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What is a ‘witch-bottle’? Assembling the textual evidence from early modern England[1]

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Introduction

Sometime around 1670, a ballad entitled *A miraculous cure for witchcraft, or, Strange news from the Blew-Boar in Holburn* was anonymously printed. It told the story of a girl bewitched not far from London, who was ‘vext in Body, and perplex in mind’.[2] After trying countless remedies, the girl and her friends finally found a ‘chymist’, well-known for his art and skill. He told them to take the bewitched girl's urine, put it in a bottle with some other ‘ingredients’, and then bury it in a dung-hill, not to be touched or meddled with at all; this would cut the witch’s charms. Sure enough, after following these instructions and waiting eagerly by the hill all night, the witch appeared looking ‘swell'd’, and demanding the bottle. The girl and her friends refused this request, the witch left and died, and the bewitched girl immediately began to recover.[3] In this ballad, a chymical physician instructed the girl how to make a ‘witch-bottle’ to cure her bewitchment, though he did not label it as such. This curative procedure was written about by various contemporary authors, including elite, educated men, but its existence in ballad form shows how it was also known about by a broad spectrum of society.[4]

Extant texts and objects help us understand this cure more fully. Thirteen known primary accounts discuss this remedy, and around 100 bottles with ingredients inside have survived to the present day. This article focuses on the contemporary literature. These texts demonstrate that a variety of people understood this practice as a treatment for bewitchment, and used it from the around the mid-seventeenth-century to at least 1705. This cure followed a variable but mostly standard format, in which urine, from either the afflicted person or an animal, was put in an (often stoneware) vessel, usually with other ingredients that included pins, nails and human hair. This bottled mixture was then boiled and/or buried into the ground, walls or floors. The process would cause significant pain or torment to the witch, either forcing them to break the vexatious spell or resulting in their death, thereby curing the bewitched victim. Recognised today as ‘witch-bottles’, the objects used in this cure are a well-known but understudied part of early modern English healing. A reliance on material evidence and the omission of a thorough textual analysis has meant that researchers have often analysed these bottles and the cure in which they were involved in a misleading and inaccurate way.[5] Not only do scholars often identify them as part of a superstitious, prophylactic ritual that began in the sixteenth-century (a temporal claim for which known evidence does not exist), but also the term ‘witch-bottle’ is not contemporary, only arising in the nineteenth century.[6] The language used to describe these bottles and their associated practice in both academic and non-academic literature often perpetuates these misleading

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interpretations, and has prevented these objects from being fully recognised as the curative items contemporaries believed them to be.

In a departure from typical scholarly trends, this article does not use ‘witch-bottles’ as evidence for ongoing witchcraft beliefs, nor as part of the archaeology of ritual and magic.[7] Rather than offering a replacement narrative of ‘witch-bottles’, it addresses issues regarding interpretation and function. The known textual evidence for this cure situates it between c.1660 and 1705, but variations of this process, differing in method, form or function, existed both within and outside of this period. Other texts, especially towards the end of this period, refer to the process of bottling then burning urine as solely a revelatory or vexatious practice, whereby the stated motive was to reveal or kill the witch.[8] While curing the bewitched victim may have been an intentional or unintentional facet of practices mentioned in later textual records, its role as a cure was often not explicitly noted, whereas its function as a remedy was central to earlier understandings of the practice.[9] It is therefore important to note that not all objects classed as ‘witch-bottles’ are the same, and that the material record does not always reveal which practice(s) extant bottles would have been used for. This study however considers vessels that were filled with ingredients, heated and sometimes also buried or built into walls and floors, to cure bewitchment in early modern England and New England. Within these geographical and temporal limitations, a significant and overlooked function of these objects is evident. This was not a prophylactic or defensive act, but a remedy for specific cases of witchcraft, in which the spell was reversed and the patient cured.

This article is the first of two parts to examine ‘witch-bottles’ as a facet of early modern healing, and is the first study to examine this practice as a cure. Whereas this analysis focuses on what we can learn from textual evidence, the second article examines the material record. To begin, this article assesses the research on ‘witch-bottles’, examining how previous scholarship has contributed to our current knowledge of these objects, and how this has led to their omission from histories of healing. After discussing the context of witchcraft and healing in early modern England, we will examine how contemporary authors explained the workings of this cure in medical and scientific contexts. Analysis of primary texts will show how this remedy was situated within medical and religious politics, and what kind of practitioners or laypeople may have administered it. This article is the first to bring together all known surviving textual evidence for this practice as a remedy, and in doing so, relocates the ‘witch-bottle’ within the history of early modern health and illness.

Literature review

Despite an abundant amount of related literature, ‘witch-bottles’ do not generally feature in histories of early modern magic. They are afforded only a few sentences in Keith Thomas’s *Religion and the Decline of Magic* (1971), where they are said to function as part of a revelatory practice and as a ‘counter-charm designed to force [the witch] to reveal herself and call off the spell’, while Stuart Clark does not make reference to these objects in his work.[10] Much of the work on ‘witch-bottles’ has instead come from the discipline of archaeology. Between 1954-87, Ralph Merrifield discussed ‘witch-bottles’ as part of his aim to reconstruct ritual, magical activity (which he argued was part of everyday, ‘popular’ life)

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from archaeological evidence.[11] Brian Hoggard has since provided comprehensive analyses also situated within the archaeology of magic and the examination of ritual acts.[12] Other work on ‘witch-bottles’ is mainly limited either to them being referenced as an example of folk magic, witchcraft or ritual acts, or to material descriptions of particular objects.[13]

Researchers and cataloguers often classify ‘witch-bottles’ as prophylactic or apotropaic. Recent studies have often uncritically reiterated the descriptions given by nineteenth-century collectors and folklorists, who said that ‘witch-bottles’ were historically used to ‘prevent the entrance of witches’.[14] As a result of their particular architectural and geographical situation, Merrifield for instance argued that ‘witch-bottles’ were ‘sometimes prophylactic, intended as a safeguard against future attacks, rather than a cure for witchcraft from which the victim was already suffering’ (discussed further in the following article).[15] Hoggard has described the practice as part of a ‘line of defence’ and ‘apotropaic armoury’ of the home, while Jason Semmens refers to the bottles as a ‘protective charm for houses’.[16] The Museum of London discusses them as objects used to ‘protect against’ witches, Freya Massey notes their ‘unequivocal association with protection from witchcraft due to several accounts in primary literature’, and Owen Davies and Timothy Easton most recently described these objects and their practice as an ‘apotropaic ritual’.[17] Certainly, objects were made and used to protect the home in the early modern period. Antiquary John Aubrey's *Miscellanies* (1696) for instance noted the custom of nailing horse-shoes on the thresholds of doors, ‘which is to hinder the power of Witches that enter into the House.’[18] Moreover, ‘witch-bottles’ are situated within a broader context of objects concealed within domestic properties, many of which likely functioned defensively.[19] However, during the stated temporal boundaries, no known primary texts describe ‘witch-bottles’ as protective objects; instead, they wholly substantiate that this was a curative practice for a specific affliction of bewitchment.[20]

The terminology often used to describe ‘witch-bottles’ is also problematic. While Merrifield sometimes refers to the practice as an ‘antidote to witchcraft’, he also references it as a ‘rustic superstition’ or a ‘traditional folk custom’.[21] Discussing such complex terminology, Merrifield acknowledges that the term ‘ritual’ is riddled with misinterpretation, derogatory associations, and sensationalism. He defines ‘religion’ and ‘magic’, and notes the pejorative nature of the word ‘superstition’ as a ‘term usually applied to religious or magical practices or beliefs that are no longer approved, and implies disbelief on the user’s part.’[22] Yet having explicated the difficulties of these terms, Merrifield concludes by noting that he will use them throughout his work ‘in the senses indicated here, with the understanding that any prejudice implied is that of the author, who is inevitably a creature of his own time.’[23] Other secondary authors employ this language uncritically, without such acknowledgement.[24] In 2017 for instance, the *Fortean Times* published an article entitled ‘Witch Bottles: Uncorking a History of Dark Superstition’.[25] As indicated by Merrifield, superstition and magic (often overlapping, though not identical categories) are often set in direct contrast to science and rationalism in the West today, where superstitious belief signifies belief held without proper scientific grounding, producing no real effects.[26] Yet in late medieval and early modern Europe, superstition was the opposite of religion, and superstitious actions were not necessarily irrational or inefficacious, but were often believed to harness demonic instead of Godly power.[27] Condemning the ‘witch-bottle’ cure as superstitious today therefore has

altogether different connotations as it did in the early modern period, and as a result of the uncritical use of language, these objects and their practice have been understood in an inaccurate way.

Similarly, researchers often identify 'witch-bottles' as a facet of folk culture, without acknowledging the complexity of this interpretation.[28] Scholars such as Peter Burke have highlighted the implied antithesis between folklore and learned customs, and Elliott Oring has noted how within academia, the term folklore is even connoted with error.[29] Consequently, when secondary texts describe the 'witch-bottle' practice as a facet of ritual, magic or counter-magic 'endemic in folk customs', or as a part of 'folk belief', we are unlikely to see this practice as also part of contemporary academic debate or learned healing, even though extant textual evidence demonstrates the knowledge and use of this practice as a remedy across all social strata.[30] In the absence of a critical examination of these basic terms alongside an analysis of primary texts, 'witch-bottles' are therefore erroneously represented and sensationalised. For instance, *Bedfordshire County Life* (2004) described the procedure as 'A reminder of an apparently quaint olde English custom'; whereas *Period House* magazine published a 2003 article entitled 'Spooky or What?', stating that:

> In the pitch black nights of long ago, it was easy to imagine that the spirits and witches probably lurking in the shadowy corners of one's ill-lit house were responsible for the spells causing illness and bad luck in the family…trying to understand the thinking behind the bizarre anti-witchcraft devices used by people in those days is extremely difficult and this caused one author to comment that using words to explain magic was like trying to cut roast beef with a screwdriver. Quite![31]

As this research comprises much of what is written about 'witch-bottles', their narratives constitute a large part of our collective knowledge.

In order to understand as fully as possible the situation of this cure in early modern contexts of healing, it is therefore important to begin with terminology. The earliest known reference to the name 'witch-bottle' was in 1845, in a catalogue from the Saffron Waldon Museum. This term was not defined or explained, perhaps suggesting that it was already in common parlance.[32] Whatever the precise provenance, the term 'witch-bottle' does not appear in early modern literature. In order to understand this remedy as accurately as possible, this study will therefore adopt a contemporary term. While describing this practice in 1691, New England minister Cotton Mather referred to the cure as 'the urinary experiment'.[33] Although criticising this form of healing, Mather's choice of vocabulary situates the practice within medical, learned milieu; 'experiments' or 'experimenta' referring to forms of treatment that had proved effective in practice, but whose rationale could not be deduced from first principles and was therefore not fully understood.[34] Having chosen a contemporary name that forefronts the practice these objects were involved in, the remainder of this article continues the reconceptualization of this remedy.

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How did the urinary experiment work?

Of the thirteen primary texts that detail the urinary experiment as a cure, nine are from England and four from New England. One is a ballad, with which this article opened. One text is written by an astrologer-physician, detailing cures for diseases including bewitchment.[35] Five are lay or civil accounts of witchcraft, diabolical activity or trials, three of which are anonymous.[36] Another four texts are written by religious men, three of whom present theological arguments against the use of this cure.[37] The final two books, uniform in the detail they provide, are collections of miscellanies; one offering money-saving tips, the other a compendium of information about supernatural phenomena and healing.[38] These accounts encompass a variety of authors and topics, evidencing the wide range of contemporary people who knew about this witchcraft cure.

While only one author was a medical practitioner, all known texts discuss the urinary experiment as a form of healing. Recognised as both a sin and a crime, witchcraft also caused physical and mental harm to those afflicted. Religious intervention formed a significant facet of early modern healing, and could include prayer or practices such as fasting.[39] Within the medical sphere, theories concerning suitable methods of healing varied. Learned medicine in early modern England predominantly followed Galenic humoral theory, where contemporaries understood health and illness according to four bodily humours, and associated factors such as six non-naturals. Other medical theories ran alongside.[40] The notion that the universe was a network of correspondences was a recognized idea in the contemporary world, promoted avidly by Swiss physician Paracelsus (1493-1541) who considered all beings bound together by sympathetic links. Consequently, any action brought about in the virtue or spirit of one would affect the others, a concept initially advanced by Greek philosopher Plato (b.429 BCE), who referred to this as the 'anima mundi'.[41] Followers of Paracelsus and other chymical physicians gave rise to a medical theory, which emphasised a connection between the microcosm (the human body) and macrocosm (the universe).[42] Sympathetic medicines used this connection between body and cosmos, and were also referred to as magnetical medicines, as they operated at a distance. These remedies attracted the forces of the cosmos into the human body through chymical ingredients (including mercury or antimony) or human ingredients (for instance mummy or 'mummia', either actual human flesh or the bitumen discharged from preserved bodies).[43] So, whereas Galenic physicians understood witchcraft as the Devil as arousing the humours, chymists saw the Devil as infiltrating into and interfering with 'the constitution of the animal spirits.'[44]

Chymical medicine is key to understanding the urinary experiment. Three different texts explicitly explain how this cure worked, and all three reference it as a form of chymical, magnetical or sympathetical physic. Almost a century after Paracelsus, during its early years, the Royal Society showed considerable interest in magnetical cures which were advocated by notable physicians and natural philosophers such as John Dee (1537-1608), and Robert Fludd (1574-1637), and antiquary, politician and astrologer Elias Ashmole (1617-92).[45] A contemporary example which fostered great debate was the weapon salve, which healed a wound by anointing the blood-stained weapon with a sympathetic unguent, commonly made up of ingredients such as mummy and rose oil.[46] The blood that coated the

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weapon was the ‘animating principle’; Fludd noted that when God breathed his spirit into man it was transferred into the blood, and was also present in other parts of the body including flesh and bodily excretions. The ointment applied to the bloodied weapon had a magnetic power, caused by the stars, ‘which by the mediation of the ayre, is carried and adjoined to the Wound, that so the Spiritual operation thereof may be effected’.[47] In short, the blood conveyed the virtues of the salve to the patient, no matter how far the distance between the weapon and the wounded body.[48] Fludd argued that the weapon-salve was not superstitious or magic, but natural, quoting examples of its efficacy.[49]

In the urinary experiment, it was not the blood, but the urine of the patient that provided the sympathetic link. Urine had been used magnetically in a similar way to blood from at least the mid-seventeenth century. Describing a cure for jaundice, Fludd described how a patient could make a paste from their urine and other natural ingredients, bury it in a secret place and leave it undisturbed, and this cure would work ‘be he further or nearer off from the place of the medicine’.[50] Towards the end of the century, ‘Chymical Physitian in Ordinary to the King’ John Archer (fl. 1660-88) described a practice in which women could cure themselves of agues by feeding cakes made with their urine to a dog, naturally transferring the agues from one being to the other ‘by the magnetick quality of the diseased urine.’[51] Sympathetic medicine had even been used to cure bewitchment before the first known reference to the urinary experiment. In 1665, physician and apothecary William Drage (1636-68) described how to cure bewitchment by punishing the witch, whereby ‘Bottles of that Drink that hath been bewitched’ were stopped up to make ‘the Witch able neither to urine or deject, until they were opened’.[52] Moreover, in 1647 astrologer William Lilly (1602-81) described a cure for witchcraft which, like the urinary experiment, exploited the sympathetic connection between witch and victim via the patient’s urine. Two new horse-shoes were to be heated ‘red hot’, one nailed to the threshold of the door, and the other quenched in the urine of the ‘party so Bewitched’, then set over the fire with a little salt and three ‘Horse-nails until its almost consumed’.[53] What all of this demonstrates is that the urinary experiment had its roots in a form of learned healing that was well-established by the time authors began to write about it as a cure for bewitchment.

Among the first of these authors was Joseph Blagrave. He explained the workings of the urinary experiment in *Astrological Practice of Physick* (1671), a text which offered ‘the true way to cure all kinds of diseases and infirmities’. One of five works attributed to Blagrave, whose knowledge of astronomy and astrology was essential to his practice as a physician, *Astrological Practice* boasted secret cures for ‘all kinds of evils, whether Natural, or such which come from Sorcery or Witchcraft’, including ‘experimental Rules, whereby to afflict the Witch, causing the evil to return back upon them’.[54] The urinary experiment was among these remedies. Blagrave explained how the urinary experiment operated by chymical and astrological means, instructing readers to:

> stop the urine of the Patient, close up in a bottle, and put into it three nails, pins, or needles, with a little white Salt, keeping the urine alwayes warm: If you let it remain long in the bottle, it will endanger the witches life: for I have found by experience, that they will be grievously tormented making their water with great

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> difficulty, if any at all, and the more if the Moon be in Scorpio in Square or Opposition to his Significator, when its done.[55]

Concerning the efficacy of this method, Blagrave noted:

> The reason why the Witch is tormented, when the blood or urine of the patient is burned, is because there is part of the vital spirit of the Witch in it, for such is the subtlety of the Devil, that he will not suffer the Witch to infuse any poysonous matter into the body of man or beast, without some of the Witches blood mingled with it

A decade later, clergyman, philosopher and fellow of the Royal Society Joseph Glanvill (1636-80) instead referenced the cure as one of the many 'true' examples to substantiate his intellectual argument for a belief in witchcraft in *Saducismus Triumphatus, or, Full and plain evidence concerning witches and apparitions* (1681).[56] Originally written in response to an attack by physician and witchcraft sceptic John Webster (1580-1634), it was philosopher Henry More (1614-87) who edited, appended, and posthumously published *Saducismus*.[57] While the character of Blagrave and Glanvill's works differ, their content concerning the urinary experiment is congruent. The ingredients and processes required correspond precisely, including urine, the addition of metals, and the application of heat, and Glanvill too situated the workings of the cure by 'marvellous Magical Sympathy' alongside the 'operation of the Weapon-Salve, and other Magnetick Cures'.[58]

Within *Saducismus* is an account of Mr Brearly, a former fellow of Christ's College in Cambridge, who had boarded at a house in Suffolk where his Landlady suffered from bewitchment. Aftter analysing Brearly's biographical information, Merrifield argued that this event happened 'before 1660', and 'probably during the second quarter' of the seventeenth century.[59] This may therefore indicate the earliest recorded use of the urinary experiment, and is why this article has chosen c.1660 as the approximate start date for the use of this curative practice.

Brearly told how an 'Old Man that Travelled up and down the Country' had called at the house and gave the landlady a cure for what he advised was a troublesome 'dead Spright'.[60] The landlady's husband was told to take 'a Bottle, and put his Wives Urine into it, together with Pins and Needles and Nails, and Cork them up, and set the Bottle to the fire, but be sure the Cork be fast in it, that it fly not out.'[61] They followed the 'prescription', but despite their best efforts, the cork and contents of the bottle exploded, and the landlady remained unwell. The old man returned, and upon learning that the landlady was still 'as ill as ever, if not worse', he advised a modification to the remedy: to bottle the urine and other ingredients as before, but to 'bury it in the Earth' instead of heating it.[62] Soon after doing so, the landlady made a full recovery. The amended recipe had worked. Following her return to health:

> there came a Woman from a Town some miles off to their house, with a lamentable Out-cry, that they had killed her Husband. They askt her what she meant and thought her distracted, telling her they knew neither her nor her husband. Yes, saith she, you have killed my husband, he told me so on his Death-bed. But at last they understood by her, that her Husband was a Wizzard, and had bewitched this Mans Wife, and that this Counter-practice prescribed by the Old Man, which saved the

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> Mans Wife from languishment, was the death of that Wizzard that had bewitcht her.[63]

As with the weapon salve and other sympathetic remedies understood to work at a distance, the urinary experiment provided an effective method, whereby a bewitched person could be cured even if they did not know the identity or location of the witch. It is not surprising, then, that the ballad with which this article opened described how the bewitched girl only found a remedy once she had finally consulted a ‘chymist’.[64]

Some contemporaries attacked sympathetic remedies on account of their unnatural function. Critics of the weapon salve, for instance, protested that its powers could not be explained by nature nor medicine, but (whether knowingly or not) incited a pact with the Devil. Likewise, those attempting to cure bewitchment occasionally came under attack for being involved in diabolical activity. Essex clergyman George Gifford (1548-1620) for instance saw a witch as ‘one that worketh by the Devil, or by some curious art either hurting or healing’, seeing no difference between the two.[65] The urinary experiment was also subject to theological denunciation. To the New England Puritans who adopted a hardline version of Reformed theology, the correspondence between magic and Catholic ritual was particularly abhorrent.[66] Father and son Increase Mather (1639–1723) and Cotton Mather (1663-1728), Puritan clergymen in the Massachusetts Bay colonies, both played significant roles in the Salem witch trials. Their descriptions of the urinary experiment were located in tracts in which they vehemently opposed any natural explanations for witchcraft, warning against the use of magic for fear of diabolical involvement. Consequently, Increase condemned the unlawful method of stopping the ‘Urin of the sick’ in a bottle ‘in order to the recovery of health’, while Cotton lamented ‘How persons that shall unbewitch others by putting Urin in a bottle…can wholly clear themselves of being white Witches, I am not able to understand… To use a Charm against a Charm or to use a Devils shield against a Devils Sword, Who can with good conscience try?’.[67] Deodat Lawson (d. 1698), minister of Salem village from 1684-8, held similar beliefs. Following the witch trials in 1692, Lawson began recording courtroom observations and noting his beliefs about witchcraft in various pamphlets and sermons. Like the Mathers, he criticised those who stopped up and boiled urine in order to ‘remove the affliction’ of bewitchment, arguing that such means were not ‘found to have any Natural or Physical virtue’.[68] The issue that the Mathers and Lawson had with the urinary experiment stemmed from its superstitious nature, and they considered it as using witchcraft to cure witchcraft.[69] Yet while they doubted the theological situation of this practice, they did not doubt its situation as a cure; their descriptions explicitly describing how the urinary experiment attempted to ‘heal diseases’ and ensured the ‘recovery of health’ for bewitched people.[70]

Who administered the urinary experiment?

It was not just religious men who criticised witchcraft cures like the urinary experiment: medical practitioners also condemned those whom they did not consider able to cure bewitchment legitimately, offering what seemed like theological justification for their censures, but which ran alongside medical competition. In the early modern period, university-educated, licensed physicians increasingly competed with a range of other

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healers, from astrologer-physicians, to apothecaries, to cunning-folk; any of whom could be involved in curing bewitchment.[71] Moreover, a progressively print-dominated world facilitated greater transmission of knowledge, enabling ordinary laymen to more easily seek advice from neighbours, family members or friends.[72] Although irregular healers and counter-magic were rarely a matter of concern for either church or civil courts, and they gave no large-scale punishment, certain people condemned specific cures for bewitchment condemned as dangerous magic.[73] Regardless of their position within the 'medical marketplace' (a term coined by historians in the 1980s to encompass a sphere of healers including more than merely formally educated men), any physicians who attempted to cure bewitchment could be accused of demonic pursuits or witchcraft.[74] Often this kind of dispute played out between a licensed physician and an irregular practitioner, but Blagrave's text shows how this competition was ubiquitous throughout the medical sphere.

Despite his attempts at arguing for the lawfulness and efficacy of astrological physic, and his aims to align himself within learned circles by appealing to members of the Royal Society like Ashmole, Blagrave would have been considered 'irregular' by some traditional, licensed physicians.[75] Moreover, the 1689 reprint of *Astrological Practice* demonstrates how Blagrave's text was sold alongside ready-made cures, and thus intimately associated with the culture of secrets, advertising and proprietary medicines.[76] Advertised on the final page of *Astrological Practice* is a 'secret' remedy, a 'most excellent water for the Preservation of the eyes' sold by his printer. Throughout the early modern period, enmity grew between licensed physicians who favoured the traditional medical consultation, and empirics who advertised medical services and commodities, providing cheap, quick cures.[77] Traditional physicians were threatened by movement away from the medical arcana held by elite, licensed doctors, towards increased knowledge, agency and even self-diagnosis for the patient, and attacked the 'empiricks' propagating this form of healing.[78] Yet despite the condemnation he received, Blagrave also took exception with practitioners such as 'cunning women', whom he considered as healing witchcraft erroneously: 'the curing of such who are bewitched, is not done only by such, who are called white Witches, (as many foolish do imagine) for the white Witch and the black Witch are all one'.[79] Blagrave's text therefore demonstrates the complexities of early modern healing, and the variety of people who were competing to cure bewitchment.

What else can primary literature tell us about who might have administered this cure? The court proceedings of Jane Kent and Joan Buts, whom both stood trial in 1682, reference 'doctors', and while not providing details, further situate this practice firmly within the contemporary medical sphere. Kent was accused of witchcraft by 'Mr Chamblet', after reportedly bewitching his pigs, his daughter Elizabeth, and his wife. Elizabeth 'fell sick and died in a strange manner', and soon after Mr Chamblet's wife became ill in the same way. Two separate narratives of Kent's trial note how Mr Chamblet sought help from a doctor, who provided his wife with a remedy.[80] One text noted:

> Dr. Hainks in Spittle-Fields […] advised [Mr Chamblet] to take a quart of his Wives water, the pairing of her Nails, some of her Hair, and such like, and boyl them, which he did, in a Pipkin, at which time he Swore he heard the Prisoners

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> voice at his door, and that she Screimed out as if she were Murdered, and that the next day she appeared to be much swelled and bloated[81]

The other account confirms how ‘a Doctor in Spittle-Field […] advised [Richard Clambleton] to a Medecine that as he said took of the spell and put the Prisoner into such pain that she came howling to his house’.[82] A few months earlier, Joan Buts had also been put on trial, accused of bewitching Mary Farmer. Farmer’s parents claimed ‘That their Child being taken ill in an extraordinary and violent manner’, and had been advised by their neighbours that Mary was bewitched. The neighbours then:

> perswaded them to go to Dr. Bourn, which they did, and Bourn told them, That their Child was under an ill Tongue, and advised them to save the Childs water, and put it into a Bottle, stopping it close, and bury it in the Earth…assuring them, that then the Witch which had done her the hurt, would come in[83]

The trials of Kent and Buts confirm that the urinary experiment was considered a medicine, recommended by doctors and noteworthy enough to be included in accounts of the accused witches’ court cases. It is possible that some of the ‘doctors’ referenced in the primary literature were licensed physicians, although this has not yet been verified.[84] Other texts suggest alternative possibilities. Glanvill's account describes a type of irregular healer, at the same time explaining how knowledge of the urinary experiment could have been disseminated across the country. The landlady seeking treatment in *Saducismus* took advice from an old man who ‘Travelled up and down the Country’.[85] Certainly, not all irregular healers travelled, and records show many patients travelling far themselves to seek remedies.[86] Practitioners who did operate itinerantly were under-represented in official records due to the peripatetic nature of their work, but would have been a type of unlicensed practitioner known variously by contemporary critics as mountebanks, charlatans, empirics or cunning-folk.[87]

In the ballad from the Blew-Boar, however, the urinary experiment is provided by a ‘chymist’. While nothing is known of this practitioner, magnetic or sympathetic medicines were not only used by elite, licensed physicians, and many chemical practitioners operated in a popular milieu, evidence of which is shown by a rich vernacular literature.[88] Bruce Moran has argued that members of the aristocracy and court supported chymical cures given by empirics, and that some advocated chemical cures ‘simply as a means of social or financial advancement’.[89] Chymical physicians became reputed as more accessible and affordable than their Galenic counterparts, believing that diseases could be cured with such cheap, simple remedies; perhaps explaining the success of the chymist’s cure in this ballad where other treatments had failed.[90]

It is important to remember, however, that it was not only medical practitioners who could have administered this cure. In the case of Buts, it was Farmer’s neighbours who told her parents that she was bewitched, and ‘perswaded’ them to visit Dr Bourn who then prescribed the urinary experiment.[91] Two other texts make no mention of the involvement of a practitioner; perhaps reflective of contemporary culture where domestic medicine played a significant part in healing. Detailing the trial of Elinor Shaw and Mary Phillips, Ralph Davis noted that ‘Mrs Ireland the [bewitched] Boy’s Mother, was advised to Cork up some of his

water in a stone Bottle, fill'd up of Pins and Needles, and to Bury it under the Fire Hearth'.[92] Seven years earlier, in 1698, secretary of the colony of New Hampshire Richard Chamberlain chronologically detailed an account of witchcraft upon a man named Mr Walton with whom he was lodging. On August 1, a little while into the ongoing attack, Chamberlain noted:

> The same Day in the Morning they tried this Experiment; they did set on the Fire a Pot with Urin, and crooked Pins in it, with design to have it boil, and by that means to give Punishment to the Witch, or Wizard, (that might be the wicked Procurer or Contriver of this Stone Affliction) and take off their own; as they had been advised.

Who 'they' might be is not clear, yet Chamberlain references servants, neighbours, employees and friends all involved with the affliction and the attempts at a cure. Healing often took place in the home, and the urinary experiment may have been self-prescribed or recommended by family or friends who were often intimately involved with everyday health and illness.[93]

Indeed, although not recipe books, many of the texts present this remedy in recipe format, indicating that the urinary experiment may have been an important facet of domestic medicine as well as learned healing. This is crucial to understanding the urinary experiment in early modern medical contexts. In this period, a recipe comprised a list of ingredients and an accompanying set of instructions, combined for a specific effect, often specifying exact quantities and lengths of time, and used for various purposes whether domestic, culinary, agricultural, veterinary or medical.[94] Recipe books were made to compile, disseminate and transmit practical household knowledge including remedies, and were created, disseminated and used by all strata of society.[95] Despite a large number of recipes increasingly accessible online today, I have not yet found evidence of the urinary experiment within manuscript recipe collections. Blagrave, however, describes this cure amongst other recipes for 'agues' and 'dyet-drinks', prescribing ingredients in precise amounts (a bottle, three pins), adding specific timings concerning astrological forecasts.[96]

Moreover, in Jane Kent's trial, Dr Hainks advised Mr Chamblet regarding the correct quantity of ingredients ('a quart of his wives water') and the processes necessary for the cure to succeed. Similarly specific instructions were given by Dr Bourn in Joan Buts' trial, by the chymist in the ballad, and by an unidentified person in the case of Elinor Shaw and Mary Phillips.[97] Primary literature also demonstrates how this recipe could be modified. The travelling practitioner referenced in *Saducismus* provided Mr Brearley's landlady with an amended recipe once the original had failed to work; instead of burning the bottled ingredients, they were to be buried, and sure enough the cure was successful.[98] Reference to the material record substantiates the adaptable nature of this cure, as extant remains show a variety of ingredients inside the bottle, a further discussion of which is provided in the second article of this pair. Analysing this remedy as a recipe – examining which ingredients and methods were used and why – is crucial in accurately understanding how contemporaries believed the urinary experiment to work, and how it formed a facet of both learned and domestic healing. What this article has shown, however, is that an analysis of contemporary textual evidence demonstrates how the urinary experiment was understood by

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contemporaries as a remedy for a specific case of witchcraft, in which the spell was reversed and the patient cured.

Conclusions

Thirteen authors wrote about the urinary experiment being used in England and New England between c.1660 and 1705. These texts ranged from clerical and theological tracts, to records of trials and ballads, to household manuals, both domestic and physic. While many of the authors were closely involved with witchcraft debates, only one – Chamberlain – recorded a first-hand accounts of bewitchment and use of the urinary experiment as a curative measure. Like us, most of the authors did not have direct access to this remedy, to explain how and why it was being employed. Aside from astrologer-physician Blagrave, who promulgated his own version of the urinary experiment, the majority of writers based their descriptions and criticisms of the cure on second-hand accounts of its use. An examination of these texts has therefore shown how people explained the urinary experiment as a cure for bewitchment within this time period.

This article has been the first to bring together all the known primary accounts of this practice, and has demonstrated several issues of importance. First, the urinary experiment fits within many broader contexts of witchcraft beliefs, ritual, counter-magic and concealed objects. Variations of this practice, similar in material and method, were used at and around the same time it was used as a cure, well as several decades and centuries later. Crucially, however, the remedial function is omitted from the descriptions of these alternative practices. Some practices contemporary to the urinary experiment, for instance, manipulated the same sympathetic connection but state that this was done to instead find or kill a witch. Analysis of textual evidence is therefore crucial in showing how this practice varied, and how and why it changed over time; whether there was a change in which details of the practice were recorded, or a chance in function altogether. Second, urine had been used within magnetic and sympathetic healing, even to cure bewitchment, before the first known record of the urinary experiment. Even before the first textual record of a filled bottle being burnt or buried to cure witchcraft, Lilly used horseshoes dipped in urine for the same effect.[99] This can help explain the origins of this cure and establish its situation within contemporary medicine.

Third, while only one of the authors was a medical practitioner, this examination has shown what non-medical sources can reveal about contemporary healing practices – how they were explained and criticised, as well as providing anecdotes of their use. Regardless of their roles outside of healing, the framework within which contemporaries described this practice was a medical one. Several of the authors referenced the urinary experiment working via sympathy, and those texts which did not explain the intricacies of the cure’s function (and even those that criticised it altogether) nevertheless described it using medical language. Fourth, a diverse range of people could be involved with curing bewitchment, including licensed physicians and irregular practitioners of various kinds. That this cure was often recorded either as a recipe or in recipe format indicates its function within both medical and domestic spheres. Finally, and most significantly, despite scholarly claims that the urinary

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experiment had a prophylactic or apotropaic function, close literary analysis reveals that this cure was only used for specific cases of bewitchment.

That people did not attempt to explain this practice in the same way before or after this period is interesting, and a more comprehensive project could track the evolution of this practice over time and space. Moreover, the discovery of new primary texts, especially manuscript sources, would help reveal more about this cure and associated practice, and facilitate research about how this practice evolved. What this article has demonstrated, however, is that within the given temporal and geographical limitations, we should not only recognise the urinary experiment as a facet of ritual, magic and witchcraft, but also as a facet of healing; and not as a preventative measure, but as a cure for a specific case of bewitchment.

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Notes and References

1. My greatest thanks go to the editors and readers for all their help with this article, especially Claire Fanger. Thank you also to Lauren Kassell for her help with drafting these articles, and to the readers of this research in its original form during my MA, particularly Angela McShane and David Gaimster.
2. While the exact date of this ballad is uncertain, a date of 1670 has been suggested. Anon, *A miraculous cure for witchcraft, or, Strange news from the Blew-Boar in Holburn*, (1670?), [1/1].
3. Anon, *A miraculous cure for witchcraft*, [1/1].
4. For more on ballads, see ‘Broadside Ballads Online’ , Bodleian Libraries, University of Oxford, http://ballads.bodleian.ox.ac.uk/about Patricia Fumerton and Anita Guerrini (eds.), *Broadsides and Ballads in Britain*, *1500-1800*, (Farnham: Ashgate, 2010).
5. Both EEBO and ECCO were searched in the process of finding these texts. Information about bottles pers. comm. Nigel Jeffries, AHRC award no. AH/S002693/1, who noted that: ‘Of the 120 stoneware and glass bottles of the 17th century we have so far recorded, 99 are noted as having contents.’ See "witch, n.2", subsection C2, under ‘special combs': ‘witch bottle *n.* a stone or glass bottle, filled with urine, nails, hair, etc., which was either burned or heated for the purpose of repelling or breaking a witch's power over her victim’ . OED Online. June 2017. Oxford University Press. http://www.oed.com/view/Entry/229575?redirectedFrom=witch+bottle (accessed January 15, 2018)
6. For reference to this practice as sixteenth-century, see Brian Hoggard, ‘The archaeology of counter-witchcraft and popular magic’ , in Owen Davies &Willem de Blecourt (eds.), *Beyond the Witch-Trials*, (Manchester: Manchester University Press, 2004), pp. 167-186; 170; Jason Semmens, ‘The Usage of Witch-Bottles and Apotropaic Charms in Cornwall’ , *Old Cornwall* 12:6, 25-30; 25.
7. As done recently, for example, by Houlbrook, ‘The Concealed Revealed: the ‘Afterlives' of Hidden Objects in the Home’ , 195-216*;* Angus, ‘The Apotropaic "Witch posts" of Early Modern Yorkshire: A Contextualization’ , 12; Eamon P. Kelly, ‘Trapping Witches in Wicklow’ , *Archaeology Ireland* 26:3 (Autumn, 2012), 16-18.
8. One later example, from Bristol in 1762, hereafter referred to as the ‘Lamb Inn’ case, is similar to (although I argue not identical to), the urinary experiment. Henry Durbin, a contemporary author detailing the Lamb Inn case, referenced the efforts of ‘relieving’ two bewitched children by ‘casting their urine in the fire’, after which one child ‘was well as if nothing had happened’. Another contemporary, William Dyer, noted that this same practice was advised by a cunning woman from ‘Bedminsr’ who had given the girls’ family ‘instructions how to…counteract ye charm’. While similar to the urinary experiment in that this practice involved using the urine of the bewitched person/people in order to cure them and afflict the witch, neither authors mention any vessel (crucial

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in a discussion of what 'witch-bottles' are) or any other ingredients, nor the cure working via sympathy or chymistry, instead stating that the urine was cast into the fire or simply boiled. In the one instance in which Dyer mentions a 'pipkin' being used, the practice still differs from the urinary experiment, in that the 'Bedminsr' cunning woman advised the family of the bewitched girls to put their urine in a 'pipkin on a fire, and if, when it boiled, all the colours of the rainbow came out of it visibly, she could cure it, and she would do the rest at home.' For this reason, I am not including the Lamb Inn case as evidence for early modern use of the urinary experiment as a cure, although it is almost certainly a later variation. For more on the Lamb Inn case, see the testimony of George Eaton c.1762, Staffordshire Record Office, DW/1778/1/ii/812; cited in Jonathan Barry, *Witchcraft and Demonology in South-West England 1640-1789*, (Basingstoke: Palgrave Macmillan, 2012), 187; Henry Durbin, *A Narrative of Some Extraordinary Things that Happened to Mr. Richard Giles's Children*, (Bristol, 1800), 54-5 cited in Jonathan Barry (ed.), 'The Diary of William Dyer: Bristol in 1762, *Bristol Record Society* Vol. 64 (2012), 164 (n.661); Davies, *Witchcraft, Magic and Culture*, 19; and, for a recipe to 'perplex or kill a witch' also related to the Lamb Inn case, see Felix Farley's Bristol Journal, 25 November 1752; cited in Barry, *Witchcraft and Demonology*, 187. However, my utmost thanks to the external reader for the press, Jonathan Barry, for this information. The rest of this note lists other possible variations to the 'urinary experiment': For a 1650s cure for bewitchment using many of the same ingredients and processes, see TNA, ASSI 16/21/3, cited in Gaskill, 'The Fear and Loathing of Witches' , 131. For the case of Jane Wenham in 1712, in which urine was bottled and boiled as 'an infallible Secret of proving' her a witch, see Physician in Hertfordshire, *A Full Confutation of Witchcraft: More particularly of the depositions against Jane Wenham, Lately Condemned for a Witch at Hertford*, (London, 1712), 36; Anon., *The Case of the Hertfordshire Witchcraft Consider'd. Being an Examination of a Book, Entitl'd, A Full and Impartial Account of the Discovery of Sorcery and Witchcraft, Practis'd by JANE WENHAM of Walkern*, (London, 1712), 34; Francis Bragge, *A Full and Impartial Account of the Discovery of Sorcery and Witchcraft*, (London, 1712), 20. For a discussion of Wenham and this practice in secondary literature, see Phyllis J. Guskin, 'The Context of Witchcraft: The Case of Jane Wenham (1712)' , *Eighteenth-Century Studies* 15:1 (Autumn, 1981), 48-71. For a method of troubling a witch possibly without the use of urine, see ASSI 16/21/3, The National Archives, Kew, cited in Malcolm Gaskill, 'The Fear and Loathing of Witches' , in *Spellbound: Magic, Ritual and Witchcraft*, (Ashmolean Museum, University of Oxford, 2018), 131. For possible variations in New England, see Paul Boyer and Stephen Nissenbaum (eds.), *The Salem Witchcraft Papers: Verbatim Transcripts of the Legal Documents of the Salem Witchcraft Outbreak of 1692. In Three Volumes*, (Da Capo Press: New York, 1977), Vol. 1, 308 and Vol. III, 771-3 in which a method was taught to kill a witch by bottling and heating urine in 1692; cited in Norman Gevitz, "The Devil Hath Laughed at the Physicians": Witchcraft and Medical Practice in Seventeenth-Century New England' , *JI History of Medicine and Allied Sciences*, IV (2000). For examples of hair being burnt, urine thrown on the embers of a fire, and bottled urine locked in a cupboard in New England as 'counter magic' between 1680 and 1692, see Richard Godbeer, 'Magical Experiments – Diving, Healing and Destroying in seventeenth-century New England' , in Richard Godbeer, *The Devil's Dominion – Magic and Religion in Early New England*, (Cambridge: Cambridge University Press, 1992), 43-46. See C. L.'Estrange Ewen, *Witchhunting and Witch Trials* (London: Kegan Paul, 1929), App. VII, 314-16 for a 1717 experiment for a control test of non-bewitched urine. Barry also speaks generally of these variations in *Witchcraft and Demonology*, 273-4. For a nineteenth-century iron 'witch-bottle' used for revelatory purposes, see Davies, *Witchcraft Magic and Culture*, 281. Finally, for an account of a Cornish cunning-man giving a recipe for a bottle filled with urine, salt and nails to be heated for a more generally prophylactic or apotropaic function, see Cornwall Record Office no X268/83, cited in Semmens, 'The Usage of Witch-Bottles and Apotropaic Charms in Cornwall', 25-30, which also contains and for other nineteenth- and twentieth-century Cornish examples.

9. Again, with great thanks to the external reader for the press, Jonathan Barry, who noted that 'it is not surprising if [witchcraft pamphlets] emphasise the harming/identifying aspect, as that is the most relevant to the case, and also avoided the possible downside of using a dubious means of cure.'

10. Keith Thomas, *Religion and the Decline of Magic – Studies in popular beliefs in sixteenth and seventeenth century England*, (London: Weidenfeld and Nicolson, 1971; repr. 1991), 648-9. Stuart Clark, *Thinking With Demons – The Idea of Witchcraft in Early Modern Europe*, (Oxford: Oxford University Press, 1997).

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11. See Ralph Merrifield, ‘The Use of Bellarmines as Witch Bottles’, *Guildhall Miscellany* No. 3, (February 1954); Ralph Merrifield, *The Archaeology of Ritual and Magic*, (London: Butler & Tanner, 1987); 3-15; Ralph Merrifield, ‘Witch Bottles and Magical Jugs’ , *Folklore*, 66:1 (March 1955), 195-207.
12. Brian Hoggard, ‘Witch-Bottles: Their contents, contexts and uses’, in Ronald Hutton (ed.), *The Physical Evidence for Ritual Acts, Sorcery and Witchcraft in Christian Britain*, (Basingstoke, Hampshire: Palgrave Macmillan, 2015), 91-105; Brian Hoggard, 'The archaeology of counter-witchcraft and popular magic’ , in Owen Davies & Willem de Blecourt (eds.), *Beyond the Witch-Trials*, (Manchester: Manchester University Press, 2004), 167-186.
13. As a facet of witchcraft, see Bill Angus, ‘The Apotropaic "Witch posts" of Early Modern Yorkshire: A Contextualization’, *Material Religion* 14:1 (2018), 55-82, esp. 66. As a demonstration of similar ritual acts, see Ceri Houlbrook, ‘The Concealed Revealed: the ‘Afterlives' of Hidden Objects in the Home’ , *History Workshop Journal* 85 (2018), 195-216.
14. *Notes & Queries* 4th S. VI. (August 6, 1870), 114. For a discussion of nineteenth century folklorists and their impact, see Annie Thwaite, ‘A history of amulets in ten objects’, *Science Museum Group Journal* 11 (Spring, 2019), http://dx.doi.org/10.15180/191103 (accessed 18 July 2019).
15. Merrifield, *The Archaeology of Ritual and Magic*, 183.
16. Hoggard, ‘Witch-Bottles: Their contents, contexts and uses’, 105, 103 and 104 respectively; Semmens, ‘The Usage of Witch-Bottles and Apotropaic Charms in Cornwall’ , 25.
17. Freya R. Massey, Ritualisation and Reappropriation: Special Deposits and Ritual Activity in Domestic Structures in Early Modern England’ , PhD Thesis, Department of Archaeology, University of Sheffield (September 2014), 21-6, esp. 21. See also ‘witch bottle’, *Oxford English Dictionary*, (Oxford University Press, 2019), www.oed.com/view/Entry/229575 (Accessed 15 July 2019); Charles E. Orser Jr, ‘Rethinking ‘Bellarmine’ contexts in 17th-century England’, *Post-Medieval Archaeology* 53:1 (2019), 88-101; 95; Owen Davies and Timothy Easton, ‘Cunning-Folk and the Production of Magical Artefacts’ in Ronald Hutton (ed.), *The Physical Evidence for Ritual Acts, Sorcery and Witchcraft in Christian Britain*, (Basingstoke, Hampshire: Palgrave Macmillan, 2015), 209-13.
18. John Aubrey, *Miscellanies Upon the following Subjects*, (London, 1696), 112. The same practice is discussed in New England in 1666 by Richard Godbeer, ‘The Serpent that Lies in the Grass Unseen - Clerical and Lay Opposition to Magic’, in Richard Godbeer, *The Devil's Dominion – Magic and Religion in Early New England*, (Cambridge: Cambridge University Press, 1992), 82.
19. On concealed animals, see Brian Hoggard, ‘Concealed Animals’, in Ronald Hutton (ed.), *The Physical Evidence for Ritual Acts, Sorcery and Witchcraft in Christian Britain*, (Basingstoke, Hampshire: Palgrave Macmillan, 2015), 106-117. For concealed clothes, see the ‘Deliberately Concealed Garments Project’, https://www.concealedgarments.org/ [accessed 20 August 2018]. For a comprehensive study of concealed objects, see ‘The Concealed Revealed’ project, https://theconcealedrevealed.wordpress.com/ [all accessed 20 August 2018].
20. As mentioned earlier, although especially towards the end of the period authors reference ‘witch-bottles’ as used for different purposes (often to reveal or harm the witch), no known early modern texts mention these objects as being used prophylactically or apotropaically.
21. ‘Antidote to witchcraft’ from Merrifield, *The Archaeology of Ritual and Magic*, 163; ‘rustic superstition' and ‘traditional folk custom' from Merrifield, ‘Witch Bottles and Magical Jugs’ , 195, 200.
22. Merrifield, *Archaeology of Ritual and Magic*, 6.
23. Merrifield, *Archaeology of Ritual and Magic*, 7.
24. For examples, see Brian Hoggard, Alan Massey and Graham Morgan, ‘A Witch Bottle From Greenwich’, (unpublished, sent to author by Greenwich Foundation 13/11/13), unpaginated, [19]; Lyn Blackmore, ‘The Holywell Witch bottle’, (unpublished, given by Nigel Jeffries from Museum of London research output), unpaginated, [1]; Brian Hoggard, Alan Massey, Patrick Stone and Andrew Wilson, ‘The Felmersham Witch Bottle’, *Bedfordshire County Life* (Summer, 2004), 7-8; Ernest. W, Tilley, ‘A Witch Bottle from Gravesend’, *Archaeologia Cantiana* 80 (1965), 252.
25. ‘Witch Bottles – Uncorking a History of Dark Superstition’, *Fortean Times*, Issue FT359 (November 2017).

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26. Michael D. Bailey, *Magic and Superstition in Europe: A Concise History from Antiquity to the Present*, (Lanham: Rowman & Littlefield Pub., 2007), 3-4.
27. Richard Kieckhefer, *Magic in the Middle Ages*, (Cambridge: Cambridge University Press, 2000), 184-5.
28. For examples, see Linda Geddes, 'London's magical history uncorked from 'witch bottle'' , *New Scientist* (4 June 2009), https://institutions.newscientist.com/article/dn17245-londons-magical-history-uncorked-from-witch-bottle/ (accessed 2 July 2019); Malcolm Gaskill, 'The Fear and Loathing of Witches', in *Spellbound: Magic, Ritual and Witchcraft*, (Ashmolean Museum, University of Oxford, 2018), 131.
29. Peter Burke, 'History and Folklore: a historiographical survey', *Folklore* 115:2 (2004), 133-9; Elliott Oring, 'Anti Anti-"Folklore"' , *The Journal of American Folklore*, 111:441, (Summer, 1998), 328-338.
30. Gaskill, 'The Fear and Loathing of Witches', 131. For 'folk belief' , see Norman Gevitz, "The Devil Hath Laughed at the Physicians": Witchcraft and Medical Practice in Seventeenth-Century New England' , *JI History of Medicine and Allied Sciences*, IV (2000), 15.
31. Brian Hoggard, Alan Massey, Patrick Stone and Andrew Wilson, 'The Felmersham Witch Bottle' , *Bedfordshire County Life* (Summer, 2004), 7-8; esp. 7; Alan Massey, 'Spooky or what?' , *Period House*, (November, 2003), 92-93.
32. *An Abridged catalogue of the Saffron Walden Museum*, (Saffron Walden: Youngman, 1845), 99.
33. On the same page, Mather also makes reference to 'the Traditional Experiment of Botteling Urine' . Cotton Mather, *Memorable providences relating to witchcrafts and possessions a faithful account of many wonderful and surprising things that have befallen several bewitched and possesed person in New-England*, (Boston in N. England, 1689), 59.
34. William Eamon, *Science and the Secrets of Nature – Books of Secrets in Medieval and Early Modern Culture*, (Princeton: Princeton University Press, 1994), 57-8; Peter Murray Jones, 'Amulets: prescriptions and surviving objects from late medieval England' in Sarah Blick (ed.), *Beyond Pilgrim Souvenirs and Secular Badges: Essays in honour of Brian Spencer*, (Oxford: Oxbow Books, 2007), 92-107; 93.
35. Joseph Blagrave, *Astrological Practice of Physick*, (London, 1671).
36. The trial of Jane Kent, June 1682, (t16820601a-11) listed on the *Old Bailey Proceedings Online* (www.oldbaileyonline.org) is from a text entitled Anon., *A Full and True Account Of The Proceedings at the Sessions of Oyer and Terminer…Which began at the Sessions-House In the Old-Bayly, On Thursday, Iune 1st. and Ended on Fryday, Iune 2d. 1682*, (London, 1682) which will hereby be referenced when referring to this version of the case. A different record of Jane Kent's case which will also be used in this study is: Anon., *The True narrative of the proceedings at the session-house in the Old-Bayly, which began on Thursday the 1st of this instant June and ended on Fryday the 2d. following*, (London, 1682). The three other unrelated accounts are: Anon., *An Account of the tryal and examination of Joan Buts, for being a common witch and inchantress*, (London, 1682); Ralph Davis, *An account of the tryals, examination and condemnation, of Elinor Shaw, and Mary Phillip's (two notorious Witches)*, (London, 1705); Richard Chamberlain, *Lithobolia: or, The stone throwing devil*, (London, 1698).
37. Glanvill, *Saducismus Triumphatus*; Increase Mather, *An essay for the recording of illustrious providences: wherein, an account is given of many remarkable and very memorable events, which have happened in this last age; especially in New-England*, (London, 1684); C. Mather, *Memorable Providences;* Deodat Lawson, *Christ's fidelity the only shield against Satans malignity*, (London, 1693).
38. Thomas Tryon, *The way to save wealth shewing how a man may live plentifully for two-pence a day*, (London, 1695); Aubrey, *Miscellanies*.
39. David Harley, 'Mental illness, magical medicine and the Devil in Northern England, 1650-1700' , in Roger French and Andrew Wear (eds.), *The Medical Revolution of the Seventeenth Century*, (Cambridge: Cambridge University Press, 1989), 114-144; 119-121 et passim.
40. Many historians in the 1960s and 70s suggested that Galenic and chymical theories of medicine were irreconcilable, for example Lester S. King, *The Road to Medical Enlightenment 1650-1695*, (London : Macdonald & Co, 1970). More recently, historians have argued for the continued dominance of Galenism and the easy assimilation of chymical medicine into humoral medicine.

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See Andrew Wear, 'Medical Practice in Late Seventeenth- and Early Eighteenth-Century England: Continuity and Union' , in Roger French and Andrew Wear (eds.), *The Medical Revolution of the Seventeenth Century* (Cambridge: Cambridge University Press, 1989), 294-320.

41. Plato's dates are debated, but were around 429–347 B.C.E. Richard Kraut, "Plato", *The Stanford Encyclopaedia of Philosophy* (Fall 2017), Edward N. Zalta (ed.), https://plato.stanford.edu/archives/fall2017/entries/plato/. Elizabeth Potter, *Gender and Boyle's Law of Gases*, (Bloomington, IN: Indiana University Press, 2000), 93.
42. Lauren Kassell, 'Magic, Alchemy and the Medical Economy in Early Modern England: The Case of Robert Fludd's Magnetical Medicine' , in Jenner and Wallis (eds.), *Medicine and the Market in England and its Colonies*, 88–107; 89.
43. Kassell, 'Magic, Alchemy and the Medical Economy in Early Modern England' , 95.
44. Thomas Willis, *The remaining medical works of that famous and renowned physician Dr. Thomas Willis*, (London, 1681), 48.
45. The terms 'magnetical' and 'sympathetic' were often used interchangeably during this period. Elias Ashmole, *Theatrum Chemicum Britannicum*, (London, 1652), 464; Robert Fludd, *Mosaicall Philosophy grounded upon the essentiall truth*, (London, 1659), 289; Thomas, *Religion and the Decline of Magic*, 266; Patricia Fara, *Sympathetic Attractions: Magnetic Practices, Beliefs and Symbolism in Eighteenth century England*, (Princeton: Princeton University Press, 1996), 149.
46. See Sir Kenelm Digby, *A late discourse made in solemne assembly of nobles and learned men… touching the cure of wounds by the powder of sympathy*, trans. R. White, 2nd. edn, (London, 1658), 3; 14.
47. Kassell, 'Magic, Alchemy and the Medical Economy in Early Modern England' , 94.
48. Flemish physician Jan Baptist Van Helmont (1580-1644) also concluded that a certain 'magnetic' sympathy existed not between the weapon and the wound, but between the blood of the afflicted body, and the blood left upon the weapon causing the injury. Bruce T. Moran, 'A survey of chemical medicine in the seventeenth century' , *Pharmacy in History*, 38:3 (1996), 121-33.
49. Fludd, *Mosaicall philosophy*, 244.
50. Fludd, *Mosaicall philosophy*, 287.
51. John Archer, *Secrets disclosed of consumptions shewing how to distinguish between scurvy and venereal disease*, (London, 1684); title page; 60-1.
52. William Drage, *Daimonomageia, a small treatise of sicknesses and diseases from witchcraft, and supernatural causes*, (London, 1665), 19-21.
53. William Lilly, *Christian astrology modestly treated of in three books*, (London, 1647), 465-6.
54. Blagrave, *Astrological Practice*, title page, 154-5.
55. Blagrave, *Astrological Practice*, 154.
56. Sharpe, *Instruments of Darkness*, 244-5; William E. Burns, 'Glanvill [Glanville], Joseph (1636–1680)' *Oxford Dictionary of National Biography (2008)*, https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-10790, [*accessed* 12 June 2019]; Michael Hunter, 'The Royal Society and the Decline of Magic' , *Notes & Records of the Royal Society* 65 (2011), 102-119; 106.
57. Burns, 'Glanvill' , *ODNB (2008)*, https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-10790, [*accessed* 12 June 2019].
58. Glanvill, *Saducismus Triumphatus*, 205-8.
59. Merrifield, *The Archaeology of Ritual and Magic*, 171.
60. Glanvill, *Saducismus Triumphatus*, 206.
61. Glanvill, *Saducismus Triumphatus*, 206.
62. Glanvill, *Saducismus Triumphatus*, 207.
63. Glanvill, *Saducismus Triumphatus*, 207.
64. Anon, *A miraculous cure for witchcraft* [1/1].
65. For a discussion of this, see Clark, *Thinking with Demons*. These types of healer often came under attack from 'Anglicans' and other non-conformists such as John Webster, Oliver Heywood and Thomas Ady. Harley, 'Mental Illness, Magical Medicine and the Devil in Northern England, 1650-1700' , 125-6.

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66. Godbeer, *The Devil's Dominion*, 2. Godbeer has discussed the reasons for the persistence of magic even in mostly Puritan New England in more detail. See Godbeer, 'Magical Experiments' , 46-7; 54
67. I. Mather, *Illustrious Providences*, 248; 264; 266-7; 269; 279; C. Mather, *Memorable Providences*, 59-60.
68. Deodat Lawson, *Christ's fidelity the only shield against Satans malignity*, (London, 1693), 62-4.
69. Godbeer, 'The Serpent that Lies in the Grass Unseen' , 77.
70. I. Mather, *Illustrious Providences*, 176; 190; 197, 248; 264; 266-7; 269; 279
71. For an overview on different types of healers and the competition between them in early modern England, see Mark Jenner and Patrick Wallis (eds.), *Medicine and the Market in England and its Colonies, co. 145—c. 1850*, (Basingstoke: Palgrave Macmillan, 2007); Margaret Pelling, *Medical Conflicts in Early Modern London: Patronage, Physicians, and Irregular Practitioners, 1550-1640*, (Oxford: Oxford University Press, 2003).
72. On domestic medicine, see Lucinda McCray Beier, *Sufferers and Healers: The Experience of Illness in Seventeenth Century England* (London, 1987); Elaine Leong, 'Making Medicines in the Early Modern Household' , *Bulletin of the History of Medicine* 82 (2008), 145-168.
73. Harley, 'Mental Illness, Magical Medicine and the Devil in Northern England, 1650-1700' , 125; Godbeer, 'Magical Experiments' , 28-9.
74. Harold Cook, *The Decline of the Old Medical Regime in Stuart London*, (London: Cornell University Press, 1986). See also Jenner and Wallis (eds.), *Medicine and the Market in England and its Colonies*; Pelling, *Medical Conflicts in Early Modern London*.
75. Blagrave, *Astrological Practice*, (1672 repr.), unpaginated, [4; 6-8; 13-19].
76. Blagrave, *Astrological Practice*, (1689 repr.), unpaginated, [final 2 pages]. See Elaine Leong and Alisha Rankin (eds.), *Secrets and Knowledge in Medicine and Science, 1500–1800*, (Burlington: Ashgate, 2011).
77. Mary Lindemann, *Medicine and Society in Early Modern Europe*, (Cambridge: Cambridge University Press, 2010), esp. 119.
78. Elizabeth Lane Furdell, *Publishing and Medicine in Early Modern England*, (Rochester, New York: University of Rochester Press, 2002), 136-154.
79. Blagrave, *Astrological Practice*, 153-4.
80. For the two identical texts that mention the urinary experiment, see 'Trial of Jane Kent' , *Old Bailey Proceedings Online*, [accessed 20 August 2018]; Anon, *A Full and True Account of the Proceedings*, 3-4. The third text that describes a Doctor in Spittle-Field' and his 'Medecine' is Anon, *The True narrative of the Proceedings*, 3.
81. 'Trial of Jane Kent' , *Old Bailey Proceedings Online*, [accessed 20 August 2018]; Anon, *A Full and True Account of the Proceedings*, 4.
82. Anon, *The True narrative of the proceedings*, 3. [Richard] Clambleton is apparently a varied spelling or interpretation of Chamblet.
83. Anon, *An Account of the tryal and examination of Joan Buts*, [2/2].
84. Regarding these doctors and finding more information about them, my thanks once more to Jonathan Barry from the 'Early Modern Practitioners' project, who said: 'The information in the early modern practitioners project does not enable a more precise identification of either Dr Hainks of Spittlefields and Dr Bourne of Ewall in Surrey. A Henry Hanks was created MD Oxford 27 February 1643/4 […] but nothing more is known of him. There are many more possible Dr Bournes, including Dr John Bourne of London, who was repeatedly prosecuted by the Royal College of Physicians in London in the 1670s and early 1680s for practicing without a license and publicising his cures, and was probably a chemical physician, so he would be an ideal candidate in theory. But the Buts case does not indicate that the family in Ewell in Surrey had consulted someone in London and the trial record of the case refers to a Thomas Bourne giving evidence […] so this seems to rule out John Bourne. There was a Quaker chemical practitioner called Thomas Bourne practicing in Bristol at this period (d.1690), but it is unclear how/why he would be consulted by a Surrey family, unless he just happened to be in the area.' See also C. L'Estrange Ewen (ed.), *Witch Hunting and Witch Trials*: *The indictments for witchcraft from the records of*

1373 assizes held for the home circuit A.D. 1559-1736, (London: K. Paul, Trench, Trubner & co.,1929), 262; http://practitioners.exeter.ac.uk/about/ [accessed 9 July 2019].

85. Glanvill, *Saducismus Triumphatus*, 109.
86. For more on itinerant practitioners in early modern England, see Pelling, *Medical Conflicts in Early Modern London*, 88n., 100-1, 130, 139, 200-1, 230-1, 247, 334.
87. David Gentilcore, *Healers and Healing in Early Modern Italy*, (Manchester: Manchester University Press, 1998), 10.
88. For examples, see Furdell, *Publishing and Medicine in Early Modern England*, esp. 10-13; Peter Elmer and Ole Peter Grell (eds.), *Health, Disease and Society in Europe, 1500-1800: A Sourcebook*, (Manchester: Manchester University Press), 111-139.
89. Moran, 'A survey of chemical medicine in the seventeenth century' , 128. Godbeer argues for the parallel between Neoplatonic doctrines and assumptions underlying popular magic. Godbeer, 'Magical Experiments' , 35.
90. Lindemann, *Medicine and Society*, 103.
91. Anon, *An account of the trial and examination of Joan Buts*, [1/2].
92. Davis, *An account of the tryals, examination and condemnation, of Elinor Shaw, and Mary Phillips*, 5.
93. For a discussion of domestic medicine in England, see Elaine Leong, *Recipes and Everyday Knowledge: Medicine, Science, and the Household in Early Modern England*, (London: University of Chicago Press, 2018).
94. Eamon, *Science and the Secrets of Nature*, p. 131; Elaine Leong and Sara Pennell, 'Recipe Collections and the Currency of Medical Knowledge in the Early Modern 'Medical Marketplace' , in. Jenner and Wallis, *Medicine and the Market*, 138.
95. For more on the role of recipe books in early modern medicine, and examples of recipes' creation and use, see Leong and Pennell, 'Recipe Collections and the Currency of Medical Knowledge in the Early Modern 'Medical Marketplace' , 133-152; Elaine Leong, 'Receipt Books c1571-1800, From the Folger Shakespeare Library – Editorial Introduction' , *Adam Matthews Publication*, (July 2006), http://www.ampltd.co.uk/digital_guides/receipt_books_from_the_folger_shakespeare_library/editorial-introduction.aspx [accessed 20 August 2018]; Andrew Wear, *Knowledge and Practice in English Medicine, 1550 – 1680*, (Cambridge: Cambridge University Press, 2000), 113-4; Joad Raymond (ed.), *The Oxford History of Popular Print Culture – Volume I: Cheap Print in Britain and Ireland to 1660*, (Oxford: Oxford University Press, 2011), 421.
96. Eamon, *Science and the Secrets of Nature*, 132; Blagrave, *Astrological Practice*, 86-7; 153.
97. Anon., *A Full and True Account of the Proceedings*, 4; Anon, *An Account of the tryal and examination of Joan Buts*, [1/2]; Anon, *A miraculous cure for witchcraft*, [1/1]; Davis, *An account of the tryals*, 5.
98. Glanvill, *Saducismus Triumphatus*, 206.
99. See p.7 of this article, and Lilly, *Christian astrology*, 465-6.

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