ministers, who 'are not without just reason afraid to come amongst them'.[38] It is for this reason that Willis, an ejected Presbyterian minister, styled 'late Minister of *Shadwell*', who conformed at the Restoration and was presented with a living in 1663, recommends '*Reading* the Scriptures' and '*Meditation* and *Prayer*' as 'the best *Preservative* for the sound, the best *Restorative for the sick*', and he includes tailored prayers as part of his *Help for the Poor*.[39] One of these meditations invites the shut-up reader to imagine themselves 'shut up as *Noah* in the *Arke*' – a situation revealingly similar to the one in which Marvell's speaker finds himself in, in *Upon Appleton House*, retreating from the flood for the 'sanctuary' of this 'growing ark', the woods. For the shut up in Willis's meditation, however, their identification with Noah draws

[33]Evelyn, *Fumifugium*, D3r.
[34]Willis, *A Help*, A7v.
[35]Primerose, *Popular Errours*, 107.
[36]1 Jac. I. c.31, in Luders and Raithby, eds., *Statutes*, 1060-62; Royal College of Physicians, *Certaine necessary*, F3v.
[37]Willis, *A Help*, A8r.
[38]Ibid., B2r, A2v.
[39]Ibid., title page, C5r, C7v, D1r. For Willis' ministerial career, see Knighton, 'Willis'.

attention, not to their 'sanctuary', but to the precarity of their situation, 'as sheep appointed for the slaughter'[40]

> For the *Deluge* of Gods Wrath (provoked by the sins of men) is come, and Thousands are overwhelmed by it. *Noah* was shut up for his *Preservation*; but, perhaps, I am shut up for my *Destruction*.[41]

Willis is among English writers to recognise the inequalities of public health management in the mid-seventeenth century – that, while 'the *Rich* flie from the stroke, the *Poor* fall under it' – yet his 'Compassion to the Poor' is nevertheless seasoned with a moralising condemnation of how the poor, in Willis's eyes, have only themselves to blame for bringing the '*Deluge* of Gods Wrath' upon their households.[42] The poor are therefore doubly disadvantaged in Willis's account – condemned for a contagion they are unequally exposed to – and his reference to Noah reinforces the moral distance between Milton's 'reverend Sire', shut up in the ark for his salvation, and those shut up in seventeenth-century towns. Against this flood of plague, Willis writes, 'Mans sins make a *Breach* in the Bank' and '*Prayer stands in the Breach* to keep off the judgement'.[43] Yet in *A Help for the Poor*, it is the poor alone who are exhorted to pray for salvation; Willis turns to the '*Rich*' only to 'beg' of them 'the cost and care of communicating' his prayers to those 'poor families' who 'have most need of them'.[44] For Willis, the rich not only escape the plague, but escape the stigma of being held morally culpable for this '*Deluge* of Gods Wrath'. While the poor must pray for their salvation, privilege purchases the rich a license to identify with Noah. Applying the language of Noah's Flood to the inequalities of public health incarceration, Willis is at once compassionate and condemning towards the poor, recognising their unequal exposure to plague, yet still rendering them morally culpable for their plight, just as Marvell renders his levelling mowers and schismatic Dutch responsible for their moral downfall, in the floods from which his Noah-like speakers retire in *Upon Appleton House* and 'The Character of Holland'.[45]

Marvell's own reaction to the plague epidemics he experienced at Cambridge in 1636, and as MP for Hull during London's Great Plague of 1665, mirrors the reaction of his poems' speakers, who 'retire' and retreat from the '*Deluge* of Gods Wrath' – whether a flood of plague or of water – to take sanctuary in the 'growing ark' of woods and fields. As we assume that Marvell must 'have abandoned the town in terror' when plague struck Cambridge in 1636, so records show that Marvell moved with the parliament to Oxford to escape the Great Plague in September 1665, signing the 'Liber Admissorum' at the Bodleian Library on 30 September, and remaining at Oxford until early November, when Marvell mentions his imminent 'departure from Oxford' in a letter to Hull Corporation of 2 November 1665.[46] The same letter reports parliament's adjournment until February 1666, and as well as listing the ten acts passed by both Houses, draws attention to one act that failed to clear the Lords. As Marvell

[40]Willis, *A Help*, B6 v.
[41]Ibid., D1r-v.
[42]Ibid., A3r, title page.
[43]Ibid., A7v.
[44]Ibid., A5r.
[45]Ibid., A7v.
[46]Von Maltzahn, *Chronology*, 90; Margoliouth, ed., *Poems and Letters*, 41.

writes, 'the bill for better preventing the increase of the plague could not pass because the Lords would not agree with us that their houses if infected should be shut up'.[47] The bill had been intended to revise measures in force since the 1604 Act 'for the charitable reliefe and ordering of persons infected with the Plague' (1 Jac. I c.31).[48] The 1604 act empowers magistrates to 'taxe and assesse' rates for relieving the poor who were 'shut up' due to plague, and to 'taxe and assesse the Inhabitants of the Countie within fiue miles of the sayd place Infected', should the inhabitants of infected towns be 'vnable to relieue their said poore infected persons'.[49] By providing charity to the 'poorer sort' shut up in their houses, the act had intended to remove any legitimate pretext for why the poor should break free of their confinement, and having empowered magistrates to levy poor relief, the 1604 act empowers the same authorities 'with violence to inforce' the incarcerated 'to keepe their houses', 'lest they should wander abroad'.[50]

The parliamentary committee appointed to revise the 1604 legislation in 1665 recognised shortfalls in existing measures for levying poor relief. The key problem, Stephen Porter notes, was 'how to raise funds when the wealthy citizens had left and the economy was disrupted'. With the wealthy customarily fleeing towns at first sight of plague, rate-collectors were left knocking on doors of empty houses, unable to levy money sufficient to supply the poor's needs.[51] One suggestion of the 1665 committee was therefore to extend legislation on shutting up houses and liability for poor relief to the universities and cathedral precincts excluded from the 1604 act. But when these amendments came before the Lords in 1665, they would not, as Marvell writes, 'agree with us that their houses if infected should be shut up'. Marvell's letter of 2 November 1665 points to deep-seated inequalities in plague management in this period. When the bill was finally debated by both Houses in 1667, the 'Lords again attempted to exempt their houses from shutting up' – a move blocked by the Commons, who held it unreasonable that 'the People's Safety should depend upon their Lordships Pleasure to shut up themselves'.[52]

The failure of the bill 'for better preventing the increase of the plague' may have had special resonance for the recipients of Marvell's letter, the authorities in Hull. Hull had struggled in previous plague outbreaks to levy funds to care for the sick and feed the sequestered poor. In Hull's own 'great plague' – the outbreak of 1637–38 – the records preserved in Hull's civic register, the Bench Books, note that at the start of the outbreak there had been charitable collections in the town's two churches, Holy Trinity and St Mary's, on Sunday 23 and Wednesday 26 July 1637 respectively. Taken together, the collections had amounted to 'about xx li', but this had failed even to reimburse the town for its initial outlay of 'twenty pounds and a greate deal more money' on 'building lodges and making other provisions for the said infected p[er]sons', and it was therefore decided that 'an assessment shall be forthwith made according to the lawe' of 1604, and as prescribed in 'his ma[jes]ties booke of order and directions', *Certaine Necessary Directions* – a work reissued in response to the outbreak in London in April 1636.[53] Those householders already assessed for poor relief were henceforth commanded to 'pay

[47]Ibid., 41.
[48]Royal College of Physicians, *Certain Necessary*, Q3r-R2v.
[49]Ibid., Q3v-4r.
[50]Ibid., R1v, Q3r.
[51]Porter, *Black Death*, 386.
[52]Ibid., 386. House of Commons, *Journal*, 624.
[53]Hull History Centre C BRB/3, 439. For the reissuing of *Certaine Necessary Directions*, see Newman, 'Shutt Up', 815.

half a yeares assessment ... over and above their said weekly assessment' in July 1637, while those 'able and not yet assessed ... are now to be assessed towards the releef of theis infected persons'.[54] The Bench Books do not record the sum levied through these measures, but that it was insufficient to supply Hull's poor is clear from a later entry, dated 14 September 1637, which directs that 'sixty pounds' be taken from the town chest and disbursed 'towards the weekly releeff of the poore' in addition to 'the former sume of thirty poundes forth of the poores money'. This 'sume of sixty pounds', the entry clarifies, is 'to be but lent and afterwards made upp againe', and the entry is clear that the town can supply no further funds for poor relief, 'until the same shall be collected or levied in the County', as per the plague regulations set out in *Certaine Necessary Directions*.[55]

There may be several reasons why the levy of 'half a yeares assessment' demanded of householders in late July 1637 had been already spent by mid-September, forcing the town to loan money for poor provision from the town chest. Hull's wealth was concentrated on the maritime industries of shipbuilding, commerce, and fishing, but the wealth derived from these activities was unevenly distributed across households. As the 1673 hearth tax assessment reveals (Figure 2), there were only a handful of Hull merchants – 3% of 1,362 households assessed – who were wealthy enough in the mid-seventeenth century to support households with 10 or more hearths, while a significant minority of householders (36%) were either exempted from the hearth tax because of poverty (19%) or 'had only one hearth and may therefore also be classed as poor' (17%).[56] No subsidy rolls survive for Hull from the earlier seventeenth century, but evidence from the State Papers, in the form of Hull's 'humble peticon' to Charles I in 1639, suggests that at the time of the 1637–38 plague, Hull's wealth was even more stratified among fewer merchant families, and that the town was collectively poorer than in 1673.[57] The 1639 petition is one of several from the mid-seventeenth century to complain of Hull's collective poverty, by pointing, like the later 'Reasons of the disability of [the] Inhabitants in Kingston upon Hull' (3 July 1645), to Hull's predicament as 'a Porte towne to w[hich] Poverty is incident. The greatest parte of [the] Inhabitants being common Seamen, Labourers, Boatemen & Sledgemen'.[58] While we need to bear in mind that 'humble petitions' are effectively 'bid[s] to avoid a tax', and that it was therefore in Hull's interests to exaggerate the town's poverty, the 1673 assessment nevertheless corroborates the claim that 'the greatest parte' of Hull's householders (59%) had two or fewer hearths, and thereby fell precisely into the category of 'common Seamen, Labourers, Boatemen & Sledgemen'.[59] The available socio-economic picture of Hull around the time of the 1637–38 plague is one where poverty predominates, and the pool of people drawing on the 'poores money' was therefore greater than the capacity of the wealthier residents to provide for them.

Exacerbating the town's inability to levy funds for its poor was the fact that it was precisely Hull's minority of wealthier residents who were also those most likely to have fled the town after the onset of plague in July 1637, leaving revenue collectors knocking on empty houses.

[54]Hull History Centre C BRB/3, 439.
[55]Ibid., 442.
[56]Allison, ed., *Victoria History*, 160.
[57]For the petition, see Bruce and Hamilton, eds., *State Papers*, 333.
[58]Hull History Centre, C BRB/3, 669-70, at 669.
[59]Allison, ed., *Victoria History*, 154.

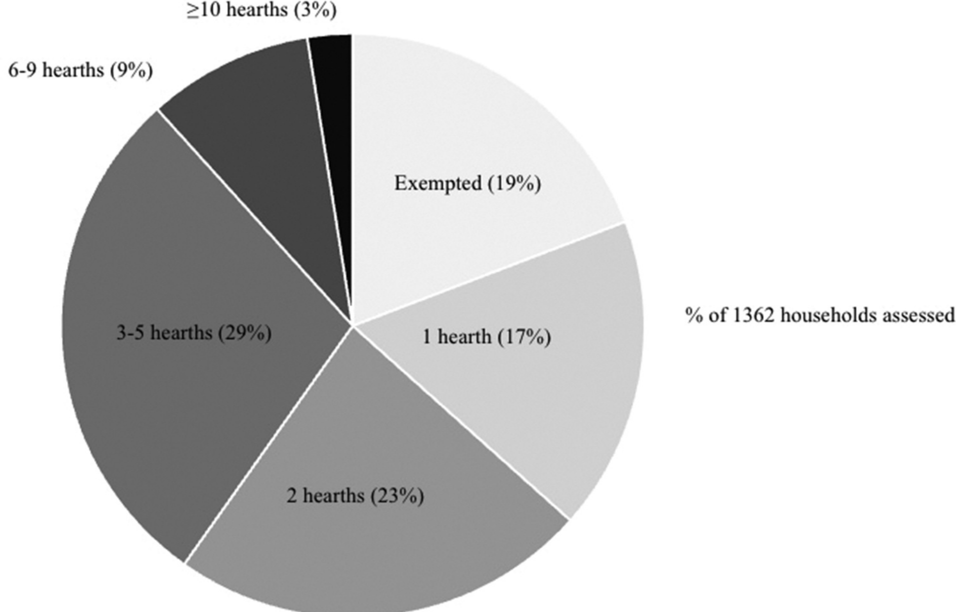

Figure 2. Wealth distribution in seventeenth-century Hull: Hearth Tax Assessment, 1673.[60]

That some residents had indeed 'abandoned the town in terror' is clear from a Bench Book entry of 12 October 1637, which directs payment from the 'poores money' to 'watchers and warders (for such as are absent and removed out of the towne)'. The entry stresses that absentee householders should 'repay the same' when 'the p[er]sons themselves shall come againe to remaine in the Towne'.[61] A month later, when Hull's serving mayor, John Ramsden, died on 7 December 1637, '(as it is thought) of the infeccon of the plague', the Corporation sent letters to 'three of the Aldermen of this Towne now being in the Countrey to desire them to make present repaire to this Towne'.[62] One absentee alderman, the merchant James Watkinson, who had fled the plague for a second house 20 miles east of Hull, on the Holderness coast at Easington, was a week later elected Hull's new mayor.[63] Like the Lords' refusal to agree that 'their houses if infected should be shut up', the practice of 'fly[ing] into the countrey' at the first sign of plague is another example of health inequalities in the mid-seventeenth century.[64]

Health inequalities and Hull's 1637–38 plague

The years 1637–38 saw the most severe plague outbreak in early modern Hull, with the year ending 24 March 1638 marked in the burial register for Holy Trinity, Hull, as 'the great Plague year'. Holy Trinity is the larger of two churches to have kept burial records for the town in the 1630s, and this study combines analysis of the records

[60]Allison, ed., *Victoria History*, 160-62.
[61]Hull History Centre, C BRB/3, 445.
[62]Ibid., 453.
[63]Healy, 'Watkinson'.
[64]Royal College of Physicians, *Certain necessary*, C1r.

transcribed in the late nineteenth century for both Holy Trinity and St Mary's to offer a comprehensive overview of plague mortality in Hull in 1637–38. Both registers list names and other demographic information for the deceased and specifically identify those certified as having died of plague by marking each plague death with a 'P' in the right-hand margin. These markings indicate that in the 13 months in which plague deaths are recorded at Holy Trinity and St Mary's, between July 1637-July 1638, 679 individuals, or 84% of the total deceased population of 812, are recorded as dying of plague (Figure 3). In a town whose population has been estimated at *c*.6,000 in 1640, this suggests 11% of the town succumbed to plague during the outbreak of 1637–38, with the vast majority of these plague deaths (629, or 93%) recorded in Holy Trinity parish register.[65] Total burials (=799) for Holy Trinity and St Mary's for the year ending 24 March 1638 were four and a half times higher than the combined rolling average (=173) for the previous five non-plague years in Hull (1630–34). The impact of the 1637–38 plague on mortality in Hull is therefore comparable to total mortality in the London plagues of 1563, 1603, 1625, and 1665, with burials for each 'running from five to six times their usual level'. Hull's 'great plague' was certainly far more devastating than its closest analogue, the 1636 London plague, during which 'deaths were 2.3 times normal'.[66]

Writing in 1796, John Tickell notes that this 'terrible pestilence' first 'made its appearance in this town' in July 1635 and 'continued to exist till about the middle of June 1638'.[67] Tickell estimates the total number of plague victims across this three-year period as 2,730, 'exclusive of those who fled out of the town and died elsewhere'.[68] If this were accurate, Nigel Smith notes, this would mean around 45% of the town's total population of 6,000 died of plague in the mid-1630s.[69] This is far beyond the demographic impact of even the 1665 London plague, and the survival of Hull's burial registers enables us to revise down Tickell's figures significantly – in fact, the combined registers

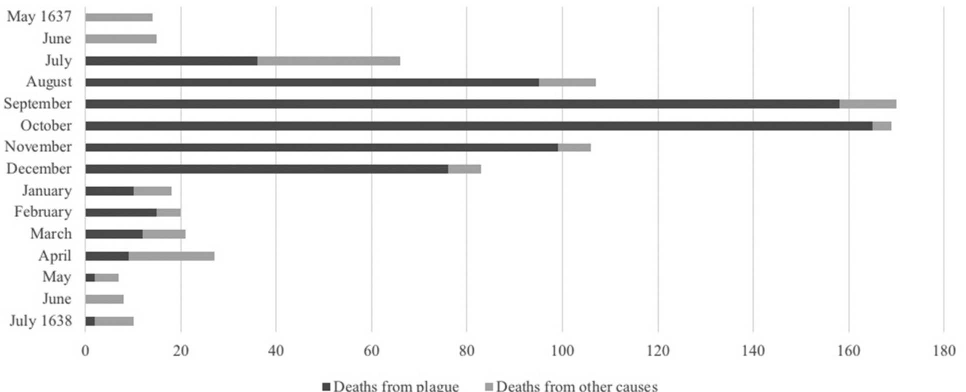

Figure 3. Plague deaths as a proportion of monthly burials: Holy Trinity and St Mary's, Hull. May 1637–July 1638.

[65]For the population estimate, see Allison, ed., *Victoria History*, 157.
[66]Cummins *et al*., 'Living Standards', 13.
[67]Tickell, *History*, 308, 311.
[68]Ibid., 311.
[69]Smith, *Chameleon*, 38.

for Holy Trinity and St Mary's records 1,290 total burials across July 1635-June 1638. From the registers we can also discern two separate waves of plague across Tickell's three-year period: an autumn 'bump' in 1635 followed by an exponential spike in the autumn of 1637 (Figure 1). Between these outbreaks, annual mortality returned to pre-plague levels (181 total burials in 1636, compared with an average of 173 burials for the previous five non-plague years, 1630–34) and the evidence for two distinct waves of plague in 1635 and 1637 is also reflected in Hull's Bench Books, which indicate that the town responded to the second wave as though a new outbreak of plague. On 17 June 1637 the town appointed new watchmen, 'to attend & watch' shut-up houses, and new viewers, 'to view the bodies of all such as shall die . . . and to certify the Minister of the Church . . . of what probable disease the said persons died'.[70]

Also on 17 June, Hull Corporation appointed Christopher Kidd to oversee the town's pesthouse, located south-west of the town's walls, on Myton Carr (Figure 4). On the same day, the town rented 'three pighells w[ith] coates in them' on Myton Carr (a pighell, or pightle, is an enclosure; a coate, or cote, a small building or shelter), and ordered 'wrights & labourers' to 'sett on worke on the said coates', so 'that the people infected may presently be removed into them'.[71] The purpose of pesthouses was twofold: to segregate the sick from the sound, and to provide 'wholesome' spaces in which the sick can be nurtured back to health.[72] Writing in 1583, the physician Johann von Ewich advises siting pesthouses 'without the Citie' – 'for the farnesse fro[m] others will further the let of infection' – in a place 'open vnto the winde and ayre' and 'by a riuer side', to 'receiue al [the] filth & exceme[n]ts, which in such houses is wont in great aboundance to be heaped together'.[73] The Bench Books suggest that Hull constructed smaller houses in pestfields – 'fenced in and supervised areas with separate housing units for families or small groups' – rather than the large, airy, stone-built houses envisaged by von Ewich.[74] But in other respects, the situation of Myton Carr – in the open air outside the town walls and near the Humber banks – was in keeping with the spirit of public health guidance in the early modern period. On 20 July 1637, in response to the town's first recorded plague deaths on Sunday 16 July, and again on 26 October, at the height of the epidemic, the town ordered the building of 'three Coates more' and 'two lodges more' on 'Myton Carre'.[75] Not all inmates at the pesthouse died. On 17 August, it was reported that 'diverse p[er]sons in lodges in Myton Carre' are 'now in health and have been so by the space of three weekes past'.[76]

In theory, pesthouses offered the infected a better quality of life than they might otherwise endure shut up in towns for the space of 'sixe weekes'.[77] Although confined to the pestfield, inmates had 'free ayre, and libertie to goe abroad . . . for the recreating of their minde sake', and this was in stark contrast to the 'stench . . . and stinck' of shut-up houses – 'the Room hung with Cobwebs, the Flowre having dust and rubbish enough to bury the Infected, the Meat stinking in the Pantry, and the Beer sowering in the Cellar,

[70]Hull History Centre, C BRB/3, 435; cp. Royal College of Physicians, *Certaine necessary*, F3r-v.
[71]Hull History Centre, C BRB/3, 436.
[72]Von Ewich, *Duetie*, 87, 61.
[73]Ibid., 61.
[74]Newman, 'Shutt Up', 813; von Ewich, *Duetie*, 61.
[75]Hull History Centre, C BRB/3, 437, 450.
[76]Ibid., 440.
[77]Royal College of Physicians, *Certaine necessary*, F3v.

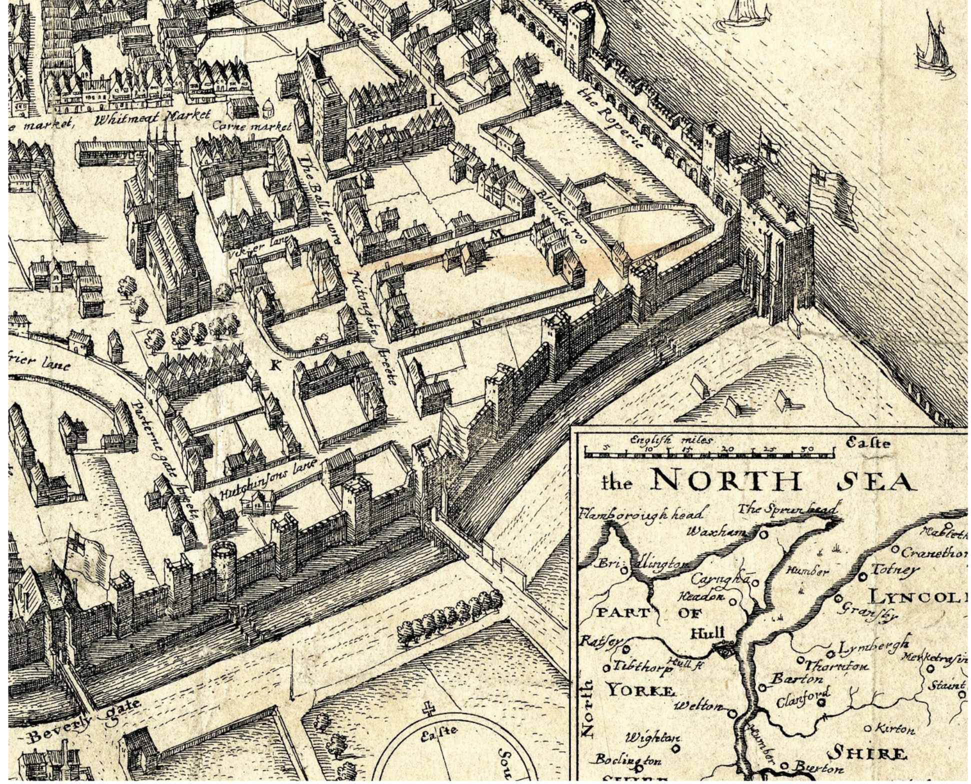

Figure 4. Wenceslaus Hollar, Map of Hull (*c*.1640). U DDMM/33/8. Reproduced by permission of Hull University Archives, Hull History Centre. Detail showing Myton Carr, partially obscured by the inset map of the Humber Estuary. Three cotes – of the kind used for housing plague patients in 1637–38 – are just visible directly above the inset map.

while the people rot in their several Chambers'.[78] Such conditions, writes the author of *The Shutting up Infected Houses* (1665), might sooner spread than control infection, not only because the 'stench ... and stinck' of a 'close house' was thought to breed 'plague miasmas', but because the 'very thought of a sad and dismal restraint' contracts 'first a melancholy, and then a feaver, and at last (as all diseases turn to that which is most epidemical) a Plague'.[79]

Although commonly attributing plague to divine retribution, 'most contemporaries understood that plague was contagious and consequently endeavoured to curtail contraction after God had initiated a plague epidemic'.[80] Urban authorities sought to contain the contagion by controlling the 'corrupted and poysoned ayre' that was thought to emanate from the foul-smelling waste that accumulated in early modern streets, and from the body odour and 'poysoned breathes' of the infected, the 'overpowering stench' of the patient's bodily excretions being one of the most characteristic symptoms of plague noted in early modern accounts.[81] It

[78]Von Ewich, *Duetie*, 67, 64. Anon., *Shutting*, B1v-2r.
[79]Ibid., B2r, A4v. For miasmas, see Skelton, *Sanitation*, 38.
[80]Ibid., 38.
[81]Von Ewich, *Duetie*, 64; Snowden, Epidemics, 46; Skelton, *Sanitation*, 36-41.

was for this reason that plague orders sought, not only to manage the movement of people, by confining the infected to houses and pestfields, and prohibiting 'tiplinge or drinkinge in any alehouses', but also to manage the removal of malodorous waste from streets, directing 'every house-holder' to keep the street 'cleane swept' 'before his doore', to cleanse infected houses, and dispose of 'clothes, bedding and other stuffe as hath bin worne and occupied by the Infected of this disease'.[82] On 27 September 1637, the Hull authorities hired one Robert Thompson to fumigate and 'cleanse the visited houses', while on 8 March 1638, 'All the rubbish soile ragges & other filth, which hath beene brought out of any infected house' was directed to be 'throwen' into the river Humber 'att some high or spring tydes'.[83]

Once God had visited a town with plague, its spread from street to street was understood to be governed by two factors, 'aptnesse of the subiect and neerenesse' to the 'corrupted and poysoned ayre'.[84] An individual might therefore avoid contracting plague by avoiding breathing the 'infected ayre', but the particular impact of bad smells on individuals was also understood to vary according to the 'humoural composition of both the odour and the person perceiving it'.[85] According to the author of *The Shutting up Infected Houses*, those with a melancholy disposition were more prone to infection; but so too, von Ewich writes, were 'poore, or seruile persons . . . which do tremble at the verye name of such a sore disease, whereupon they are in the more daunger'.[86] Von Ewich here seeks a humoural explanation, in what he sees as the weak disposition of the poor, for a phenomenon that he and many observers since have noted of early modern plague outbreaks – that the urban poor are disproportionately represented in plague mortality. In their study of the demographic distribution of plague in early modern London, Cummins *et al*. analysed the burial records of around 80% of Londoners from across 125 parishes who died between 1560 and 1665, mapping these onto a new understanding of how London's social geography narrowed over the period under examination, with wealth increasingly concentrated onto 'a central belt of intra-mural parishes'.[87] Their analysis shows 'a sharp fall' in plague mortality within the rich intra-mural parishes and a concomitant rise in the poorer suburban parishes from London's 1625 plague onwards.[88]

That plague was a disease of inequality, hitting the poorest hardest, is clear in Cummins *et al.*'s analysis, but less clear are the reasons why the poor are so adversely affected. Paul Slack points to environmental factors – overcrowding and poor sanitation – in his analysis of the impact of plague on the poor.[89] Yet while improved living conditions may also in part explain why fewer people died in the wealthiest London parishes as the seventeenth century progressed, another factor is surely that the flight of the rich from London parishes created, as Kira Newman observes, 'an imbalanced subset of the population that was subjected to quarantine', and that, during plague outbreaks, there were quite simply fewer people remaining within the richer London parishes to succumb to the disease.[90] Even wealthier citizens

[82]Hull History Centre, C BRB/3, 439; Royal College of Physicians, *Certain necessary*, H3v, G1v.
[83]Hull History Centre, C BRB/3, 443, 464.
[84]Von Ewich, *Duetie*, 60.
[85]Ibid., 70. Skelton, *Sanitation*, 37.
[86]Von Ewich, *Duetie*, 67.
[87]Cummins, *et al*., 'Living Standards', 4, 8.
[88]Ibid., 13 and fig. 5.
[89]Slack, *Impact of Plague*, 123, 160-63.
[90]Newman, 'Shutt up', 826.

who chose to stay in towns like Hull during plague outbreaks still derived considerable advantage from the provisions in *Certaine necessary directions* allowing 'any person that hath two houses, to remooue either his sound or his infected people to his spare house at his choice', on discovery of actual cases of plague among members of a household.[91] Removals to a second home in these cases were prompted, not by a general fear of plague, as was the case with flights from towns, but by the recognition that, without taking measures to segregate the sick, plague would likely be transmitted across all members of a household shut up together for the space of six weeks. Yet the proviso that this option was only open to those 'that hath two houses' in the first place created a barrier preventing the majority of Hull residents – who barely had two hearths, let alone two houses – from receiving any benefit from this provision.

A demographic analysis of plague deaths recorded in Hull during the 1637–38 outbreak corroborates findings by Cummins *et al.* identifying inequalities in survival rates for plague along socio-economic lines. Indeed, my analysis of the surviving burial records for Holy Trinity and St Mary's, Hull – the first analysis of this dataset ever undertaken – confirms that poorer householders in Hull (the 59% of Hull households assessed for the 1673 hearth tax returns as having two or fewer hearths) were over three times more likely to succumb to the 1637–38 plague outbreak than their richest neighbours, the 12% of households assessed as having six or more hearths in 1673. The registers of Holy Trinity and St Mary's record the burial of 679 plague victims between July 1637-July 1638, also identifying details about the age, gender, and marital and socio-economic status of plague victims. Of these 679 plague victims, 322 (47.4%) are listed as being 'son of', 'daughter of', or occasionally 'babe of' (gender unspecified) a named householder. These figures signpost the sobering fact that infant mortality accounted for almost half of total plague deaths recorded in Hull in 1637–38, and corroborate findings of previous studies of infant mortality from plague in other urban centres in early modern England. Cummins *et al.*, for example, also estimate that children accounted for 40–50% of total plague deaths across London's 125 parishes between 1560 and 1665, while a detailed study of mortality in a single London parish across two plague years, 1593 and 1603, reports a spike in the crisis mortality ratio in both years under analysis for the 10–19 age group. The same study shows a marked fall in mortality ratios in higher age groups, suggesting that 'younger inhabitants were harder hit than older residents'.[92]

Among adults recorded as dying from plague in Hull in 1637–38, women account for 30.8% of total plague deaths, while men make up only 20.9% of the total plague death population (Figure 5). The gender is unspecified for the remaining 0.9% of adult plague death entries. The markedly higher proportion of adult female compared to male plague victims in Hull departs from previous findings, again primarily focused on London, which report 'no statistically significant differences … in the frequency of burials between the sexes', in line with findings of Finlay but in contrast to Hollingsworth and Hollingsworth, whose study of the single London parish of St Botolph in fact notes that more men than women were dying in plague years between 1580 and 1605.[93] At Holy Trinity and St Mary's, women are almost always identified by their marital status, as 'wife of' (15%), 'widow' (7.1%), or 'singlewoman' (6.3% of total plague deaths). Less frequently

[91] Royal College of Physicians, *Certain necessary*, H1v-2r.
[92] Cummins, *et al*., 'Living Standards', 5; Evans and Evans, 'Plague', 193 and fig. 4.
[93] Evans and Evans, 'Plague', 202; Finlay, *Population*; Hollingsworth and Hollingsworth, 'Plague mortality'.

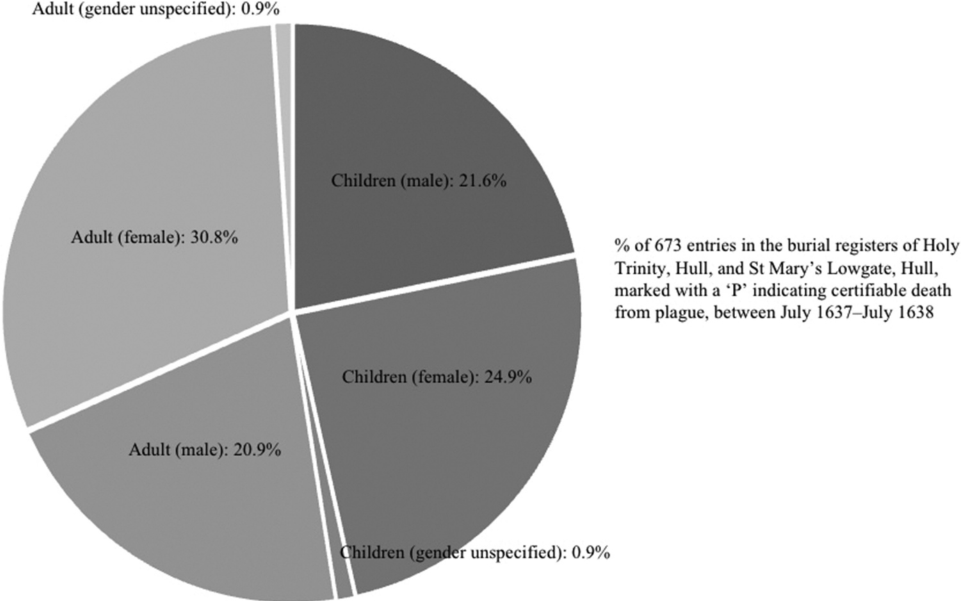

Figure 5. Hull's great plague, 1637-38: total plague mortality by age and gender.

(1.6% of total plague deaths), women are identified as 'servant to' a named employer. However, there are no instances in Hull's 1637–38 burial records of women identified by other named occupations, while the marital or occupational status is unspecified in records for the remaining 0.8% of adult female plague deaths. Men, by contrast, are more frequently identified by their occupational status. The proportion of male servants – a category likely to include apprentices – recorded in Hull's burial registers stands at 2.4% of the total plague death population. Craftsmen account for 5.4% of the total, while Hull's merchant and professional class together make up only 0.7% of total plague deaths in 1637–38.

At 12.4% of Hull's total plague death population, by far the largest male socio-economic group identified in the burial records are the 'wage-earning labourers' whose names are listed in the register without designated occupation.[94] These men were not apprentices, a class of men 'legally tied to a master' and therefore understood as servants and identified as such in seventeenth-century burial registers, but nor were they skilled craftsmen.[95] Hull, in common with other urban centres across early modern England, only permitted craftsmen who had enrolled as freemen to practise their trade – a process that usually entailed completion of a seven-year apprenticeship. The surviving transcripts of Hull's freemen's registers show that, in total, 363 townsmen were admitted to the freedom in Hull between 1620–29, or around 6% of Hull's estimated population of 6,000 at this time.[96] Only freemen were entitled to identify themselves as 'Basketmaker', 'Bricklayer', 'Taylour', or 'Chandler' – all examples of named occupations used in Hull's burial registers. Those listed in the register without occupation are therefore

[94]Allison, ed., *Victoria History*, 160.
[95]Minns and Wallis, 'Rules and reality', 561.
[96]Hull History Centre, C BRG/1. Allison, ed., *Victoria History*, 157, table 1.

most likely to number among those 'common Seamen, Labourers, Boatemen & Sledgemen' who in 1645 were said to constitute 'the greatest parte of [the] Inhabitants' of Hull. As 'servants' to merchants 'of London, Yorke, Leeds, Darby & other places', these 'wage-earning labourers' were invariably poor householders without a trade or a master resident in Hull, and who were therefore entered into Holy Trinity burial register by their name alone.[97]

If we view plague deaths among male householders without a designated occupation during 1637–38 as a proportion of only the adult male plague death population (Figure 6), and then map this mortality data for adult males during Hull's 1637–38 plague onto the socio-economic profile of the primarily male householders returned for Hull's 1673 hearth tax assessment (Figure 2), then a clear picture emerges of how far health inequalities were aligned with socio-economic realities in seventeenth-century Hull. Of the total adult male plague deaths during Hull's 1637–38 outbreak, 59.1% fell into the 'occupation unstated' categories of unskilled labourers – a category aligned exactly with the 59% of householders who were either exempted from liability for hearth tax or assessed in 1673 as having only 1–2 hearths (Figure 2). This points to the heightened risk of death from plague among men from the lowest socio-economic categories, with 10.3% (84 deaths) of Hull's total male 'wage-earning labourer' population, as defined by the 1673 hearth tax returns (n = 815), succumbing to plague in 1637–

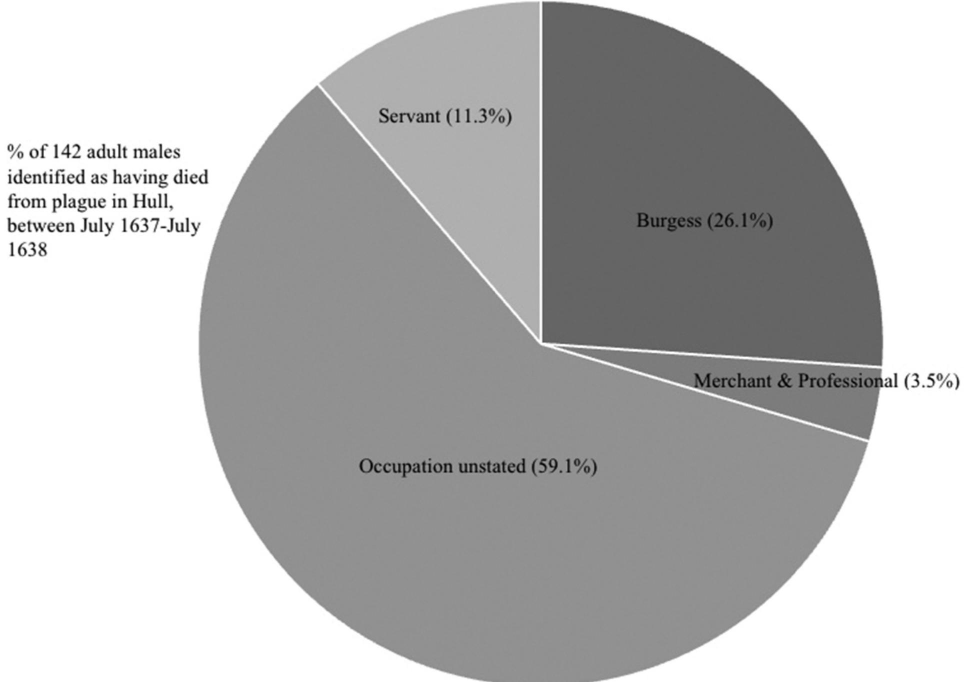

Figure 6. Hull's great plague, 1637–38. Male mortality by socio-economic status.

[97]Hull History Centre, C BRB/3, 669-70, at 669.

38. Hull's merchant and professional class, on the other hand, accounted for only 3.5% (n = 5) of total adult male plague deaths in 1637–38 (Figure 6) but amounted to 12% of Hull's householder population in the mid-seventeenth century (Figure 2), based on data from 1673 for householders with six of more hearths, a category which 'comprised professional men and substantial merchants'.[98] This suggests far stronger survival rates for Hull's most affluent householders: the five members of the merchant class who succumbed to plague in 1637–38 correspond to just 3.1% of the 159 householders assessed as having six or more hearths in 1673, as compared with householders having two or fewer hearths in 1673 (n = 815), of whom 10.3% (n = 84) succumbed to plague in 1637–38 (Figure 7). Finally, freemen, or burgesses, made up 26.1% of adult males dying from plague in 1637–38 (Figure 6) and this class of men corresponds with the 29% of householders assessed in 1673 as having 3–5 hearths (Figure 2). Figure 7 shows that a total of 37 named craftsmen, or 9.5% of the burgess class of householders (n = 388) succumbed to plague in Hull in 1637–38. Servants and apprentices, who together make up 11.3% of adult male deaths from plague in 1637–38, belong by definition to their masters' households, and they have therefore been excluded from the above mapping of the 1637–38 mortality data onto the 1673 householder population groups.

The foregoing analysis finds that plague mortality rates among householders in Hull were highly stratified, with low-earning labourers over three times more likely to die of plague than the merchants and professionals they lived alongside in the compact streets of this seventeenth-century town. What is clear from Hull's burial records is that the greater your income, the greater your chance of surviving plague in Hull. These findings are broadly compatible with those from the much more extensive, longitudinal and

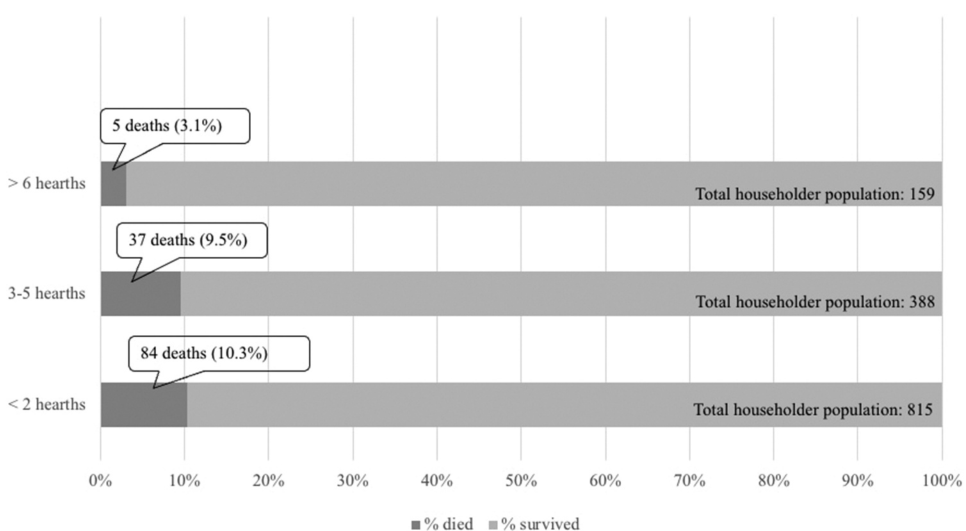

Figure 7. Hull's great plague, 1637–38. Male mortality expressed as % of socio-economic group.

[98]Allison, ed., *Victoria History*, 160.

interparochial study of early modern London burial records undertaken by Cummins *et al.*, which finds that 'the impact of plague on richer city parishes fell through time', while 'its impact on suburban parishes rose'.[99]

Why was higher income aligned to higher survival rates during Hull's 'great plague'? Hull's Bench Books point to two primary factors. Firstly, we have seen evidence that some of Hull's aldermanic class fled the town in 1637 and had to be recalled after the death of merchant and mayor, John Ramsden, on 7 December 1637. Secondly, those merchants and professional men who did remain in Hull during the 1637–38 plague nevertheless still benefited from provisions permitting 'any person that hath two houses, to remooue' – on discovery of a suspected case of plague in their household – 'either his sound or his infected people to his spare house at his choice'. One household that appears to have benefited directly from the 'two houses' rule was the family of Hull poet, Andrew Marvell. An entry in the Bench Books for 9 November 1637 explains that Marvell's parents, Anne Marvell (née Pease) and the Reverend Andrew Marvell, had been 'con-fyned' to the Hull merchant, later alderman, 'Maccabeus Hollis' house for suspicion of the infeccion', but that they were now to be enlarged, having 'remained there by the space of fowerteene days or above', so as to permit the Reverend Marvell to 'bestowe his paynes in preaching as he formerly did'.[100] Although there is no evidence that the Marvells owned a second home in Hull, their removal from the Charterhouse to the possibly vacant house of merchant Maccabeus Hollis on or around 27 October 1637 may well have saved the parents of poet Andrew Marvell from succumbing to the same fate as the 'Servant to Mr Marvill', Jane Pease, whose death from plague is recorded at Holy Trinity, with a 'P' in the right-hand margin, on 29 October 1637.[101] At this distance, it is difficult to be certain of how the Marvells came to be shut up at Maccabeus Hollis' house while Jane Pease, who may have been a distant relation of Marvell's mother, Anne, succumbed to plague.[102] However, the archival evidence points to the likelihood that the Marvells had purposefully removed themselves to Hollis' house to escape an outbreak of plague at the Hull Charterhouse – an outbreak that claimed the life of at least one of their servants. Unlike the Marvells, these servants did not have the sanctuary of a second home to retreat to.

A "plague of impiety": the plague sermons of the Reverend Andrew Marvell

Hull's civic records release the Reverend Marvell from confinement in order that he might 'bestowe his paynes in preaching as he formerly did', and there are three of Marvell Senior's plague sermons surviving in manuscript from Hull's 1637–38 'great plague'. In common with other mid-seventeenth-century sermon writers, Marvell Senior uses the prospect of

[99]Cummins, *et al*., 'Living Standards', 32.
[100]Hull History Centre, C BRB/3, 451; for Hollis' career, see Hopper, *Papers*, 1-35.
[101]Hull History Centre, U DX5/4, 485.
[102]Von Maltzahn (*Chronology*, 3) notes the possibility that Jane Pease was related to Marvell's mother, Anne, although the evidence is inconclusive, and it is equally possible that Anne, née Pease, had no direct connection with the Hull branch of the Pease family, who had settled in Hull by the late sixteenth century (Hull History Centre, 'Records of the Pease Family'). As Hilton Kelliher notes ('Marvell, Andrew'), the Pease surname was 'a local one' across Hull and East Yorkshire in this period, and Marvell's mother, Anne, née Pease, was baptized in Flamborough, some thirty miles north of Hull, on the East Yorkshire coast. It was in Flamborough that she first met Reverend Andrew Marvell, who was working as curate at the local parish church from 1609. They were married three years later, in October 1612 (Von Maltzahn, *Chronology*, 15-16).

plague as a prompt for impressing moral teachings on his audience, arguing that plague is caused by 'the impiety of the times', and that, rather than fleeing or hiding from plague – 'in a private roome', 'in the earth', 'in a farre contrey', 'in a cave' – his audience should turn to God, and free themselves 'from the spiritual plague of impiety' through a process of moral reform.[103] Such sentiments are largely conventional and reflective of the 'punishment paradigm' which guides seventeenth-century responses to floods and plague.[104] However, the net effect of Marvell Senior's plague sermons is nevertheless to burden those who succumb to God's 'plague of impiety' with the message that they should regard themselves as authors of their own downfall, and that, 'as the word plague doth signify a stroke, so it is a stroke of [God's] smiting'.[105] In a town, like Hull, where surviving mortality data proves that the poor were statistically more vulnerable to plague than their more affluent neighbours, Marvell Senior's message reinforces existing inequalities because condemning those unequally exposed to risk from plague with responsibility for the suffering they in reality were less able to avoid. Plague preyed on those without the capacity to flee plague-ridden towns for 'a farre contrey', or to sequester themselves and their families 'in a private roome' away from sick servants. As the beneficiary of 'a private roome' in Maccabeus Hollis' house, Marvell Senior may have talked of the spiritual necessity of freeing oneself from 'the impiety of the times', but he and his wife nevertheless found a more practical means of surviving the 1637–38 plague.

The first and best known of Marvell Senior's plague sermons is the 'most excellent funeral Sermon' that Marvell preached on 8 December 1637 at the funeral of Hull's mayor, John Ramsden, who died of plague the day before.[106] The Yorkshire antiquary Abraham Pryme (1671–1704) notes that the sermon 'was after printed', although the only copy that now survives is in British Library, Harley MS 6356.[107] Harley 6356 is a miscellany of seventeenth-century sermons and religious writing, including two sermons by John Donne, which is also associated with Pryme, who contributed a table of contents and inked foliation throughout the volume, and who, as Jeanne Shami suggests, was most likely responsible for originally compiling this composite volume, which is 'a series of bound separates' in multiple hands and languages.[108] Less well known are Marvell Senior's two plague sermons, also dating from 1637–38, contained in the manuscript miscellany, 'SERMONS &C OF THE REV. ANDREW MARVELL', now Hull History Centre C DIAM/1. Like Harley 6356, C DIAM/1 is a composite volume of bound separates in multiple hands and languages. The volume was once assumed to have been compiled by Marvell Senior himself, but recent research proves it could not have been bound in its current form until at least 1666.[109] Like Harley 6356, C DIAM/1 is therefore likely to have been compiled in the late seventeenth or early eighteenth century. It was certainly owned by the antiquary John Warburton, Somerset herald (1682–1759), who signs and dates his acquisition of the manuscript – 'do[no] 1745' – and adds a contents list at the end of the volume. It is possible that Warburton acquired the volume already bound from the library of the Beverley bibliophile, Thomas Alured (died 1708).[110]

[103]Hull History Centre, C DIAM/1, 189v, 184v.
[104]Rigby, *Dancing*, 16-17.
[105]Hull History Centre, C DIAM/1, 185v.
[106]Hull History Centre C DMX/132, 99; Tickell, *History*, 310.
[107]Hull History Centre C DMX/132, 99. For detailed discussion of Marvell Senior's sermon for John Ramsden, see Formby, 'Woe'.
[108]For discussion of Harley 6356, see Shami, 'New Manuscript Texts'.
[109]Hull History Centre, C DIAM/1, 129r. For discussion and dating, see Mottram, 'Most Excellent'.
[110]Ibid.

In his contents list for C DIAM/1, Warburton lists twelve English sermons by Marvell Senior, including two omitted from the modern catalogue entry for C DIAM/1, 'A Sermon on Gen. 49 v 18' and 'A Fragment of a Sermon or di[c]tio of the Plague'.[111] Both sermons are somewhat hidden because bound into the volume directly after the first four leaves of Marvell Senior's sermon on Proverbs 22.3 (181r-184v), with the remainder of this sermon appearing later in the manuscript, on 212r-216r. Several sermons intervene, but unlike the other intervening sermons – on Galatians 4.10 (201r-206v) and Galatians 5.22–23 (207r-211v) – the sermons on the Plague (185r-192v) and on Genesis 49.18 (193r-200v) are both fragments without titles or headnotes. The somewhat chaotic arrangement of the binding in this portion of the manuscript – the mis-ordered gatherings of the Proverbs 22.3 sermon, and the missing front page or pages of the sermons on Genesis 49.18 and the Plague – is further evidence that C DIAM/1 was the product of *post facto* compilation, and that the sermons contained in this manuscript originally existed as separates, perhaps intended for circulation by Marvell Senior, much like his sermon for the Lincolnshire patron of literary and religious works, Anne Sadleir, which survives in a presentation copy preceded by an autograph letter to Sadleir, dated 28 April 1627.[112]

Both the 'Fragment of a Sermon . . . of the Plague' and sermon on Proverbs 22.3 can be traced to the context surrounding the 1637–38 great plague, with both likely to have been written in the months before the onset of plague in Hull in July 1637, as the reference, in the Proverbs sermon, to the 'continuall reports' of 'the noisome pestilence' making its 'approaches daily' implies.[113] Its head verse – 'A prudent man foreseeth the evil, and hideth himself: but the simple pass on, and are punished' (Proverbs 22.3) – immediately establishes Marvell Senior's moralising tone on plague.[114] Marvell Senior sounds an 'alarme' to listeners accused of living in a 'world [that] is . . . a Great Fooliana' or 'ship of fooles', and he anatomises some of the many sins – 'drunkards reeling in the streets . . . brasen faced adultery' – that threaten to bring the 'suddeine, violent, miserable, & pernicious evill' of the plague upon Hull. 'The pestilence is a great evill', Marvell writes, and it is 'by great sinnes [that] God hath beene provoked to use that sharper punishment'.[115] The moralising tone established in the first gathering of Proverbs 22.3 continues into the 'Fragment of a Sermon . . . of the Plague', which begins on 185r. Marvell Senior notes how some, 'in these times of pestilence', 'may say we are free', but 'I say we are not', given that plague 'runnes upon [the] head & many limbes of our nation & land'.[116] Marvell Senior's reference to the diseased 'head' of the national body anticipates his later reference to the plight of plague-ridden London – 'Alas we have sinned as ill as London, if not worse here, then shall we then be insensible of their miseryes?', a reference which helps date the sermon to between March 1636, when plague was first reported in London's suburbs, and July 1637, when it was reported in Hull.[117] Cases of plague in London were reported throughout this period, although with peaks in autumn 1636 and

[111]For Warburton's contents list, see Hull History Centre, C DIAM/1, 323r-v and rear pastedown.
[112]Inner Temple Library, MS 531.C. For Sadleir's role as patron, see Hunt, 'Anne Sadleir'.
[113]Hull History Centre, C DIAM/1, 181r.
[114]Ibid., 181r.
[115]Ibid., 181r, 182v, 183r, 184r.
[116]Ibid., 185v.
[117]Ibid., 186r.

early summer 1637, and autumn 1636 would seem the more likely date for Marvell Senior's sermon, given that he refers to 'this fast day' as the occasion of the sermon, and that a royal proclamation dated 18 October 1636 commanded 'a general Fast to be weekly observed throughout the Realm of England by reason of the Pestilence'.[118] In this sermon, Marvell Senior chides his audience for being 'as frolick and as dissolute as ever', and notes that 'the taverne and the alehouse is no lesse frequented' despite the 'miseryes' reported in London and elsewhere.[119]

To 'looke unto the Lord' is hard, Marvell Senior acknowledges; 'when the whole world doth lye in wickedness' it is difficult to have the courage to 'runne counter'.[120] This 'Fragment of a Sermon' therefore encourages each auditor to take personal responsibility for their moral salvation, noting that there 'is no good fellowship in hell fire', and that 'in a storme every one must seeke his owne shelter'.[121] Likening plague to a 'storme' inevitably puts Marvell Senior in mind of Noah, 'the just man' who embodies this sermon's call to 'runne counter'. 'Thus Noah feares god', Marvell Senior writes, 'when all flesh had corrupted its ways [Gen. 6; 12, 13]'.[122] Noah's ability to resist 'the wind of pride, & the water of voluptuosnes' makes him the ideal embodiment for the principles of spiritual courage and personal responsibility that Marvell Senior seeks to inculcate in his audience.[123] Those who 'runne counter' will, like Noah, keep their head above water in the coming plague, Marvell Senior implies. For everyone else, awash with 'the water of voluptuosnes', the coming plague threatens to place them in the position of Willis's poor – not 'like *Noah* ... shut up for his *Preservation*', but 'shut up for [their] *Destruction*'.

By moralising plague and identifying those able to 'runne counter' to this '*Deluge* of Gods Wrath' with Noah, Marvell Senior's sermons trade in the same metaphors of deluge and disease that we have seen in Willis's *Help for the Poor* and in the poetry of Marvell Senior's son, Andrew Marvell. Poetry and plague sermons use the language of deluge and disease to liken plague survivors with Noah, while condemning plague victims, under the logic of the 'punishment paradigm', to infamy as 'drunkards' and adulterers – a 'ship of fooles', without moral compass. Yet what the burial records of Holy Trinity reveal is that it was elite socio-economic groups who were statistically more likely to survive plague outbreaks than their less affluent counterparts. The socio-economic realities of seventeenth-century towns like Hull inevitably privileged those with the financial means to 'runne', not to God, but away from plague-ridden houses and towns – those able, like Marvell's scholar, to '[abandon] the town in terror', for the sanctuary of 'a farre contrey' or second home. In so doing, these 'Noah-like' merchants not only weathered 'the *Deluge* of Gods Wrath'; by their absence from towns in times of plague, they also diminished the amount of money which towns like Hull, 'a Porte towne to w[hich] Poverty is incident', were able to collect to support those 'shut up for [their] *Destruction*' in urban houses and pest-fields.

[118]For the progress of London's 1636-37 plague, see Newman, 'Shutt Up', 815; for the proclamation, see Rushworth, *Historical Collections*, 377.
[119]Hull History Centre, C DIAM/1, 186v.
[120]Ibid., 186v, 187r.
[121]Ibid., 186r, 188v.
[122]Ibid., 187r.
[123]Ibid., 189r.

Conclusion

Making use of the rich demographic data available for plague victims whose burial during Hull's great plague of 1637–38 is recorded in the records of Holy Trinity and St Mary's, Hull, this article has shown how far the socio-economic realities of life in seventeenth-century towns like Hull are reflected in inequalities in the mortality data across different socio-economic groups. These findings reveal how far plague was a disease of inequality, despite its presentation in poetry and plague sermons as a 'plague of impiety', a moral disease. Marvell returns to the metaphors of deluge and disease present in his *Parodia* of 1636–37 in a later Latin poem, his epitaph for Jane, wife of the Independent minister, John Oxenbridge, with whom Marvell lodged while tutor to Oliver Cromwell's ward, William Dutton, at Eton in 1653–54. Jane Oxenbridge, who according to Marvell's poem had suffered for five years from dropsy, or oedema – died 'swollen beyond the limit of the human form [*ultra humani corporis modum intumuit*]' on 23 April 1658.[124] Marvell's epitaph, *Janae Oxenbrigiae Epitaphium*, was engraved on her funeral monument, originally erected in Eton College Chapel, although since removed, and was later included in Marvell's posthumously-printed *Miscellaneous Poems* (1681).[125] Within the poem, Jane Oxenbridge's swollen body is compared to Noah's ark, awash with the retained fluids that are a symptom of dropsy, and her soul imagined flying 'to heaven as a dove from the ark of her body [*ad Coelos, tanquam columba ex arca corporis*]' (l.28). Likening dropsy to the biblical deluge, Marvell echoes his previous conflation of deluge and disease in *Parodia*, a poem that similarly attributes the Cambridge crises of flood and plague to the 'thunderbolt [*Fulminis*]' (l.2) of divine sanction. Yet here the comparison ends, for in his epitaph for Jane Oxenbridge, the diseased body is not the object of God's wrath, as are the bodies of Marvell's plague victims in *Parodia*, but is rather imagined as the ark of salvation from which Oxenbridge's dove-like soul is released. In *Janae Oxenbrigiae Epitaphium*, in other words, Marvell imagines Oxenbridge as another Noah, 'shut up for [her] *Preservation*', and this is very different to how the deluge and disease metaphor works in *Parodia*, or in his father's sermons from the same period, where the 'thunderbolt' of plague destroys rather than preserves.

While Jane Oxenbridge dies, her soul survives the '*Deluge* of Gods Wrath', and Marvell's epitaph refers to Oxenbridge's 'love of God [*amor . . . Dei*]' (l.12) and 'works of Christian piety [*Pietatis erga Deum*]', as though to justify her identification with the 'just man', Noah. But the poem also gestures to another reason why Oxenbridge is here aligned with Noah – 'born, if it is proper to mention, of the noble line of Butlers on her father's side, of the Claverings on her mother's [*Quae nobili, si id dixisse attinet, | Paterno Butleriorum, materno Claveringiorum genere orta*]' (ll.3–4). The assumptions the poem makes about Jane Oxenbridge's 'noble' piety are the inverse of those Willis makes, for example, in *Help for the Poor*, about the impieties of those condemned, for lack of property or money, to unequal exposure to plague. Like Willis, therefore, Marvell makes class-based assumptions about the relative pieties of different socio-economic groups, his 'brief reflection of [Oxenbridge's] mortal life [*breve mortalitatis speculum*]' (l.1) a reflection also of how writers in this period used the language of piety, of Noah, to reinforce socio-economic hierarchies. Whether fleeing plague-ridden

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[124]'*Janae Oxenbrigiae Epitaphium*', l.24, in Smith, ed., *Poems*, 192-94 (Estelle Haan's translation, in ibid., 194).
[125]Smith, ed., *Poems*, 192.

towns, or 'retiring from the flood' for the 'growing ark' of Nun Appleton's woods, the subjects and speakers of Marvell's poems often inhabit Noah's perspective, and the ark-like body of Jane Oxenbridge is no different. These are metaphors of deluge and disease that are complicit in reinforcing a social status quo that is itself responsible for the stratified survival outcomes we see in the burial records for Hull's great plague. The socio-economic realities which are the root cause of seventeenth-century health inequalities are therefore sustained by the tropes and metaphors of Marvell's fictions of flooding, which use the language of Noah to laud the motivations of those who flee from plague.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

The work was supported by the Arts and Humanities Research Council [under Grant AH/V00395X/1].

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