Modes of engagement with astrology in seventeenth-century England

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This is to certify that to the best of my knowledge, the content of this thesis is my own work. This thesis has not been submitted for any degree or other purposes.

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Abstract

Astrology played an important part in the propaganda wars which accompanied the mid-seventeenth-century English Civil Wars, and it remained both influential and controversial in the decades following. At present, the dissemination of astrological ideas in seventeenth-century English publications is better understood than their audience's reception of those ideas. The discrepancy is due partly to the fact that the former is better documented than the latter. It is exacerbated by the controversy surrounding seventeenth-century English astrology, as a result of which much of the commentary on its public reception has likely been skewed to fit the commentator's argument. This thesis will investigate some of the letters which well-known seventeenth-century astrologers received from correspondents with varying levels of interest and expertise in astrology. In context, the letters present an opportunity to examine the flow of communication into the core astrological community from those outside or on the periphery.

Contents

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Introduction

In the early eighteenth century, the astrologer John Partridge became the target of a hoax by the satirist Jonathan Swift. Swift used a pseudonymous literary persona, the astrologer Isaac Bickerstaff, to first predict and then announce Partridge's death. It was said at the time, and subsequently assumed by historians, that Partridge spent the rest of his life trying to set the record straight. Recently, John McTague has challenged this assumption, arguing that "we think Partridge was finished by Swift's hoax mainly because Swift has told us so".[1]

This is not the only example from early modern England in which a contemporary caricature of a famous astrologer passed into the historiography.[2] The issue could conceivably have affected groups as well as individuals, and it was exacerbated by controversy. McTague, for example, attributes the long-standing overestimation of Swift's success partly to the ideologically charged environment in which he and Partridge operated.[3] Partridge was vocally opposed to England's ruling party during a period of ongoing political tension.[4] According to McTague, Partridge was far more politically active than historians tend to believe he was, and his significance as a political figure both contributed to the perceived success of Swift's hoax and was ultimately obscured by it.[5]

Perhaps because astrology as a whole was a similarly controversial subject in seventeenth-century England, contemporary commentators on the topic made a number of broad

[1] John McTague, "A letter from John Partridge to Isaac Manley, 24 April 1708: Provenance and Authenticity", *Notes and Queries* 59, no. 2 (June 2012), 201.
[2] Patrick Curry, *Prophecy and power* (Cambridge: Polity Press, 1989), 56.
[3] John McTague, ""There Is No Such Man as Isaack Bickerstaff": Partridge, Pittis, and Jonathan Swift", *Eighteenth-Century Life* 35, no. 1 (Winter 2011), 85.
[4] Ibid.
[5] Ibid.

assumptions about the relationship between the discipline and the public.[6] Their assumptions could easily have misrepresented that relationship given the contentious nature of the issue and the fact that commentators often wrote to advance an argument.[7] I believe that the relative dearth of evidence for public interaction with astrology in seventeenth-century England could have allowed these misinterpretations to persist in the historiography, as misinformation about Swift's hoax has done.[8]

In addition, modern attitudes toward astrology affect the way today's historians approach the subject as a whole. Our understanding of past astrological practices and attitudes has been "distorted" by our current attitude toward subjects like astrology and their relationship to modern science.[9] In this thesis, I aim to mitigate this issue by investigating the interaction between astrologers, astrology and the public in seventeenth-century England primarily as it appears in documents written by members of the public. I will focus particularly on letters sent to certain seventeenth-century astrologers by non-astrologers and amateur astrologers. The tone and content of these letters helps to elucidate the way the general public perceived and engaged with the discipline. I will draw most of my primary source material from the astrological or astrologically relevant material preserved with the Ashmolean Manuscripts.

The Ashmolean Manuscripts

[6] Keith Thomas, *Religion and the decline of magic* (Middlesex: Penguin Books, 1971), 379-82.
[7] Rachel S. Lustiger, "To the great scandal of that heaven born science: astrology confronts the New Science, 1640–1740" (PhD diss., Arizona State University, 2000).
[8] William Eamon, "Astrology and Society", in *A companion to astrology in the Renaissance*, ed. Brendan Dooley (Leiden: Brill, 2014), 166.
[9] Günter Oestmann, H. Darrell Rutkin, and Kocku von Stuckrad, "Introduction: horoscopes and history", in *Horoscopes and Public Spheres: Essays on the History of Astrology*, ed. Günter Oestmann, H. Darrell Rutkin, and Kocku von Stuckrad (Berlin: De Gruyter, 2005), 3.

Elias Ashmole was an "antiquary, polymath, and collector" active in England the mid- to late seventeenth century.[10] He is remembered today for his wide-ranging interests and studies as well as for the foundation of the Ashmolean Museum and contribution of a great deal of its material. Ashmole was a prolific collector of manuscripts, printed books and objects. He lived during a period when the collection of "curiosities" was common and the creation and preservation of records had recently acquired a new importance.[11] Along with a host of other documents, letters were viewed during the sixteenth and seventeenth centuries as powerful aids to statecraft and political control, and they were saved and organised accordingly.[12] Even within this context, Ashmole was a particularly assiduous collector of papers and texts on subjects which interested him.[13] He was an antiquarian with an interest in various occult and natural philosophical subjects. He collected material in order to learn the histories of these subjects and, in some cases, to become adept in the subjects themselves.[14]

Ashmole was especially interested in astrology, and much of the material preserved with the Ashmolean Manuscripts is consequently astrological in nature. Ashmole befriended and patronised many of the most influential astrologers of his time, and he acquired the papers of several of these astrologers after their deaths.[15] In addition, many of his correspondents sent him astrologically relevant material, and he actively collected the writings of past astrologers such as John Dee.[16]

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[10] C. H. Josten, *Elias Ashmole (1617-1692) his autobiographical and historical notes, his correspondence, and other contemporary sources relating to his life and work* (Oxford: Oxford University Press, 1967), 2.
[11] Nicholas Popper, "Archives and the boundaries of early modern science", *Isis* 107, no. 1 (2016), 87-8.
[12] Ibid., 88.
[13] Vittoria Feola, "Elias Ashmole's collections and views about John Dee", *Studies in History and Philosophy of Science Part A* 43, no. 3 (2012), 531.
[14] Ibid.
[15] Ibid., 532.
Josten, *Elias Ashmole*, 11-302.
[16] Feola, "Elias Ashmole's collections".

Because the Ashmolean Manuscripts were ultimately collated by a single person for his own benefit and that of posterity, the collection is composed exclusively of books and papers which Ashmole and his beneficiaries considered to be worth preserving.[17] Due to Ashmole's attitude toward documentation and that of his society, however, a very diverse array of documents fell into that category, including a large quantity of personal correspondence. In this thesis, I will primarily examine the letters and notes sent to astrologers by either non-astrologers or amateur astrologers and preserved with the Ashmolean Manuscripts.

The letters to astrologers

Most of the documents used in this study were sent either to Ashmole or to his friends and beneficiaries, but I have focused particularly on the correspondence sent to William Lilly and John Booker, two of the most prominent astrologers of the mid-seventeenth century. After their deaths, Ashmole bought both astrologers' libraries from their respective widows and transferred them, apparently wholesale, to his collection.[18] Nevertheless, the letters preserved with the Ashmolean Manuscripts likely comprise only a small sample of the letters Lilly and Booker actually received. Well-known astrologers who sold their services to the general public often received inconveniently large quantities of correspondence from readers and clients, as they themselves pointed out. [19] The number of letters preserved with the Ashmolean Manuscripts does not accord with the number the roughly contemporary astrologer William Salmon claimed to receive yearly.[20] Additionally, several of Lilly's publications make reference to or include extracts from letters absent from the Ashmolean

[17] Josten, *Elias Ashmole*, 303.
[18] Ibid., 160, 243.
[19] Lustiger, "To the great scandal of that heaven born science", 171.
[20] Ibid.

Manuscripts.[21] The surviving letters may therefore have been preserved for a reason, while other letters were purposely discarded. Given the strong resemblance between the letters mentioned in Lilly's publications and certain of the letters preserved with the Ashmolean Manuscripts, it is also likely that many more documents were lost by chance. Nevertheless, the content of surviving letters is not necessarily representative of the way members of the public typically interacted with astrologers. The letters do, however, illustrate both the way members of the public *could* interact with astrologers and the way astrologers might have been expected to respond.

Astrology in seventeenth-century England

The idea that the celestial bodies influenced the terrestrial world was commonly accepted in early modern Europe. Different commentators and sectors of society subscribed to different and often incompatible ideas about the nature and extent of this influence, but belief in its existence was almost ubiquitous.[22] This belief led large swathes of the early modern English population to visit astrological practitioners and to purchase and consult almanacs containing astrological guidelines and predictions.[23] During the English Civil Wars of the seventeenth century, furthermore, astrologers worked as propagandists for both the Royalist and Parliamentarian causes, using the credibility granted by their discipline to bolster their rhetoric.[24]

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[21] Ibid., 174-5.
William Lilly, *The vvorld's catastrophe* (London: John Partridge and Humphrey Blunden, 1647), 70-1.
[22] Brendan Dooley, "Introduction", in *A companion to astrology in the Renaissance*, ed. Brendan Dooley (Leiden: Brill, 2014), 1-9.
[23] Thomas, *Religion and the decline of magic*, 364-82.
Bernard Capp, *Astrology and the popular press: English almanacs 1500-1800* (London: Faber and Faber, 1979).
[24] Harry Rusche, "Merlini Anglici: astrology and propaganda from 1644 to 1651", *The English Historical Review* 80, no. 315 (Apr. 1965).

The art practised by these astrologers and utilised by most astrological practitioners and almanac compilers in early modern England was largely based on the astrology developed in the ancient world and set down by Ptolemy in the second century BC.[25] This system later fell out of favour in Western Europe and was re-introduced several times during the early modern period.[26] Essentially, the system assigned different characteristics and spheres of influence to different celestial bodies. Astrologers made predictions or recommendations based on the positions of the relevant celestial bodies in the sky at a single point in time, one located in the past, present or future depending on the nature of the question they wished to answer. Although their validity was frequently questioned, the influence of these basic tenets of astrology extended into numerous areas of early modern life and thought.[27]

Astrology in seventeenth-century England experienced a surge in popularity at the same time that its intellectual status and standing with the elite was declining.[28] Astrologers' participation in the propaganda wars accompanying the English Civil Wars of the mid-seventeenth century underscored the disruptive potential of the discipline and thus exposed it to the scrutiny of the powerful.[29] This was not a new development, but the events of the seventeenth century exacerbated it, particularly after the restoration of the monarchy in 1660.[30] Much of the censorship which had been lifted prior to the Civil Wars was reinstated after the Restoration in response to the turbulence of the previous decades.[31] Furthermore,

[25] Mary Ellen Bowden, "The scientific revolution in astrology: the English reformers, 1558-1686" (PhD diss., Yale University, 1974), 9.
[26] Wolfgang Hübner, "The culture of astrology from ancient to Renaissance", in *A companion to astrology in the Renaissance*, ed. Brendan Dooley (Leiden: Brill, 2014), 17-9.
[27] Bowden, "The scientific revolution in astrology".
Thomas, *Religion and the decline of magic*, 336-8.
[28] Ibid., 341-4.
[29] Patrick Curry, "Saving astrology in Restoration England", in *Astrology, science and society: historical essays*, ed, Patrick Curry (Suffolk: The Boydell Press, 1987), 255.
[30] William Burns, *An age of wonders: prodigies, politics and providence in England 1657-1727* (Manchester: Manchester University Press, 2002), 9.
[31] Ibid.

astrologers were vulnerable under the Restoration regime, as they had been during the Civil Wars and Interregnum, to prosecution over relatively minor transgressions against the government in print.[32]

The delicate political position of astrology and astrologers was compounded by the discipline's increasingly dubious epistemological status. The early modern period saw large-scale shifts in the European conception of the natural world which rendered celestial influence unnecessary, along with a number of natural philosophical developments which brought the validity of existing astrological theory into doubt.[33] Political and ideological considerations may well have played a larger role than questions of natural philosophy in astrology's declining intellectual status, but both contributed to the situation.[34]

The availability of astrological information

Furthermore, despite the advent of the printing press in the fifteenth century and increasing literacy rates throughout the period, the spread of knowledge, including astrological knowledge, in early modern Europe was uneven and unreliable. Those with ready access to knowledge were often reluctant to share it. The regulation of medicine, for example, was intended to protect the interests of officially recognised practitioners as much as it was to ensure quality control.[35] The tight regulation of print in England was enacted in order to aid government censorship.[36] Visible censorship of almanacs itself gave rise to speculation.[37]

[32] Capp, *Astrology and the popular press*, 49-50.
[33] Jane Ridder-Patrick, "The Marginalization of Astrology in Seventeenth-Century Scotland", *Early Science and Medicine* 22, no. 5-6 (January 2017), 477-8.
Bowden, "The scientific revolution in astrology", 115-6.
[34] Curry, *Prophecy and power*, 46.
[35] William Eamon, *The Professor of Secrets: Mystery, Medicine and Alchemy in Renaissance Italy* (Washington: National Geographic, 2010), 48-9.
[36] Lustiger, "To the great scandal of that heaven born science", 8-9.
[37] Capp, *Astrology and the popular press*, 49.

News-sheets were introduced to England in the early seventeenth century, but they appear to have spread confusion as well as enlightenment by highlighting the discrepancies between different news reports.[38] Finally, although education was becoming more accessible and standardised, it was not necessarily aimed at producing an informed populace. Anxiety about the power of an increasing lower-class population led to the deliberate restriction of lower-class education and to a focus on religion and manual skills, which stymied the spread of literacy.[39]

Astrological knowledge in England was not only unevenly distributed but was also particularly contentious. Astrology lost prestige precipitously and attracted an unusual amount of controversy in seventeenth-century England, but its legitimacy as a field of inquiry had long been subject to debate. English astrological almanacs and English-language astrological instruction became more widely available in the seventeenth century, which sparked heated discussion over who should have access to astrological information. Many established astrologers saw amateur or supposedly unskilled astrologers as a threat to their own reputations.[40] Furthermore, there was a long-standing discrepancy between the abilities astrologers believed (or were willing to admit they believed) that they possessed and the services their clients expected of them.[41] The use of astrology as propaganda during the English Civil War strengthened an already extant perception of astrologers as self-serving charlatans. Debates within the astrological community over the correct practice of astrology may have further widened the gap between astrologers' beliefs and clients' expectations. In

[38] Federico Barbierato, "Political astrologers and the secret wheels of providence. Prophecies, astrology, and pragmatic futurologies in seventeenth- and eighteenth-century Venice", *Mediterranea – ricerche storiche – Anno XIV*, no. 39 (2017), 35.
[39] R. A. Houston, *Literacy in early modern Europe: culture and education 1500-1800* (Oxon: Routledge, 2013), 17.
[40] Curry, *Prophecy and power*, 38.
[41] Bowden, "The scientific revolution in astrology", 127.
Thomas, *Religion and the decline of magic*, 410.

the late seventeenth century, doubt about the efficacy of astrology led some people to pose as clients in order to catch astrologers out with a fake astrological query.[42] At the same time, almanacs remained popular, and astrologers received a steady flow of genuine clients.[43] Both understanding of and trust in astrology were therefore unevenly distributed throughout seventeenth-century English society. Nevertheless, there was a steady flow of information between prominent astrologers and the public.

The public

This thesis is concerned with both the sector of seventeenth-century English society which functioned as a "public" to whom astrologers addressed their works and the "public sphere", as opposed to the private or "secret" sphere, in which that address supposedly took place.[44] For the purpose of this study, therefore, the public addressed by seventeenth-century English astrologers must be defined as separate from the astrologers themselves. Distinctions such as this were becoming increasingly blurred during this period. Jürgen Habermas defines the public, paradoxically, as the portion of a population shut out from what is understood as "public authority", or authority endowed by the state or another abstract entity.[45] He argues, however, that the public in seventeenth-century England shifted in relation to state authority, moving from a position of subjection to one of opposition or at least of scrutiny by and of the state. I would argue that a similar process was occurring at the time between established astrologers and their readers and clients.

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[42] Thomas, *Religion and the decline of magic*, 422.
[43] Houston, *Literacy in early modern Europe*, 126.
Thomas, *Religion and the decline of magic*, 364.
[44] Peter Burke, "Publicising the private: the rise of "secret history"", in *Changing perceptions of the public sphere*, ed., Christian J. Emden and David Midgley (New York: Berghahn Books, 2012), 57-72.
[45] Jürgen Habermas, *The structural transformation of the public sphere: an inquiry into a category of bourgeoise society* (Cambridge: Polity Press, 1989), 18.

Furthermore, the borders of the astrological community in seventeenth-century England were likely more porous and changeable than those of government power. Seventeenth-century astrologers themselves were unable to clearly define those borders, but established astrologers were nevertheless seen as distinct from their readers and clients, even those who practised astrology privately and individually. Specifically, established astrologers were allowed free, almost automatic access to astrological information and assistance in a way that those outside or on the borders of the discipline were not.[46] The public sphere can therefore be defined for the purpose of this thesis as the arena in which astrological information was shared with, theoretically, the entire population, rather than between acquaintances or perceived peers. The "public" can be defined as the portion of the population which had access only to this information.

Habermas also defines the public essentially as an audience, and many if not most of the letters used in this study were sent by readers of Lilly's and Booker's publications.[47] This represents another limitation on the proportion of the English population represented in letters to astrologers. Astrology and its associated beliefs and publications were near ubiquitous in seventeenth-century England. However, the ability to learn or engage with the form of astrology practised by figures such as Lilly and Booker, and in the kind of interaction examined in this thesis, were only available to a subset of English society at the time. Although literacy in Europe increased over the early modern period, it was still very partial in seventeenth-century England.[48] The proportion of the population who could not read or write is impossible to calculate exactly, but evidence suggests that it was significant.[49] Even in

[46] Lustiger, "To the great scandal of that heaven born science", 20-4.
[47] Ibid., 10.
[48] Houston, *Literacy in early modern Europe*, 168.
[49] Ibid., 125.

1666, the number of people who had not been taught to sign their name was significant. Of one hundred and twenty people who signed a document forfeiting their claim to nobility, eight signed with a mark.[50] Furthermore, Booker in particular made a point of addressing only a select audience in his almanacs in a way which further restricted access to their contents.[51]

The letters used in this study were sent by those members of the seventeenth-century anglophone population with the ability and leisure to both read astrological publications and correspond with their authors. They do not therefore represent the entire early modern English "public", but they represent a subset of that public whose opinions on and interactions with astrology are still more obscure than those of either astrologers or the elite.

Early modern English letters

The importance of letters as a means of conveying information increased significantly over the early modern period in England. The centralisation of the English government in the sixteenth century lent new political weight to epistolary communication, while increasing literacy levels allowed a larger proportion of the population to participate in it.[52] The seventeenth century saw the reform of the English postal system and, later, an "obsessive" level of attention paid to letter etiquette and style.[53]

[50] Josten, *Elias Ashmole*, 1065.
[51] Capp, *Astrology and the popular press*, 236.
[52] Gary Schneider, *The culture of epistolarity: vernacular letters and letter-writing in early modern England, 1500-1700* (Newark: University of Delaware Press, 2005), 37, 54.
[53] James Daybell, *The material letter in early modern England: manuscript letters and the culture and practices of letter-writing, 1512-1635* (London: Palgrave Macmillan, 2012), 10.
Schneider, *The culture of epistolarity*, 44.

Letters nevertheless remained a less favoured and often a partial replacement for face-to-face interaction. Verbal communication through an intermediary was often preferred to written communication where face-to-face interaction was impossible. The authors of several of the letters preserved with the Ashmolean Manuscripts state that the bearer will elaborate on their contents, and having a letter-bearer deliver part of the sender's message orally was common practice at the time.[54] Furthermore, many querents apologised in their letters for their failure to come in person, which was another convention of epistolary communication.[55] Most plead illness or distance, though Lilly's neighbour Math. Andrews claims to be unable to leave his house because "Sir Robert L- being at my house aquaints mee that six suspicious persons were at Bournes yesterday, and I feare Bourne is a person that will make good his accusation…of being a harbourer of Highway men."[56] That Andrews and others felt the need to explain themselves would indicate that the letters in the Ashmolean Manuscripts were written disproportionately by those distant from the astrologer's place of residence or otherwise unable to visit in person. In addition, many letters likely only contained part of the sender's message, with the other part being delivered orally. Like the process by which letters were selected for preservation, this may skew the picture represented in the letters of communication between astrologers and the public.

Scholarship on the role of astrology in seventeenth-century England

The relationship between astrology and the public in early modern Europe has been extensively explored by historians. However, few have focused specifically on the letters written to well-known astrologers by non-astrologers or amateur astrologers. Some scholars

[54] Ms. Ashmole 240, f. 147.
Schneider, *The culture of epistolarity*, 30-3.
[55] Schneider, *The culture of epistolarity*, 34.
[56] Ms. Ashmole 240, f. 212.

draw their conclusions on the subject from astrological publications and the purpose they were ostensibly intended to fulfil. William Eamon, for example, examines the distribution and content of early modern European almanacs and other publications on astrology. Eamon concludes that astrology appealed to the population of early modern Europe because it rendered the universe, and therefore individual lives, comprehensible and predictable.[57] Keith Thomas comes to the same conclusion regarding astrology in early modern England specifically.[58]

Other scholars have examined the discussion of astrological topics in published and unpublished ego documents. Kocku von Stuckrad examines the use of horoscopes in biographies otherwise unconcerned with astrology. Von Stuckrad concludes that horoscopes gave coherence to biographies in the same way that they gave structure and meaning to individual life events.[59] Monica Azzolini examines letters sent between the members of the nobility and astrologically trained physicians to clarify the role of astrological medicine in fifteenth-century Milan. Azzolini emphasises the reassuring quality of astrological medicine, which she attributes to the flexibility of astrological principles.[60] Multiple historians therefore agree that astrology was valued by laypeople for its ability to make sense of their world and lives.

The correspondence of seventeenth-century English astrologers specifically has been investigated by Ann Geneva. Part of Geneva's work focuses on Lilly's surviving

[57] Eamon, "Astrology and Society", 191.
[58] Thomas, *Religion and the decline of magic*, 383.
[59] Kocku von Stuckrad, "The Function of Horoscopes in Biographical Narrative: Cardano and After", in *Horoscopes and Public Spheres: Essays on the History of Astrology*, ed. Günter Oestmann, H. Darrell Rutkin, and Kocku von Stuckrad (Berlin: De Gruyter, 2005), 225-40.
[60] Monica Azzolini, "Reading health in the stars: from the university to the courtly library", in *Horoscopes and Public Spheres: Essays on the History of Astrology*, ed. Günter Oestmann, H. Darrell Rutkin, and Kocku von Stuckrad (Berlin: De Gruyter, 2005), 183-205.

correspondence. Lilly's correspondents often sent accounts of unusual or ostensibly astrological natural events. Geneva portrays these particular writers as able natural philosophers with a clear idea of the way their data should be used.[61] Her conclusions are particularly interesting in conjunction with those of Rachel S. Lustiger. Working from a variety of sources, Lustiger argues that astrologers' communication and engagement with readers were largely undertaken in order to boost almanac sales and the legitimacy of the discipline.[62] Both Geneva and Lustiger portray the interactions between astrologers and their readers at least partly as means to a practical end, which suggests that engagement with astrology had material as well as philosophical benefits.

Astrologers' opinions of the public have also been extensively addressed in the historiography. Patrick Curry, for example, posits a divide between the judicial astrology found in almanacs and the more folkloric astrology popular with the lower classes.[63] Bernard Capp furthermore states that publishing astrologers openly disapproved of this folkloric astrology and only accommodated it out of necessity.[64] Curry, meanwhile, argues that astrologers in the seventeenth century objected to inexpert or "vulgar" practitioners as a threat to their own reputations.[65] This would have been a particularly salient issue in the late seventeenth century, when astrology in England gained visibility whilst losing intellectual ground. Lustiger believes that late-seventeenth-century astrologers responded to the situation by shifting their rhetoric. They began to describe astrology as a laborious art, where previously they had characterised it as an easily attainable skill.[66] Lustiger argues that this

[61] Ann Geneva, *Astrology and the Seventeenth Century Mind: William Lilly and the Language of the Stars* (Manchester: Manchester University Press, 1995), 91.
[62] Lustiger, "To the great scandal of that heaven born science", 168.
[63] Curry, *Prophecy and power*, 11.
[64] Capp, *Astrology and the popular press*, 56-7.
[65] Curry, *Prophecy and power*, 67.
[66] Lustiger, "To the great scandal of that heaven born science", 92.

was intended to combat a long-standing belief in astrology as a "simple art".[67] In other words, astrologers defended the legitimacy of their discipline by raising the bar for entry.

Anthony Grafton, meanwhile, argues that a barrier to the practice of astrology was already in place. He points out that even ancient astrology manuals served to advertise rather than replace their authors' services, because there was no right way to apply the highly complex and redundant rules of the discipline.[68] This worked very much in the favour of astrologers already practising. Lustiger also refers to the increasing importance of expertise in establishing astrologers' credibility, although Lauren Kassell argues that astrologers had been conspicuously touting their expertise since the early seventeenth century.[69] Historians therefore disagree about the novelty of late-seventeenth-century astrologers' wariness toward the general public engaging with their discipline, but they agree that it existed. Nevertheless, as Geneva's work shows, some astrologers relied on members of the public for information about astrologically relevant events, and therefore benefited from that engagement.

Information in the early modern period, and the means by which it was gathered and verified, have also been addressed by historians. Barbara Shapiro argues that, because of its legal system, seventeenth-century England possessed a well-known and long-established framework for establishing the credibility of an eyewitness.[70] According to Shapiro, credibility was judged according to education, reputation and potential vested interest in an issue, as well as a number of associated demographic characteristics.[71] Wayne Wild studies

[67] Ibid.
[68] Anthony Grafton, *Cardano's Cosmos: The Worlds and Works of a Renaissance Astrologer* (Cambridge: Harvard University Press, 1999), 64.
[69] Lauren Kassell, "Casebooks in Early Modern England: Medicine, Astrology, and Written Records", *Bulletin of the History of Medicine* 88, no. 4 (2014), 607.
[70] Barbara J. Shapiro, *A Culture of Fact: England, 1550-1720* (Ithaca: Cornell University Press, 2000).
[71] Ibid., 9.

the establishment of credibility in eighteenth-century medicine, specifically the rhetorical devices by which early eighteenth-century English doctors proved their competence and patients themselves showed that they understood their illnesses. Wild argues that patients deliberately based the tone of their letters on the medical theory of the time in order to increase their perceived medical competence and thus their control over their own treatment.[72] Other scholars have studied the methods by which early modern European writers tried to secure public confidence. Brian Richardson, for example, investigates sixteenth-century Italian translators' use of dedicatory letters to associate their work, otherwise seen as dubious for its perceived adulteration of classical texts, with a socially powerful figure.[73] Scholars therefore agree that the perceived veracity of information exchanged during the early modern period depended on the use of rhetoric and patronage as well as the perceived characteristics of the people involved.

This, again, may have influenced the way members of the public interacted with astrology, and particularly the way they wrote to astrologers. As well as emphasising the necessity of reading between the lines of contemporary commentary, McTague and Curry incidentally show the importance in the seventeenth century of projecting a convincing written persona. Groups as well as individuals were subject to caricature, and the fate of Partridge illustrates how persistent this caricature could be. Letter-writers therefore had good reason to project a specific image of themselves, and Parrish's work gives an example of a situation where members of the public did exactly that. Historians have studied in depth the attitudes that seventeenth-century English society expressed towards astrology and the public. They have also studied the attitudes that astrologers of the period held towards their clients and

[72] Wayne Wild, "Medicine-By-Post in Eighteenth-Century Britain: The Changing Rhetoric of Illness in Doctor-Patient Correspondence and Literature" (PhD diss., Brandeis University, 2001), 4.
[73] Brian Richardson, "The Social Transmission of Translations in Renaissance Italy: Strategies of Dedication", in *Trust and proof: translators in Renaissance print culture*, ed. Andrea Rizzi (Leiden: Brill, 2017), 13-32.

imitators. However, the way members of the public themselves conceived of and engaged with astrology has not been fully addressed.

Furthermore, as Curry points out, there is evidence to suggest that historians have taken early modern English commentators at their word in one respect.[74] Capp believes that the general population of mid-seventeenth-century England would likely have been "deeply impressed" by an astrology merely "believed, or half-believed" by "prominent men of affairs".[75] Eamon similarly states that "most ordinary readers" took astrological prognostications seriously even when educated readers considered them "worthless nonsense".[76] This is similar to the attitude taken by seventeenth-century commentators. Curry states that the astrological reformers of the 1690s and 1700s pitched to a select group of "those who were...qualified to judge", assuming that the general population would follow their lead.[77] Similarly, the seventeenth-century author John Melton in his *Astrologaster* singles out "old women, men, and maids" - in other words, according to Lustiger, the uneducated - as the dupes of astrologers.[78] This occurred despite the recorded ubiquity of astrological belief across classes and demographics.[79] These seventeenth-century attitudes may therefore have informed subsequent historians' conclusions. The communication between seventeenth-century English astrologers and their readers and clients, and the effect of that communication on the actions of both, are worth revisiting.

Outline

[74] Curry, *Prophecy and power*, 162.
[75] Capp, *Astrology and the popular press*, 100.
[76] Eamon, "Astrology and Society", 162.
[77] Curry, *Prophecy and power*, 78.
[78] Lustiger, "To the great scandal of that heaven born science", 85-6.
[79] Capp, *Astrology and the popular press*, 160-6.

The first chapter of this thesis will investigate letters sent to astrologers, primarily to Lilly, in which the writer detailed an incidence of one of the many striking natural phenomena known at the time as prodigies. The letters to Lilly in particular were likely sent in response to Lilly's discussion of prodigies in his printed works. Lilly frequently used prodigies as propaganda tools, and often his discourse on the possible fallout from these events included a discussion of the nature of the events themselves and a reference to the correspondents who had brought them to Lilly's attention. The prodigy reports sent to Lilly tend to emphasise the presence of multiple, trustworthy eyewitnesses to these phenomena, particularly if the reporter was unknown to Lilly or otherwise had reason to suspect he would not believe them. This is not surprising in itself, but it is significant because it aligns with the conventional formula used at the time to validate otherwise incredible reports. Reference to eyewitnesses is absent from seventeenth-century prodigy reports made in other contexts, however, which suggests that these phenomena were not universally considered incredible.

The lack of reference to eyewitness testimony is particularly conspicuous in certain articles printed in the early *Philosophical Transactions*. The *Philosophical Transactions* were closely, though unofficially, affiliated with the early Royal Society. The journal frequently printed accounts of phenomena then recognised as prodigies, including those phenomena utilised by Lilly and other propagandists. Chapter two will investigate the approach taken by the *Philosophical Transactions* to eyewitness testimony and the way this approach was affected by the political and ideological context in which the Royal Society operated. The investigation will focus particularly on the influence of astrology.

Chapter three will study the distribution of astrological information in early modern England as it appears in letters written to astrologers by clients. A number of clients included lists of

their personal characteristics or major life events in their letters, and their writers' ideas about astrology and its fundamental principles are reflected in the content of these lists. Chapter three will explore the widespread agreement in seventeenth-century England regarding the basic principles of astrology and the way astrologers' correspondents used their understanding of the discipline to influence the recipient or recipients of their letters.

In the mid-seventeenth century, access to knowledge of the principles of astrology and the consequent ability to utilise those principles in correspondence had only recently become available to the general public. Astrological information had previously only been accessible to a far smaller group of practitioners. Information in the early modern period was treated as a form of currency, and often the value of information was linked to its rarity, so the sudden accessibility of astrological knowledge had repercussions for practising astrologers. Chapter four will investigate the way this development impacted astrologers' own rhetoric and use of astrological information as well as their direct responses to the change.

Chapter one: prodigies in astrological correspondence

Travelling between two towns in Hertfordshire, England, in February 1649, a clergyman noticed a peculiar phenomenon. A partial halo had formed around the sun. After forty-five minutes, the halo was succeeded by a "perfect round white spot" located on the sun's north side.[1] The clergyman watched this spot increase in brightness until it outshone the sun itself, at which point he drew his servant's attention to it. The two men looked on for the next half hour as extraordinary patterns of light played across the sky. One month later, the clergyman sent a letter to the astrologer William Lilly, describing the incident in detail and asking Lilly's opinion of its import.[2]

The clergyman had seen a parhelion, or mock sun. A parhelion is an optical illusion caused by the refraction of the sun's light through elongated hexagonal ice crystals in the atmosphere.[3] Parhelia generally appear as bright spots located on either side of the sun and at the same elevation.[4] Although quite common, parhelia are ephemeral and unpredictable. Due partly to their unpredictability and their dramatic appearance, they feature frequently in early modern propaganda.[5] Furthermore, numerous conflicting hypotheses existed during the early modern period as to their causes and effects. Due to the use of parhelia in propaganda, many of these hypotheses were ideologically charged. Parhelia were also relevant to multiple traditions and systems of knowledge, whose representatives argued over both the correct

[1] Ms. Ashmole 423, ff. 154-6.
[2] Ibid.
[3] John B. Reade, "On the scientific explanation of parhelia", *The Mathematical Gazette* 87, no. 509 (Jul 2003), 243.
[4] Ann Geneva, *Astrology and the Seventeenth Century Mind: William Lilly and the Language of the Stars* (Manchester: Manchester University Press, 1995), 116.
[5] William Lilly, *The starry messenger* (London: John Partridge and Humphry Blunden, 1645).
Anon., *Mirabilis annus secundus* (1662).

interpretation of the phenomenon and the right to interpret it.[6] Intentionally or not, therefore, the anonymous clergyman made a statement simply by reporting his observations to an astrologer.

It is equally significant that the astrologer was William Lilly. Lilly was and is the best-known English astrologer of the seventeenth century. In 1649 his career was in its early stages, but his reputation was already well established. He had published his first astrological almanac in 1644, and this and subsequent publications had earned him recognition and influence. His success stemmed partly from his role as a political propagandist, and much of his propaganda rested on the supposed political significance of certain natural phenomena, including parhelia.[7] He was also an astrological evangelist, responsible for one of the first English-language astrological handbooks, and he encouraged his audience to participate in the discovery and confirmation of astrological laws.[8] This may account for the anonymous clergyman's letter and the many similar letters in which Lilly's correspondents detailed unusual natural phenomena and requested his opinion. Lilly included and interpreted several of these accounts in his publications.

His correspondents variously report earthquakes, comets, unusual tides, the birth of a two-headed calf and, as in the case of the anonymous clergyman, parhelia or paraselenae (mock moons). An educated seventeenth-century reader would immediately have recognised these heterogenous phenomena as constituents of a coherent category dating back at least to ancient

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[6] Anon., *Mirabilis annus secundus*.
John Spencer, *A discourse concerning prodigies wherein the vanity of presages by them is reprehended, and their true and proper ends asserted and vindicated* (Cambridge: John Field, 1663).
Edward Harley, *An humble essay toward the settlement of peace and truth in the church, as a certain foundation of lasting union by Sir Edward Harley* (N. Simmons: London, 1681), 5.
[7] Geneva, *Astrology and the Seventeenth Century Mind*, 100.
[8] William Lilly, *Christian Astrology* (London: John Macock, 1659), *To the Reader*.

Rome.[9] They were prodigies, departures from the usual course of nature which nevertheless lent themselves to natural philosophical explanation.[10] Like parhelia, prodigies in general were utilised by propagandists, and their causes and effects were debated throughout the early modern period. One of the most persistent arguments over prodigies concerned their provenance, specifically whether they had natural or supernatural origins. During the period under discussion, a supernatural phenomenon was generally defined as one involving the direct intervention of an entity with extraordinary powers. In the early modern European debates over prodigies, this entity was most often identified as the Christian God.[11] The definition of a supernatural phenomenon was complicated by the belief that events could have supernatural origins even if the usual course of nature was known to produce them. It was further confused by uncertainty over what constituted the usual course of nature.[12]

The relationship between prodigies and astrology was similarly controversial. The rhetoric used in certain early modern publications would suggest that the link between prodigies and astrology was predicated on the belief that prodigies were supernatural.[13] This, combined with the concurrent debate over the provenance of prodigies, should have weakened the connection between prodigies and astrology. However, the frequent appearance of prodigies in the correspondence of seventeenth-century England's foremost astrologer indicates that these phenomena were solidly linked with astrology in the minds of at least some of Lilly's contemporaries.

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[9] Christopher Carter, "A constant prodigy? Empirical views of an unordinary nature", *The Seventeenth Century* 23, no. 2 (Jan 2013), 266.
[10] Christopher Carter, "Meteors, prodigies and signs: the interpretation of the unusual in sixteenth-century England", *Paregon* 29, no. 1 (Jun 2012), 112.
[11] William E. Burns, *An age of wonders: prodigies, politics and providence in England, 1657-1727* (Manchester: Manchester University Press, 2002), 3-4.
[12] Carter, "A constant prodigy".
[13] Spencer, *A discourse concerning prodigies*.
Pierre Boaistuau, *Certaine secrete wonders of nature*, trans. E. Fenton (London: Henry Bynneman, 1569), 60. Boaistuau directed his criticism specifically toward judicial astrologers.

A close investigation of the appearance and meaning of prodigies as they were represented in Lilly's correspondence should shed light on the perceived nature of this link and associated contemporary attitudes toward both the astrological and prodigy traditions.

The prodigy reports in scholarship

Ann Geneva has carried out the most detailed study to date of the prodigy reports in Lilly's correspondence. To account for the existence of the prodigy reports, Geneva positions Lilly at the centre of a network of what she calls "Baconian data-gatherers".[14] The epithet highlights these correspondents' devotion to the collection of empirical data as well as their willingness to collaborate.

Both of these qualities were considered crucial for knowledge creation by the statesman and philosopher Francis Bacon. Bacon laid out a blueprint for a new approach to knowledge creation in the early seventeenth century.[15] He was not the first writer to stress the importance of empirical evidence and collaboration, but his epistemological theory was highly influential in late-seventeenth-century England.[16] Geneva therefore argues that Lilly's epistolary network was created along the Baconian lines later followed by English natural philosophical groups, most notably the Royal Society.[17]

[14] Geneva, *Astrology and the Seventeenth Century Mind*, 91.
[15] Joseph Agassi, *The very idea of modern science: Francis Bacon and Robert Boyle* (Dordrecht: Springer, 2013).
[16] Ibid., 11-2.
[17] Geneva, *Astrology and the seventeenth century mind*, 81.

Geneva also notes that many of Lilly's data-gatherers had far more natural philosophical prowess than himself, but nevertheless deferred to his judgement on various issues relating to astrology. She argues, broadly, that this occurred because Lilly was generally considered a better astrologer than his correspondents, even though they were often more knowledgeable in other areas, and even if the art at which Lilly excelled is no longer recognisable as such.[18] Due to the abovementioned controversy over prodigies and astrology, however, the prodigy reports were not necessarily astrologically relevant even by the standards of the time. Geneva concludes that Lilly's more technically able data-gatherers deferred to his judgement on prodigies because they considered prodigies portentous.[19] In early modern England, a portent was generally understood to be a divine warning of a future event.[20] The implication of Geneva's conclusion is that the astrological significance of prodigies, and by extension Lilly's authority to interpret them, were predicated on their prophetic significance. In other words, many of Lilly's correspondents were natural philosophers, and so the interpretation of natural phenomena fell to them, but Lilly was a prophet, and so the interpretation of portents fell to him.

Geneva also addresses the issue of reporters' opinions on the provenance of prodigies. Although she concludes that Lilly's correspondents considered prodigies portentous, she does not therefore believe that prodigies were necessarily considered supernatural. Geneva points out that prophecy and natural philosophical explication could and often did coexist in the seventeenth century, noting that Lilly himself cites a natural philosophical hypothesis for the existence of parhelia in one of his publications.[21] He immediately refutes the theory, but it is

[18] Ibid., 71.
[19] Ibid., 91.
[20] Alexandra Walsham, *Providence in early modern England* (Oxford: Oxford University Press, 1999), 169.
[21] Geneva, *Astrology and the seventeenth century mind*, 117.

significant that he addresses it.[22] Geneva also notes of one of Lilly's correspondents that he "seems comfortable with both natural and supernatural causality".[23] However, she ultimately argues that parhelia specifically would have seemed subjectively unnatural to a seventeenth-century observer despite the extant knowledge of their possible natural causes. She associates their perceived portentous significance with their "unnatural" appearance.[24]

Geneva's study therefore links the propaganda value of prodigies to both their striking oddness and the meaning assigned to them. Other scholars have explored the intersection in early modern Europe between the ideological significance of prodigies, their perceived prophetic significance, and their perceived provenance. William Burns, for example, examines the discourse around prodigies in seventeenth- and eighteenth-century England. Burns describes a situation in which members of numerous political and religious factions put forward interpretations of prodigies which supported their particular causes and reflected their various worldviews.[25] He argues that the struggle for control over the narrative about prodigies formed an important part of a wider struggle for political and religious authority.[26] Christopher Carter echoes Burns' assertion of the political and religious significance of prodigy-interpretation in seventeenth-century England. Carter additionally claims that the ambiguous nature of prodigies posed an ideological threat which extended across political and sectarian lines. He argues that a prodigy of supposed supernatural or divine origin was particularly likely to be seen as portentous and therefore indicative of the fragility of the status quo and threatening to political stability.[27] A natural prodigy, meanwhile, was indicative of a universe explicable without reference to God and thus threatening to

[22] William Lilly, *The starry messenger*, 10.
[23] Ibid., 111.
[24] Ibid., 117.
[25] Burns, *An age of wonders*, 12-3.
[26] Ibid., 4.
[27] Carter, "A constant prodigy", 266.

Christianity.[28] According to Carter, many early modern commentators and natural philosophers searched for a middle ground between these ideas in order to curb the disruptive potential of both.[29]

The controversy may also have had a class element. Katharine Park and Lorraine Daston investigate the interaction between the evolution of the prodigy tradition, specifically beliefs about "monsters" or prodigious births, and the rise of the middle class in early modern Europe. They argue that the middle and upper classes in sixteenth- and seventeenth-century England and France deliberately differentiated their discourse on the meaning of prodigious births from that of the lower classes.[30] The historiography on the subject therefore indicates that early modern European society was divided along various lines, and for various reasons, on the provenance and significance of prodigies. Furthermore, Carter argues that there was no neutral or default position on the meaning of unusual events in early modern England. All had ideological implications.[31]

The relevance of prodigy interpretation to wider political, religious and social issues is therefore well established. Given the apparently inescapable significance of beliefs relating to prodigies, it is worth investigating the distribution of these beliefs in early modern European societies, and many scholars have done so. Ottavia Niccoli argues that 1520s Italy saw prophecy in general, including prophecy from prodigies, lose relevance rapidly as the elite drew away from the "folklore" of low culture.[32] She notes, however, that various prophetic

[28] Ibid., 269.
[29] Ibid.
[30] Katharine Park and Lorraine Daston, "Unnatural conceptions: the study of monsters in sixteenth- and seventeenth-century France and England", *Past and Present*, no. 92 (Aug 1981), 39-40.
[31] Christopher Carter, "Meteors, prodigies and signs", 133.
[32] Ottavia Niccoli, *Prophecy and people in Renaissance Italy* (Princeton: Princeton University Press, 1990), 193.

practices persisted among the lower classes for decades after this.[33] A similar sequence of events appears to have occurred in England in the following century with regard to prodigies. In a study of sixteenth-century England, Carter argues that various beliefs about prodigies were extant, but that no general belief was associated with any one demographic, and ostensibly incompatible interpretations of prodigies could be offered simultaneously.[34] Park and Daston, in their study of prodigious births (or "monsters"), argue that this situation changed between the later sixteenth century and the early eighteenth century. Park and Daston identify prodigious births as a point of class differentiation partly because they see the middle- and upper-class understanding of prodigies steadily diverging from that of the lower classes during this period. In their account, certain unusual events were naturalised in the eyes of the former, while they remained supernatural in the eyes of the latter.[35] Burns concludes that, from the late seventeenth century onward, belief in the existence and significance of prodigies was increasingly identified with the lower classes in England.[36] Collectively, these historians describe a repeating sequence of events through which the elite of a society shifted from a supernatural or mixed to a primarily natural interpretation of certain phenomena, while lower-class beliefs underwent little change. By Burns' reckoning, mid-seventeenth-century England was at the beginning of this process with regard to prodigies in general.

The process was a complicated one. Burns and Carter point out that, in early modern England, insistence on the portentous significance of prodigies was often a response to political failure, one employed by various factions.[37] Carter points out that the fear of

[33] Ibid., 193-4.
[34] Carter, "Meteors, prodigies and signs".
[35] Park and Daston, "Unnatural conceptions", 54.
[36] Burns, *An age of wonders*, 185.
[37] Ibid., 20.
Carter, "A constant prodigy", 266.

encouraging atheism prevented many members of the English elite from wholly accepting the naturalisation of prodigies even in the late seventeenth century.[38] In the sixteenth century, Martin Luther was already stressing the significance of prodigies as supernatural manifestations of divine judgement.[39] The practice of encouraging belief in the supernatural for religious reasons persisted throughout the seventeenth century. By the end of the century, the idea of a uniformly self-regulating universe was considered sufficiently dangerous that at least one English writer tried to combat it by publishing an account of an encounter with fairies.[40] The ideological significance of prodigies and their provenance therefore affected the way they were understood and discussed. Nevertheless, both Carter and Burns posit an overall shift toward a belief in the natural origin of prodigies within the English elite over the course of the seventeenth century.

In addition, several scholars have pointed out that the perceived portentous significance of prodigies was not entirely dependent on their perceived provenance. Keith Thomas argues that late-seventeenth-century observers continued to see comets as portentous even after most had accepted their proposed natural causes.[41] Geneva argues that the recognition of parhelia as portents depended on an implicit belief that they were unnatural, but she also states that "natural explanation often accompanied prognostication" in the seventeenth century.[42]

The association between prodigies, prophecy and astrology was similarly hazy. Geneva argues that it stemmed partly from the tendency of past societies to link both extraordinary events and the movements of the celestial bodies to human affairs.[43] Niccoli describes a

[38] Carter, "A constant prodigy", 269.
[39] Park and Daston, "Unnatural conceptions", 26.
[40] Moses Pitt, *An account of one Ann Jefferies* (London: Richard Cumberland, 1696).
[41] Thomas, *Religion and the decline of magic*, 106.
[42] Geneva, *Astrology and the seventeenth-century mind*, 117.
[43] Ibid., 75.

similar overlap in sixteenth-century Italy between astrology and "prophetic culture".[44] She argues that the lower classes saw the many non-astrological strands of the contemporary prodigy tradition as a single entity separate from astrology.[45] She further argues that astrology and "prophetic culture" tended to deal with the same events, and that prophecy could eclipse astrology in the eyes of the populace as a result.[46] The two traditions, while separate, therefore occupied roughly the same space in the common imagination. Alexandra Walsham, meanwhile, describes astrology as one of many prophetic traditions which fed into the prodigy tradition in early modern England.[47] The connection between prodigies and astrology in the early modern period is therefore widely recognised, but it appears to have resulted primarily from proximity, rather than from any intrinsic conceptual link.

A mid-seventeenth-century English clergyman asking an astrologer to reveal the prophetic meaning of a prodigy is therefore unsurprising, but even at the time, it was not routine. Geneva has investigated the prodigy reports sent to Lilly and offered a rationale for their existence. Given the complexity and significance of contemporary discourse on the topic of prodigies, I believe it is worthwhile expanding on Geneva's conclusion. In particular, given the complicated class and ideological significance of beliefs about prodigies, I believe the way astrologers' correspondents themselves interpreted and presented these events should be further investigated. The contribution astrologers' correspondents made, consciously or otherwise, to the political (as opposed to the scientific) discourse around prodigies could also be revisited, given the unique political significance of these phenomena at the time. I will draw conclusions from accounts of a variety of phenomena, including earthquakes and strange tides.

[44] Niccoli, *Prophecy and people in Renaissance Italy*, 140.
[45] Ibid.
[46] Ibid, 166.
[47] Walsham, *Providence in Early Modern England*, 174-5.

The prodigy reports

Geneva based her analysis of early modern English astrology on prodigy reports sent to Lilly and Ashmole and preserved with the Ashmolean Manuscripts in the Bodleian Library. These manuscripts include Ashmole's own correspondence as well as the various collections of private papers acquired by Ashmole during his lifetime.

The Ashmolean Manuscripts contain numerous prodigy reports sent to English astrologers during the seventeenth century. Many were sent by non-astrologers or amateur astrologers, and many of the senders were unknown to the astrologer to whom they were writing. Almost all of the reports written by strangers were addressed to Lilly. So were the majority of the reports overall, and of the small number of reports written to Ashmole, more than one contained a request that Ashmole notify Lilly of its contents.[48] The only report addressed to neither Lilly nor Ashmole is undated, and the addressee is no longer known. However, the report appears in a collection which includes the correspondence of two prominent seventeenth-century British astrologers, both named Richard Napier, and of the primarily sixteenth-century astrologer Simon Forman. This particular report was written in response to a request sent by the recipient through a mutual friend.[49] If it was written to either Forman or the older Napier, the document pre-dates the beginning of Lilly's astrological career, suggesting that Lilly was not the first English astrologer to receive prodigy reports from the general public. He may have been continuing an established tradition.

[48] Ms. Ashmole 242, f. 129.
Geneva, *Astrology and the seventeenth century mind*, 93.
[49] Ms. Ashmole 174, f. 157.

Nevertheless, it is significant that the prodigy reports written by the public were largely sent to or centred on Lilly. Along with correspondence addressed to himself, Lilly, Forman and the Napiers, Ashmole preserved the correspondence of John Booker, one of the most prominent mid-seventeenth-century astrologers after Lilly.[50] The focus of the prodigy reports therefore suggests that Lilly in his time was unusually, if not uniquely, closely associated with prodigies in the eyes of the English public. Lilly may simply have considered prodigy reports worth preserving where Booker did not, but even if this was the case, it reflects Lilly's focus on and successful use of prodigies in his printed works. As a result, Lilly's own career and public image likely influenced the content of the prodigy reports.

The reports themselves may only represent the opinions of a subset of the public, however, because the reporters seem to share a number of demographic characteristics. All reporters who gave their full names appear to have been men. The available autobiographical information suggests that, as a group, these correspondents possessed a relatively high degree of education and social status. Gregory King, for example, was a statistician and member of the College of Arms.[51] King is still recognised today for his demographic work.[52] Robert Sterrell was a clergyman, as was Lilly's anonymous correspondent, and Robert Wittie was a physician and future Honorary Fellow of the College of Physicians.[53] Wittie was also a

[50] Harry Rusche, "Merlini Anglici: astrology and propaganda from 1644 to 1651", *The English Historical Review* 80, no. 315 (Apr. 1965), 322-33.
[51] Julian Hoppit, "King, Gregory (1648–1712), herald and political economist", *Oxford Dictionary of National Biography*, 23 September 2004, accessed 6 October 2021, https://www-oxforddnb-com.ezproxy.sl.nsw.gov.au/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-15563.
Josten, *Elias Ashmole* 1855.
[52] Adam Smyth, *Autobiography in early modern England* (Cambridge: Cambridge University Press, 2010), 81.
[53] Josten, *Elias Ashmole*, 693n.
William Henry Black, *A descriptive, analytical and critical catalogue* (Oxford: Oxford University Press, 1845), 333.
J.A.R. Bickford and M.E. Bickford, "Wittie [Witty], Robert (bap. 1613, d. 1684), physician", *Oxford Dictionary of National Biography*, 23 September 2004, accessed 6 October 2021, https://www-oxforddnb-com.ezproxy.sl.nsw.gov.au/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-53735.

contributor to the Royal Society's *Philosophical Transactions*.[54] The reporters therefore constitute a subsection of their society with often privileged access to various forms of knowledge and personal authority.

Furthermore, most of these correspondents appear to have had a strong, if not a professional, interest in astrology. Although Lilly did receive reports from strangers, many reporters were acquainted with their correspondent personally. Gregory King, who wrote a prodigy report to Ashmole, had worked as a secretary for Ashmole's father-in-law, and Lilly's anonymous correspondent claimed to be Lilly's neighbour.[55] Numerous reports also testify to their writers' knowledge of astrology or astronomy. Richard Morris, in a letter reporting a comet, describes the comet's motion by giving its location relative to various constellations.[56] Richard Williamson similarly references Aries in an account of a parhelion.[57] Various other reporters locate celestial phenomena by calculating their distance in degrees from either the horizon or each other.[58] Lilly's correspondent Michael Harword details a series of his own recent misfortunes with the comment that they could have been predicted using the rules set out in Lilly's *Christian Astrology*, which suggests that he may have been one of Lilly's students.[59] Wittie goes further, sending Lilly a report accompanied by an astrological figure drawn up by himself.[60] From his letter it is evident that Wittie used astrology in his medical

[54] "A discourse of Dr R. Wittie, relating to the notes of Dr. Foot in numb. 52. and to those of Dr. Highmore in numb. 56. of these tracts; concerning mineral waters, and extracts made out of them: communicated to the publisher, by way of letter", *Philosophical Transactions of the Royal Society of London* 5, no. 60 (Jan 1670), 1074-82.
[55] Smyth, *Autobiography in early modern England*, 81.
Ms. Ashmole 423, ff. 154-6.
[56] Ms. Ashmole 423, ff. 244-5.
[57] Ms. Ashmole 423, f. 200.
[58] Ms. Ashmole 423, f. 132.
Ms. Ashmole 243, f. 394.
Ms. Ashmole 174, f. 157.
Ms. Ashmole 423, f. 134
[59] Ms. Ashmole 423, f. 132.
[60] Ms. Ashmole 423, f. 197.

practice, as was common at the time.[61] He also later published an astronomical tract.[62] As well as social cachet, therefore, many of the reporters had an unusually close association with astrology and astrologers.

Knowledge exchange and credibility in the prodigy reports

With this in mind, it is interesting to note the preoccupation with corroborating witness testimony which is evident in many of the prodigy reports. This preoccupation is particularly evident in the parhelion report sent to Lilly in 1649. Lilly's anonymous correspondent mentions in the letter that he pointed the parhelion out to his servant, and this detail is not incidental. He states explicitly that he did so "that theire might be 2 witnesses" to the apparition.[63]

Lilly's anonymous correspondent is one of only two reporters who deliberately recruited second or third witnesses to verify their accounts. Nevertheless, many of the prodigy reporters clearly state that they are describing widely observed events. Harword, for example, mentions in a report informing Lilly of a parhelion that the sight was seen by "thousands of people", and a number of correspondents use some variation of this formula.[64] A letter to Lilly signed simply "Domville" states that the writer's brother "was an eyewitness with many others" to another parhelion.[65] Arthur Clowes likewise notifies Lilly of a comet "seen of very many", while Thomas Dey tells Lilly that Norwich has experienced an earthquake "to the

[61] Ibid.
[62] J. A. R. Bickford and M. E. Bickford, "Wittie [Witty], Robert (bap. 1613, d. 1684), physician".
[63] Ms. Ashmole 423, ff. 154-6.
[64] Ms. Ashmole 423, f. 132.
[65] Ms. Ashmole 174, f. 485.

amazement of many people", and Wittie states that he "with many others" has observed a parhelion.[66]

Multiple eyewitnesses were referenced less emphatically in other reports. William Gibbons sent a letter to Lilly reporting an instance of paraselenae, or mock moons. His report makes no mention of multiple witnesses except to state that "we" observed the phenomenon.[67] The anonymous author of a detailed parhelion report from Cheshire uses the same formula.[68] King and Sterrell both wrote parhelion reports to Ashmole which incidentally mentioned corroborating witnesses but did not explicitly refer to their role *as* witnesses.[69] Furthermore, neither Williamson's report nor that of Morris makes any mention of corroborating witnesses at all, perhaps because neither reporter could vouch for any.[70] The references to multiple eyewitnesses in the prodigy reports, although frequent, are neither universal nor necessarily significant.

However, several reports do contain unusually pointed references to the presence of multiple witnesses. A month after he sent the earthquake report, for example, Dey sent Lilly an account of an aerial apparition. In this report, Dey carefully explains that he has collected and condensed the (sometimes contradictory) observations of various eyewitnesses to the event because he himself did not see it.[71] Christopher Sawtell is even more emphatic. Sawtell sent Lilly a report of an extraordinary tide with the explanation that it had been misrepresented in

[66] Ms. Ashmole 423, f. 134.
Ms. Ashmole 423, f. 212.
Ms. Ashmole 423, f. 197.
[67] Ms. Ashmole 423, ff. 225-6.
[68] Ms. Ashmole 423, f. 151.
[69] Ms. Ashmole 243, f. 394.
Ms. Ashmole 242, f. 129.
[70] Ms. Ashmole 423, ff. 244-5.
Ms. Ashmole 423, f. 200.
[71] Ms. Ashmole 423, f. 214.

two London newspapers, apparently because the original account was considered too outlandish. Sawtell claims to suspect that Lilly himself does not believe him, as Lilly has not replied to his previous letter. In recounting this, Sawtell states that he can summon "a Clowde...of witnesses" to the event if necessary, and he argues that "it seems an absurdity, in the least to doubt the truth" of the event, as it was "carefully observed by so many".[72] The anonymous clergyman, of course, deliberately ensured for the sake of credibility that he would have a fellow witness to the phenomenon he describes. In addition, he mentions that he saw "men at plowgh and in the feildes stareing up, belike takeing notice of it too".[73]

John Stead, the author of the report preserved with Napier's papers, made a similarly purposeful effort to gather multiple eyewitnesses. Specifically, he states that he "called Kirkard yates & John Stephens out of their beds" to bear witness with him to an aerial apparition.[74] Stead's letter is particularly interesting because it is a response to a direct request for information, and the letter containing the request has been preserved with it. In this letter, addressed to John Read, the writer appears to ask that Stead send his own eyewitness account along with any "testimonies" he can provide.[75] Most of the prodigy reports preserved with the Ashmolean Manuscripts seem to have been sent spontaneously, but the letter to Read suggests that reporters were following an accepted or even an expected formula when they cited multiple witnesses. This, along with the apparent practice of invoking multiple witnesses to bolster the credibility of potentially dubious reports, strongly indicates that the more succinct references present in the majority of the prodigy reports were both deliberate and significant.

[72] Ms. Ashmole 423, f. 250.
[73] Ms. Ashmole 423, ff. 154-6.
[74] Ms. Ashmole 174, f. 157.
[75] Ibid.

Furthermore, multiplicity of witnesses was not the only detail that reporters took care to mention. Domville and Sawtell also reference their eyewitnesses' personal qualities, professions, status, and sincerity, ostensibly to highlight the competence of these eyewitnesses to provide reliable testimony. Again, Sawtell is more emphatic. His insistence on the credibility of his account is based not only on the number of eyewitnesses to the event but on the fact that they included "the chiefest Mariners, Merchants, and other Gentlemen", among others.[76] Domville simply claims that his brother, whose eyewitness account he is passing along, is "in veritate though non arte magister".[77] Sawtell had reason to doubt that Lilly would credit his account, and his description of his fellow-witnesses is explicitly intended to prove the account's veracity. Domville, like Dey, was reporting an event at which he had not personally been present, and he may have been similarly anxious to compensate for his lack of first-hand knowledge. Both Domville and Sawtell clearly believed that the credibility of their accounts hinged at least partly on the personal qualities, as well as the number, of witnesses to the events they were reporting.

The prodigy reporters' pointed attention to eyewitness numbers and competence is not anomalous. It largely accords with both the treatment of prodigies in early modern Europe and the broader contemporary understanding of evidence and credibility. References to multiple witnesses were commonly included in early modern reports of anything which might be considered incredible.[78] These references also routinely appeared in early modern printed accounts of prodigies.[79] Barbara Shapiro has studied the processes used to establish truth in early modern England, and she points out that, by the seventeenth century, the verification of

[76] Ms. Ashmole 423, f. 250.
[77] Ms. Ashmole 174, f. 485.
[78] Anon., *Most fearefull and strange newes* (London: John Thomas, 1641).
Pitt, *An account of one Ann Jefferies*.
[79] Barbara J. Shapiro, *A culture of fact: England, 1550-1720* (Ithaca: Cornell University Press, 2000), 99.

reports by reference to credible witnesses "had become a practice common to all the discourses of fact".[80] She especially notes the ubiquity of the practice in news reports, specifically in reports of outlandish events.[81] An example can be seen in a 1641 pamphlet recounting a case of demonic possession. The pamphlet references the "divers credible witnesses" to the event and lists their names on the title page.[82] The use and perceived importance of eyewitnesses in the verification of outlandish events extended into many areas of early modern life.

The extent to which this understanding of eyewitness testimony, and its association with prodigies, had infiltrated the consciousness of early modern England is demonstrated by a note written in a 1647 almanac belonging to the baroness Isabella Twysden. The almanac was a "blank", meaning that it contained blank pages opposite its monthly prognostications on which its owner could write notes.[83] It was one of several late-1640s almanacs in which Twysden recorded the events of the English Civil Wars and of her own life.[84] In January 1648, she saw an extraordinary light in the sky and recounted the event in her almanac. She further noted that the apparition had been witnessed by many people, "among which my selfe was one".[85] Adam Smyth has studied Twysden's annotated almanac, and he points out that Twysden's note highlights both her own first-hand knowledge of the event and the presence of other witnesses.[86] Smyth further states that Twysden frequently recorded extraordinary events, "particularly in the sky", that she was interested in their prophetic significance, and that she endeavoured to "establish a sense of truthfulness" in these records.[87] A later note in

[80] Ibid., 100.
[81] Ibid., 99-100.
[82] Anon., *Most fearefull and strange newes*.
[83] Smyth, *Autobiography in early modern England*, 19.
[84] Ibid., 43.
[85] Ibid., 48.
[86] Ibid.
[87] Ibid.

the same almanac, for example, states that Twysden was told "for certain" that a deadly fight had occurred between two large flocks, "like 2 great armyes", of birds in Durham.[88]

The brief records written in almanacs could be used as the bases for later, more polished memoirs, and Twysden's notes were later published.[89] However, they appear to have remained unpublished during her lifetime, and they may or may not have been intended for public consumption.[90] Almanac annotation was very common, but most annotated almanacs were meant to serve as private records.[91] It is therefore unlikely that Twysden's notes were intended to persuade a reader of their authenticity, or to form the basis of a judgement, in the manner of a pamphlet or a letter. Nevertheless, Twysden's notes resemble both letters and pamphlets in their preoccupation with veracity and their use of the eyewitness and multiple witness tropes to establish it. From the prevalence and uniformity of these tropes across public and private documents, it would appear that the prodigy reporters' emphasis on multiple witnesses is independent of the context of the reports.

However, the same tropes are conspicuously absent from certain closely related documents. Most notably, astrologers reporting remarkable events to their peers placed far less emphasis on the number and competence of eyewitnesses than did laypeople writing to astrologers. Although astrologers do mention additional witnesses to the events that they relate, they present these witnesses primarily as sources of detail which they have been unable to observe firsthand, not as a means of validating their own eyewitness accounts. Lilly, for example, sent

[88] F. W. Bennitt, "The diary of Isabella, wife of Sir Roger Twysden, baronet, of Royden Hall, East Peckham, 1645-1651", *Archeaologia Cantiana* 51 (1939), 123.
[89] Smyth, *Autobiography in early modern England*, 34-6.
[90] Bennitt, "The diary of Isabella", 113.
[91] Bernard Capp, *Astrology and the Popular Press: English Almanacs 1500-1800* (London: Faber and Faber, 1979), 61.
Smyth, *Autobiography in early modern England*, 19.

Ashmole an account of a "blazing star" and a "fixed star with a tail", both of which appeared in December 1664. Lilly writes that the second star appeared on the 24th, but that "I first had sight of it" on the 26th, and he gives a second-hand account of its initial appearance in the sky.[92] From the 26th onward, however, he relays his own observations exclusively, with no mention made of either additional eyewitnesses or corroborating testimony.[93] Furthermore, Lilly appears to have gone out of his way to stress the ignorance of the other witnesses to the event. He tells Ashmole that they attributed the sight of the first star to "the singeing of a hog at some distance" until Lilly's wife Ruth enlightened them.[94] The astronomer and astrologer Jeremy Shakerley takes a similar tone in a letter to Lilly reporting a parhelion. Shakerley describes the "fearful expectations" and "distracted cogitations" of those who saw the apparition but did not understand it.[95] Lilly does add in his letter that he has obtained further information about the event from "some more judicious".[96] Nevertheless, this approach to witness credibility contrasts starkly with that of reporters like Domville and Sawtell.

It is worth noting that Ashmole was Lilly's patron and Shakerley was attempting to obtain Lilly's patronage, and that both Lilly and Shakerley depict themselves working to remedy their reporters' ignorance.[97] Both therefore had a potential motive to emphasise this ignorance. Nevertheless, they exhibit very little concern for the possibility that their testimony might be dismissed as unreliable, even testimony obtained second-hand from uncomprehending witnesses.

[92] Josten, *Elias Ashmole*, 995.
[93] Ibid.
[94] Ibid.
[95] Ms. Ashmole 423, f. 115.
[96] Ms. Ashmole 423, f. 248.
[97] William Lilly, *The Last of the Astrologers* (Great Britain: The Scolar Press Limited, 1974), x. Geneva, *Astrology and the seventeenth century mind*, 70.

This may simply have reflected their comparative personal authority. There is ample evidence for the relevance of personal credibility to knowledge-making in the seventeenth century, in England as elsewhere.[98] However, the method by which this credibility was established is not entirely clear.[99] Steven Shapin argues that trust in early modern England was predicated largely on social status, specifically gentility.[100] Shapiro qualifies this assertion, arguing that, in practice, social status was one of a number of criteria used to determine credibility, and that these criteria were drawn primarily from the English legal system.[101] However, both Shapin and Shapiro stress the importance of trust in the creation of knowledge.

Shapin also references a "binary credibility-testing scheme", evident in but certainly not exclusive to early modern England, by which the probability of a claim is inferred from the claimant's reliability as well as the claim's plausibility.[102] This idea may shed some light on the treatment of witness testimony in the prodigy letters. Lilly and Shakerley might have been cavalier about witness reliability because they considered their personal credibility sufficient to outweigh any doubts about the likelihood of their accounts. They could have held this belief for several reasons. Firstly, both Lilly and Shakerley were personally acquainted with the recipient of their report. Shakerley was a repeat correspondent of Lilly's, and by 1664 Lilly had known Ashmole for more than a decade.[103] The connection between character and credibility in early modern England, and in general, may have given them an advantage over a strange reporter simply because their correspondents had some basis for an assessment of

[98] Shapiro, *A culture of fact*, 16-7.
[99] Ibid.
[100] Steven Shapin, *A social history of truth: civility and science in seventeenth-century England* (Chicago: The University of Chicago Press, 1994).
[101] Shapiro, *A culture of fact*.
[102] Shapin, *A social history of truth*, 22.
[103] Josten, *Elias Ashmole*, 496-7.

their character. Secondly, both could claim expert knowledge in a field which they and their correspondents clearly considered relevant to the interpretation of prodigies. Expertise in early modern England did not carry the weight that it currently does in the establishment of truth, but a manifest wealth of knowledge supposedly rendered a person more credible.[104]

The third possibility is closely related to the first two. Lilly and Shakerley may have counted for their credibility on their membership of a community of professional astrological practitioners. Even their lay correspondents with a high level of astrological expertise most likely did not have this advantage. Lilly's astrological evangelism was shared by a number of seventeenth-century English astrologers, including Nicholas Culpeper and John Partridge, but it was not universal. Ashmole, for example, stated in 1652 that astrological knowledge should be safeguarded because "the depth this *Art* lies obscured in, is not to be reached by every vulgar *Plumet* that attempts to sound it".[105] He also referred to one travelling astrological practitioner as "a whelp of Lillie", expressing his disapproval of those who had learned the discipline from Lilly's *Christian Astrology*.[106] Their comments highlight the tension caused within the seventeenth-century English astrological community by the sudden accessibility of astrological knowledge. A new astrologer could be seen as a rival by more established practitioners.[107]

This attitude reflected an impulse toward professionalisation evident in various disciplines throughout early modern Europe. The trend is particularly well-documented in medicine, with a number of medical bodies staking their intellectual territory in the courts over the

[104] Shapiro, *A culture of fact*, 17.
[105] Elias Ashmole, *Theatrum Chemicum Britannicum* (London: J. Grismond, 1652), 453.
[106] Rachel S. Lustiger, "To the great scandal of that heaven born science: astrology confronts the New Science, 1640–1740" (PhD diss., Arizona State University, 2000), 88.
[107] Ibid.

course of the seventeenth century.[108] Geneva detects "aspirations to professionalism" within the astrological community as well, and Lustiger argues that seventeenth-century English astrologers responded to the decline in their discipline's intellectual status by emphasising its difficulty.[109] In this situation, it seems unlikely that an interest in astrology alone was sufficient to secure anyone recognition as an astrologer. The relative emphasis on witness testimony in the prodigy reports written by laypeople, even laypeople with a strong interest in astrology, may therefore result from an awareness of their position outside a professional or quasi-professional group.

Prodigies in the *Philosophical Transactions*

There is, however, another context in which references to witness numbers and reliability were noticeably rare. The *Philosophical Transactions* published several reports of parhelia in the seventeenth century.[110] Only one of these reports contains any mention of witness numbers, and that is an apology for the correspondent's inability to provide corroborating testimony. The correspondent, Stephen Gray, nevertheless insists that "you may be certain...I have not deceived my self or you".[111] Several reports of comet sightings were also printed or reprinted in the *Transactions* in the seventeenth century. These reports seem to have tracked the probable progress of the comets by compiling the observations of various eyewitnesses in

[108] William Eamon, *The Professor of Secrets: Mystery, Medicine and Alchemy in Renaissance Italy* (Washington: National Geographic, 2010), 48-9.
[109] Geneva, *Astrology and the Seventeenth Century Mind*, 11.
Lustiger, "To the great scandal of that heaven born science", 92.
[110] Edward Brown, "An extract of a letter written by Dr. Edward Brown from Vienna in Austria March 3. 1669. concerning two parhelia's or mocksuns, lately seen in Hungary", *Philosophical Transactions of the Royal Society of London* 4, no. 47 (Jan 1669), 953.
Stephen Gray, "An observation of some parelii seen at Canterbury", *Philosophical Transactions of the Royal Society of London* 21, no. 251 (Jan 1699), 126-7.
"An account of four suns, which very lately appear'd in France, and of two raine-bows, unusually posited, seen in the same kingdom, somewhat longer agoe", *Philosophical Transactions of the Royal Society of London* 1, no. 13 (May 1667), 219-222.
[111] Gray, "An observation of some parelii seen at Canterbury", 127.

various places. Due to the necessarily composite nature of the reports, it is difficult to tell whether their authors considered witness numbers significant. However, although they sometimes lament their lack of data, they generally make no assessment of the reliability of their eyewitnesses.[112] This suggests that the contributors to the *Philosophical Transactions* viewed comets in much the same way that they viewed parhelia.

The letters published in the *Philosophical Transactions*, like the letters to astrologers, represent a medium through which lay correspondents could report relevant experiences to an in-group. In both cases, there was a possibility that the contents of the letters would be made public. Furthermore, both of these networks of correspondence appear to have been formed along Baconian lines. The Royal Society in particular was self-consciously Baconian, and in Bacon's philosophy, it was impossible to verify a report of an extraordinary event without gauging the reliability of the available eyewitness testimony.[113] The Royal Society did try to provide reliable eyewitness testimony as a matter of course.[114] Furthermore, Carter has hypothesised an even closer link between prodigy reports and the Royal Society. He believes that accounts of prodigies provided a template for the Royal Society's accounts of experiments because prodigies, like experiments, were unusual and unreliable occurrences which not everyone could witness firsthand.[115] The verification of both thus depended on "the quantity and quality of witnesses".[116] The scarcity of references to witness quantity or

[112] John Wallis, "An extract of two letters, written by Dr. Wallis to the publisher the 20th and 30th of January last, concerning a considerable meteor seen in many distant places of England at the same time", *Philosophical Transactions of the Royal Society of London* 12, no. 135 (Jan 1667), 863-6.
P. J. de Fontaney, "Observations of the comet of 1680. and 1681. made at the Colledg of Clermont, P. J. de Fontaney, è S. J. professor of Mathematicks. Printed at Paris 1681", *Philosophical Collections of the Royal Society of London* 4, no. 1 (Jan 1682), 106-13.
[113] Agassi, *The very idea of modern science*, 132.
Park and Daston, "Unnatural conceptions", 45.
[114] Shapiro, *A culture of fact*, 102.
[115] Carter, "A constant prodigy", 270.
[116] Ibid., 274.

quality in the parhelion and comet reports published in the *Philosophical Transactions* is therefore significant.

One explanation for this treatment of witness testimony is suggested by a quote from a book written in 1724 by Isaac Watts. Watts states that an account of "a mere Occurrence in Life, a plain, sensible Matter of Fact" can be taken on trust without any reference to the reliability of the witness.[117] An account of an improbable event must be more closely examined before it is believed.[118] Although this quote dates from the eighteenth century, it is essentially an expanded version of Shapin's "binary credibility-testing scheme", which was entirely applicable in seventeenth-century England. It is therefore possible that the Royal Society and its correspondents were unconcerned with the number or reliability of eyewitnesses to parhelia and comets because they did not consider those events extraordinary. The identities of the reporters of these events, and the number and quality of eyewitnesses that they could produce, might thus have been disregarded as unimportant.

The predominant attitude of the Royal Society and its correspondents toward parhelia, and toward prodigies in general, is hinted at further in a letter published in the 1667 *Philosophical Transactions*. The letter offers an explanation of the apparent causes of parhelia and haloes around the sun. The author mentions that parhelia and haloes "have been hitherto look't upon by many as Prodigies, and as Prognosticks of some singular event".[119] The implication is that the natural explanation can and should replace the supernatural explanation.

[117] Shapiro, *A culture of fact*, 193.
[118] Ibid.
[119] Hugens de Zulichem, "An account of the observations, made by the Philosophical Academy at Paris", *Philosophical Transactions of the Royal Society of London* 5, no. 60 (Jan 1670), 1066.

More than one commentator echoed this sentiment during the early modern period. Pierre Boaistuau in the sixteenth century and John Spencer in the seventeenth century both attempted to disprove the portentous significance of prodigies by explaining them in natural philosophical terms. Boaistuau laid out the supposed natural causes of phenomena like parhelia and aerial apparitions in a popular late-sixteenth-century book of prodigies.[120] A century later, in 1663, John Spencer published a discourse refuting the idea that prodigies could be portentous, also with reference to their natural causes.[121] Belief in the natural origins of parhelia and comets was certainly extant. Furthermore, the members of the Royal Society and their correspondents generally belonged to a demographic group which, at the time, was supposedly drawing away from the prodigy tradition.[122] A belief in the mundanity of parhelia and comets would have been unsurprising in the contributors to the *Philosophical Transactions*.

Under the circumstances, the emphasis on multiple witness testimony in the reports to astrologers perhaps requires more explanation. The evidence suggests that the prodigy reporters also belonged to the demographic group considered least likely to subscribe to the prodigy tradition in the late seventeenth century. It is important to note that the prodigy reports date, on average, from a slightly earlier time period than the accounts in the *Philosophical Transactions*. It is particularly significant that many of the prodigy reports were written before 1660, which is considered to be a turning point in the early modern English understanding of phenomena considered prodigious.[123] However, the debate over the

[120] Boaistuau, *Certaine secrete wonders of nature*.
[121] Spencer, *A discourse concerning prodigies*.
[122] Agassi, *The very idea of modern science*, 130.
[123] Burns, *An age of wonders*, 185.

provenance of prodigies, including parhelia and comets, appears to have been present in England from at least the sixteenth century onward.[124]

Furthermore, there is overlap between the timing of the reports to astrologers and the timing of the reports to the *Philosophical Transactions*. Some overlap also existed between the members of the Royal Society and those of the professional astrological community, as well as their respective correspondents. Ashmole, for example, was a founding member of the Royal Society. Although not a professional astrologer, he was a key figure in the seventeenth-century English astrological community.[125] Wittie was a contributor to the *Philosophical Transactions* as well as a correspondent of Lilly's. The sharp contrast between the prodigy reporters' treatment of witness testimony and that of the *Philosophical Transactions* is therefore somewhat surprising.

Lilly's rhetoric and the perception of prodigies

A comment in Wittie's letter to Lilly hints at a possible explanation. Wittie says of parhelia that "I know what cause in Nature might be assigned thereto, but I do not believe such effect always succeeds such cause, but yet in apparitions of this nature there is digitus dei extra ordinem natura" ("the finger of God out of the usual course of nature".[126] He also makes flattering reference to Lilly's supposed resuscitation of English astrology, citing Lilly's work in "repairing the almost decayed ruins" of the discipline.[127]

[124] Boaistuau, *Certaine secrete wonders of nature*.
[125] Curry, *Prophecy and power*, 35.
[126] Ms. Ashmole 423, f. 197.
[127] Ibid.

Lilly pushed both of these narratives even in his early publications. His 1647 *Christian Astrology*, for example, credits his patron Bulstrode Whitelocke with "the Restauration of Astrologie" because Whitelocke has supported Lilly's astrological writing.[128] Lilly also claims that he has "made more scholars in this profession, than all that profess this art in England".[129] Furthermore, his 1645 *Starry messenger* argues strenuously for the supernatural origin of parhelia. Though he acknowledges their hypothesised natural causes, Lilly disagrees with these hypotheses, and he concludes that parhelia are "caused by those tutelary angels, who…have the government of the *English* Commonwealth".[130] Wittie's comment on the plight of English astrology before Lilly's intercession is an echo of Lilly's own, and his comment on the supernatural origin of parhelia is a diluted version of an argument which Lilly pointedly made in print. Wittie simply stated that parhelia were supernatural, while Lilly insisted that they could not possibly be of natural origin; there was "no cause in Nature to induce a belief that the three Suns were occasioned from Nature".[131]

Wittie's comments may reflect his actual beliefs, or they may simply be the sentiments which he believed Lilly would appreciate. The discrepancy between Wittie's argument and Lilly's would suggests that it was the former. However, the similarity between these arguments indicates that Lilly's stated opinion on the issue heavily influenced Wittie's conclusion. If this is the case, Lilly's published comments shaped a belief genuinely held by at least one of his correspondents.

[128] Lilly, *Christian Astrology*, "To his most learned and vertuous friend".
[129] Ibid., "To the reader".
[130] Lilly, *The starry messenger*, 11.
[131] Ibid.

Furthermore, Wittie was one of many correspondents who echoed Lilly on the subject of Lilly's own contribution to astrology.[132] The scholar Abraham Wheelock, for example, wrote to Lilly that the world should "acknowledge you, who have made the advent to the superior world, more facile than all that have gone before you".[133] The frequent repetition of these ideas in Lilly's correspondence is unsurprising. Flattery appears to have been endemic in letters of this period, particularly letters in which the writer requested a favour or an introduction, as many of Lilly's correspondents did.[134] Additionally, although Lilly may have exaggerated the plight of early seventeenth-century English astrology, he did significantly increase the popularity and accessibility of the discipline. Some of his correspondents would have known this from personal experience, having learned or attempted to learn astrology from Lilly's publications. The emphasis by his correspondents on Lilly's contribution to English astrology was therefore both accurate and appropriate to the genre. Nevertheless, it is significant. Along with Wittie's letter, it suggests a widespread awareness of Lilly's position on issues related to his discipline, and a general engagement with those issues which was coloured by Lilly's rhetoric.

With this in mind, it is interesting to note that Lilly's argument for the supernatural origin of the parhelia recounted in *The starry messenger* rested partly on the lack of an astrological rationale or other "natural" explanation for the incident.[135] Lilly explores the same question with regard to a different celestial apparition, probably a meteor shower, in his 1644 *Supernatural sights and apparitions seen in London*.[136] In the case of the meteor shower, he leaves the question unresolved, but he cites the same two possible causes – "natural"

[132] Catherine Blackledge, *The man who saw the future: a biography of William Lilly* (Watkins: 2015).
[133] Ms. Ashmole 423, f. 173.
[134] James Daybell, *The material letter in early modern England: manuscript letters and the culture and practices of letter-writing, 1512-1635* (London: Palgrave Macmillan, 2012), 70.
[135] Lilly, *The starry messenger*, 11.
[136] William Lilly, *Supernatural sights and apparitions, seen in London* (London: T.V., 1644), 6.

astrological causes and the intercession of angels.[137] This indicates that Lilly understood astrology as a natural philosophical practice, despite his lack of interest in reforming the discipline along natural philosophical lines. It also offers strong proof that Lilly conceived of celestial apparitions not as astrological phenomena, but as supernatural phenomena amenable, like everything else on Earth, to astrological interpretation.

Geneva and Thomas argue that the supposed provenance of prodigies and their supposed portentous significance were functionally unrelated, and both scholars offer proof of this theory. However, Spencer and Boaistuau both wrote as if the portentous significance of prodigies was dependent on their provenance. Furthermore, both Spencer and Boaistuau seem to have believed that they could sever the link between prodigies and astrology by explaining the natural causes of prodigies. Lilly, conversely, was very insistent on the supernatural provenance of certain prodigies, which suggests that there was a link between astrology and supernatural prodigies specifically, although it may simply reflect the propaganda value of the supernatural in general. Lilly's own rhetoric reinforces the impression that there was no intrinsic link between astrology and prodigies, whether natural or supernatural, but, as Geneva has pointed out, there does appear to have been a conventional link. In his publications, Lilly both utilised this link and reinforced it.

Conclusion

The place of prodigies in the early modern English worldview was contentious and multifaceted, as was their relationship to astrology and astrologers. However, the numerous prodigy reports sent to Lilly, one of the best-known astrologers of the time, highlight the link

[137] Ibid.

between prodigies and astrology which evidently existed in the public imagination. The link is further reinforced by the fact that requests for Lilly's opinion on apparently prodigious phenomena often came from correspondents better equipped than Lilly to explain those phenomena in natural philosophical terms. Even if his engagement with the prodigy tradition was unusually intense, Lilly was a very prominent figure in mid-seventeenth-century English astrological discourse, and his letters and publications likely reinforced the link between prodigies and astrology. I would argue that Lilly in particular and astrologers in general were consequently able to influence public opinion regarding the nature of prodigies, and to turn the perceived nature of prodigies to their own uses.

The content of the prodigy reports written to Lilly shows the effect of that influence. As a rule, the prodigy reports to astrologers preserved with the Ashmolean Manuscripts mention the presence of eyewitnesses where the reporter lacked either personal authority or familiarity with the astrologer who received the report. Where the reporter did not themselves witness the event, or where they had reason to suspect that their report would be dismissed as incredible, they pointedly drew attention to the presence of multiple eyewitnesses. Some reporters also stressed the competence and reliability of the eyewitnesses they invoked. The use of eyewitness testimony in the prodigy reports seems therefore to have followed a pattern consistent at the time with the communication of unexpected or unbelievable events. Lilly's insistence in his own publications on the unnatural provenance of prodigies such as parhelia, along with his correspondents' frequent deference to his authority, suggests that these correspondents' perception of prodigies as "unnatural" was prompted by Lilly's rhetoric. I would argue that it was a deliberate choice by which Lilly's correspondents signalled their alliance with Lilly and his worldview. The prodigy reporters also contributed to political discourse through Lilly and other astrologers, specifically through these astrologers'

published works in which they discussed and utilised prodigies. The nature of their contribution was dependent on the political views of the astrologer to whom they wrote.

The contrasting treatment of parhelia in the *Philosophical Transactions* suggests that the prodigy reporters might otherwise have taken an entirely different approach. Alternatively, it may hint that the Royal Society's approach to prodigies was affected by that of astrologers in general and Lilly in particular.

Chapter two: prodigies, astrology and the Royal Society

In 1661, a year after the restoration of Charles II to the English throne, a sensational tract appeared. The book, called *Mirabilis Annus*, catalogued the past year's prodigies, listed their precedents, and remarked on their ominous abundance.[1] The author or authors of the tract concluded that the proliferation of prodigies over the past year must signify the moral decline of England.[2] An Anglican minister called John Spencer then responded with a tract of his own. In *A discourse concerning prodigies*, Spencer disputed the interpretation of unusual events in *Mirabilis Annus* and ultimately denied the existence of prodigies altogether.[3] In doing so, he implicitly defended both Anglicanism and the recently reinstated monarchy. *Mirabilis Annus* was more overtly anti-Anglican than anti-Royalist, and nowhere did it criticise the government explicitly. However, its authors transparently dated the decadence of England to the time of the Restoration, and prodigies in the seventeenth century were closely associated with both Parliamentarianism and the rejection of the status quo.[4] Both *Mirabilis Annus* and the *Discourse concerning prodigies* therefore demonstrate the manner in which apparently irrelevant philosophical ideas could be enlisted in political disputes.[5]

Much like Boaistuau in the sixteenth century, Spencer in the *Discourse concerning prodigies* aimed to diminish the disruptive power of prodigies by explaining their causes in natural philosophical terms. This strategy seems to have been ineffective, because even prodigies

[1] Anon., *Mirabilis annus* (1661).
[2] Ibid., Preface.
[3] John Spencer, *A discourse concerning prodigies* (Cambridge: John Field, 1663).
[4] William E. Burns, "Our Lot Is Fallen into an Age of Wonders": John Spencer and the controversy over prodigies in the early Restoration", *Albion: A Quarterly Journal Concerned with British Studies* 27, no. 2 (1995), 239-40.
[5] Ibid.

with known natural causes could be portrayed as supernatural, as is apparent in Lilly's *Starry Messenger*. The phenomenon is also evident in relation to comets.[6] Spencer nevertheless expresses confidence in the efficacy of his strategy, claiming that "it is (especially) ignorance of their causes and ends which hath preferred some of these Natural Prodigies to so great a veneration".[7] His comments, like Lilly's, underscore his investment in the perceived nature of prodigies. Numerous other participants in the prodigy debate shared this preoccupation. Notable among these was the Royal Society as an institution.[8] Although Spencer himself was not a member of the society, he shared many of its aims. In particular, he advocated broadly for a natural philosophical approach to prodigy-interpretation.[9] Concerns similar to Spencer's guided the Royal Society's handling of phenomena commonly considered prodigious. I believe that these concerns are particularly apparent in the Royal Society's approach to eyewitness testimony.

In the astrological prodigy reports, the emphasis on reliable eyewitness testimony is noteworthy because it denotes a strategic choice made by Lilly and his epistolary network with regard to the interpretation of prodigies. The approach to eyewitness testimony in the *Philosophical Transactions* is equally revealing, if not more revealing, because members of the Royal Society explicitly and deliberately centred eyewitness testimony in their knowledge-making philosophy.[10] Furthermore, the Royal Society inherited its supposed reliance on eyewitness testimony from the early modern prodigy tradition, from which Lilly

[6] Ann Geneva, *Astrology and the seventeenth century mind: William Lilly and the language of the stars* (Manchester: Manchester University Press, 1995), 117.
[7] Spencer, *A discourse concerning prodigies*, 5.
[8] William E. Burns, *An age of wonders: prodigies, politics and providence in England, 1657-1727* (Manchester: Manchester University Press, 2002), 58.
[9] Ibid., 63.
[10] Steven Shapin and Simon Schaffer, *Leviathan and the air-pump: Hobbes, Boyle, and the experimental life* (Princeton: Princeton University Press, 1985), 56-9.

also drew much of his rhetoric.[11] The contrasting treatment of eyewitness testimony in these two discourses is therefore especially conspicuous.

From the variation in emphasis on witness reliability in seventeenth-century English documents, it is clear that there were multiple extant schools of thought on the issue. However, the Royal Society's own rhetoric and origins suggest that its approach to eyewitness testimony should have resembled Lilly's. The discrepancy is particularly striking because the articles in the *Philosophical Transactions* closely resemble Lilly's prodigy reports in almost every other respect. I would argue that the handling of eyewitness testimony in the *Philosophical Transactions* reflects the Royal Society's interest both in naturalising certain phenomena and in distancing itself from competing explanatory systems.

Scholarship on the Royal Society's use of eyewitness testimony

A large body of scholarship on the Royal Society already exists, and several scholars have investigated the Society's use of eyewitness testimony. Most conclude that it was crucially important to the Royal Society's practice. Shapin points out that the Society was attempting to build a comprehensive picture of reality, and that considerations of time and space necessitated the use of second-hand information as a consequence. [12] Eyewitness testimony was therefore central to the Society's activities despite its early members' emphasis on firsthand verification.[13] Shapin then details the extensive criteria by which this information

[11] Christopher Carter, "A constant prodigy? Empirical views of an unordinary nature", *The Seventeenth Century* 23, no. 2 (2008), 270.
Geneva, *Astrology and the seventeenth century mind*, 81.
[12] Steven Shapin, *A social history of truth: civility and science in seventeenth-century England* (Chicago: The University of Chicago Press, 1994), 202-3.
[13] Ibid.

was assessed.[14] Shapiro does likewise, and she points out that the importance of multiple reliable witnesses extended across many early modern "discourses of fact".[15] Peter Dear locates the origin of this phenomenon in the changing epistemology of early modern Europe. He states that the locus of scientific authority shifted during this period from ancient texts to demonstrably specific experiences, and that these and the resulting testimony underpinned the Royal Society's practice.[16] Shapin and Schaffer emphasise the importance of eyewitness testimony in the experimental reports written by founding Royal Society member Robert Boyle.[17] Joseph Agassi argues that Boyle's philosophy shaped the practice of the Royal Society.[18] Michael Hunter, conversely, argues that the Royal Society's philosophy shaped that of Boyle.[19] In either scenario, reliable eyewitness testimony was central to the Royal Society's work.

However, different scholars offer conflicting descriptions of the Royal Society's metric for reliability. Shapin argues that the primary markers of reliability in the early English scientific movement were gentility and its associated behaviours, while Shapiro posits a broad range of contributing factors poached from the English legal system.[20] Multiple historians refer to the Society's practice of assembling groups of its own members to witness experiments and then printing accounts of the experiments, sometimes with the names of those members attached.[21]

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[14] Ibid., 211-27.
[15] Barbara J. Shapiro, *A culture of fact: England, 1550-1720* (Ithaca: Cornell University Press, 2000).
[16] Peter Dear, "Totius in verba: rhetoric and authority in the early Royal Society", in *Rhetoric and the early Royal Society*, ed. Tina Skouen & Ryan J. Stark (Leiden: Brill, 2015), 51-76.
[17] Shapin and Schaffer, *Leviathan and the air-pump*, 59.
[18] Joseph Agassi, *The very idea of modern science: Francis Bacon and Robert Boyle* (Dordrecht: Springer, 2013), 132.
[19] Michael Hunter, "Robert Boyle and the early Royal Society: a reciprocal exchange in the making of Baconian science", *The British Journal for the History of Science* 40, no. 1 (2007), 1-23.
[20] Shapin, *A social history of truth*.
Shapiro, *A culture of fact*.
[21] Shapin and Schaffer, *Leviathan and the air-pump*, 57-8.
Dear, "Totius in verba", 156.
Shapiro, *A culture of fact*, 124.

Dear argues that exhaustive detail was one of the techniques used to strengthen the credibility of a report.[22] Shapin and Schaffer argue that Boyle aimed to create "virtual witnesses" to his experiments through his highly descriptive accounts.[23] Alan James Hogarth and Michael Whitmore pinpoint the literary techniques which allowed for this "virtual witnessing" and point out that they were not exclusive to Boyle.[24] Scholars have not yet clearly outlined the Society's method for assessing and advertising the reliability of second-hand information, but they have identified many of its constituent elements.

Boyle is the central figure in much of the historiography about the early Royal Society, and many of the abovementioned scholars focus on Boyle's ideology specifically. The historiography is undecided as to the nature and extent of Boyle's contribution to the Royal Society. Dwight Atkinson calls Boyle the "leading light" of the society and of Restoration science.[25] Agassi credits Boyle with creating the "society of amateurs" which Bacon had envisioned a century before, suggesting that Boyle may have been most significant as an organiser of amateur research.[26] Shapin, meanwhile, argues that Boyle's most important function was as an example for contemporary English natural philosophers to follow.[27] Michael Hunter, by contrast, argues that Boyle's centrality to the Royal Society was exaggerated during his own time and has been retrospectively overrated as a result.[28] Hunter likewise believes that Boyle's involvement with the society was too erratic and infrequent to justify the claims of his contemporaries.[29] Shapiro discusses Boyle's significance in the

[22] Dear, "Totius in verba", 66.
[23] Shapin and Schaffer, *Leviathan and the air-pump*, 62.
[24] Alan James Hogarth and Michael Whitmore, "Reflexive witnessing: Boyle, the Royal Society and scientific style", *Notes and Records: The Royal Society Journal of the History of Science* 74, no. 1 (2019), 131-48.
[25] Dwight Atkinson, *Scientific discourse in sociohistorical context: the Philosophical Transactions of the Royal Society of London, 1675-1975* (New York: Routledge, 1998), 17.
[26] Agassi, *The very idea of modern science*, 130.
[27] Shapin, *A social history of truth*.
[28] Hunter, "Robert Boyle and the early Royal Society", 2-3.
[29] Ibid.

development of "matter of fact" as a scientific concept in England, and she, too, finds that it has been overestimated.[30]

The disagreement between scholars pertains primarily to Boyle's level of influence on the society, not his ideological similarity to it, which is widely recognised. Most scholars posit at least a close agreement between Boyle's scientific philosophy and that of the society. Both Hunter and Agassi argue that Boyle was less committed, or less actively committed, to Baconianism than was the Royal Society as a whole.[31] Both nevertheless recognise a strong current of influence running between Boyle and the society, though they disagree as to its direction.[32] Shapiro, for example, supports her claim that Boyle exerted relatively little influence with the argument that Boyle used natural philosophical language much like that of his colleagues.[33] In this chapter I will draw conclusions about the Royal Society partly from Boyle's individual publications on the strength of Boyle's probable influence on and ideological resemblance to the Royal Society as a whole. I believe it is similarly possible to gauge the Royal Society's collective ideology, to the extent that it had one, from the context of a closely (though unofficially) associated publication, the *Philosophical Transactions*.

The *Philosophical Transactions*

The *Philosophical Transactions* were established in 1665. Although the journal was created at the behest of the Royal Society, it was the ostensible private project and sole financial

[30] Shapiro, *A culture of fact*, 116.
[31] Hunter, "Robert Boyle and the early Royal Society". 16.
Agassi, *The very idea of modern science*, 165.
[32] Hunter, "Robert Boyle and the early Royal Society", 1.
Agassi, *The very idea of modern science*, 132.
[33] Shapiro, *A culture of fact*, 117.

responsibility of the society's secretary, Henry Oldenburg.[34] Oldenburg acted as Royal Society secretary from 1662 to 1677.[35] By the time he was appointed to the position, he had already spent many years assiduously cultivating a network of contacts with scientific interests.[36] The *Philosophical Transactions* were founded partly in order to organise and publish the resulting correspondence.[37]

In its early years, therefore, the journal consisted largely of letters sent by Oldenburg's correspondents, which Oldenburg edited heavily and often translated into English for the press.[38] The society also received letters from those who knew it by reputation.[39] Like Oldenburg's correspondence, the letters sent to the Royal Society were numerous and miscellaneous. The Royal Society quickly gained prominence after its formation in 1660, and the *Philosophical Transactions* were synonymous with the institution.[40] Furthermore, seventeenth-century scientific theory generally favoured the inductive method. Particularly in its Royal Society incarnation, the inductive method demanded that research be conducted in the largest possible volume by anyone with the means to conduct it.[41] Boyle published guides to experimental observation and research which are thought to have further popularised this mentality.[42]

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[34] Atkinson, *Scientific discourse in sociohistorical context*, 20.
Julie McDougall-Waters, Noah Moxham and Eileen Fyfe, Philosophical Transactions*: 350 years of publishing at the Royal Society*, https://royalsociety.org/-/media/publishing350/publishing350-exhibition-catalogue.pdf, 8.
[35] Atkinson, *Scientific discourse in sociohistorical context*, 19-21.
[36] Iordan Avramov, "An Apprenticeship in Scientific Communication: The Early Correspondence of Henry Oldenburg (1656-63)", *Notes and Records of the Royal Society of London* 53, no. 2, (1999), 191.
[37] McDougall-Waters, Moxham and Fyfe, Philosophical Transactions*: 350 years of publishing at the Royal Society*, 3.
[38] Atkinson, *Scientific discourse in sociohistorical context*, 19-20.
[39] Ibid., 20.
[40] Atkinson, *Scientific discourse in sociohistorical context*, 17-20.
[41] Agassi, *The very idea of modern science*, 31.
[42] Ibid., 130.

The articles published in the *Philosophical Transactions* therefore contain a wide variety of arguments and observations, including Boyle's own description of a monstrous calf seen in Hampshire, "Observations on May-Dew", a review of Robert Hooke's then recently published *Micrographia*, and an obituary for Pierre de Fermat.[43] The correspondence came primarily from Europe, England and the Americas, and most of the articles were short, ranging from a few lines to a few pages. The letters on which these articles were often based could be sent by members of the Royal Society, by their established correspondents, or by strangers.

Eyewitness testimony in the *Philosophical Transactions*

Many articles published in the *Philosophical Transactions* were edited reproductions of unsolicited letters, and the journal was technically unconnected with the society. The handling of eyewitness testimony in the *Philosophical Transactions* therefore need not have reflected the early Royal Society's stance on the issue. If an article published in the *Philosophical Transactions* deviated from the Royal Society's philosophy on any point, including that of eyewitness testimony, this may simply have reflected either Oldenburg's stance or that of the original reporter. A single article's neglect of eyewitness testimony is not necessarily significant in itself.

[43] Robert Boyle, "An account of a very odd monstrous calf", *Philosophical Transactions of the Royal Society of London* 1, no. 1 (1667), 10.
"Some observations and experiments upon May-dew", *Philosophical Transactions of the Royal Society of London* 1, no. 3 (1667), 33-6.
"An account of Mr. Hooks Micrographia, or the physiological descriptions of minute bodies, made by magnifying glasses", *Philosophical Transactions of the Royal Society of London* 1, no. 2 (1667), 27-32.
"The character, lately published beyond the seas, of an eminent person, not long since dead at Tholouse, where he was a councellor of Parliament", *Philosophical Transactions of the Royal Society of London* 1, no. 1 (1665), 15.

Although its use is inconsistent, however, the language of personal credibility does appear frequently in the *Philosophical Transactions*. It is generally apparent in descriptions of phenomena unknown in England or simply unusual. An account from Virginia "Of a way of killing rattle-snakes", for example, was "attested by two credible people in whose presence it was done".[44] It also appears in descriptions of events or experiments on which a particular argument depended, and it was occasionally used for rhetorical emphasis. In an article describing his own novel method for manufacturing lenses, Hevelius affirms that "many learned men have seen and tried" his invention.[45] Meanwhile, Fermat's obituary declares that "if very knowing and learned men had not given testimony of his extraordinary merit, what may with truth be said of him, would hardly be believed".[46] Witness reliability is invoked sufficiently often, and in sufficiently diverse circumstances, to prove its general importance in the *Philosophical Transactions* and the discourse which surrounded the journal's production. This is unsurprising given the ubiquity of eyewitness testimony as a standard of proof in the early modern period. It also echoes the sentiments expressed by early Royal Society members, indicating that the *Philosophical Transactions*' approach to eyewitness testimony does reflect the stance of the Royal Society as a whole.

The journal's use of eyewitness testimony is not completely consistent, however. This is partly due to the Royal Society's own attitude toward rhetoric and hypothesis. As Agassi has pointed out, the society's zealous adherence to the induction method ensured that many experimental reports appeared in the *Philosophical Transactions* devoid of either speculation

[44] Silas Taylor, "Of the way of killing Ratle-Snakes", *Philosophical Transactions of the Royal Society of London* 1, no. 3 (1665), 43.
[45] Monsieur Hevelius and Monsieur Hugens, "Of Monsieur Hevelius's promise of imparting to the world his invention of making optick glasses", *Philosophical Transactions of the Royal Society of London* 1, no. 6 (1665), 98.
[46] "The character, lately published beyond the seas, of an eminent person, not long since dead at Tholouse, where he was a councellor of Parliament", 15.

or context.[47] It can therefore be difficult to determine with what disputes or debates an article might have been associated. As an example of the problem, the Royal Society published a submission by Thomas Henshaw detailing a months-long series of involved experiments performed on "a great quantity of May-dew".[48] Dear points out that the interest of may-dew as an experimental subject likely stemmed from its significance in alchemy, and that the Royal Society's aversion to theorising was the probable reason for the omission of this fact.[49] The immediate purpose of an experiment or observation is often deliberately left out of the associated article.

The heterogeneity of contributors, and particularly of contributors' status with regard to the Royal Society, adds another layer of complexity. The criteria for personal credibility in the early modern period are broadly understood, but they can be complex and contradictory. Shapiro, noting this, draws attention to a statement of Boyle's in which he praises the credibility of a report specifically because it was written to fulfil a business need, rather than to "serve an Hypothesis".[50] Although eyewitness testimony was important in the context of information collation, therefore, the parameters of its relevance in the *Philosophical Transactions* are not entirely clear.

This variety in the subject matter, correspondent status and context of an article resulted in a markedly heterogenous approach to eyewitness testimony within the early *Philosophical Transactions*, despite the overall importance of eyewitnesses. The potential contributing factors to an article's relative emphasis on eyewitness testimony are not always spelled out. Furthermore, there is no definitive explanation in the historiography for the inconsistent

[47] Agassi, *The very idea of modern science*, 126.
[48] "Some observations and experiments upon May-dew", 33-6.
[49] Dear, *Totius in verba*, 71.
[50] Shapiro, *A culture of fact*, 122.

treatment of eyewitness reliability in the *Philosophical Transactions*. This chapter will attempt to offer one.

Old ideas and the new science

The Royal Society's emphasis on reliable eyewitness testimony was by no means unique in the early modern world. However, it was particularly vehement, at least in theory, because the Royal Society's philosophy was so closely tied to that of Francis Bacon. Bacon recommended the rejection of all received wisdom and current speculation and the construction of an entirely new worldview through the collation of eyewitness accounts.[51] The use of eyewitness testimony was therefore both necessitated by and explicitly recommended in Bacon's natural philosophy.[52] Early members of the Royal Society understood themselves to be Bacon's intellectual descendants. This idea did extend beyond the society, but it was not universal.[53] The newly founded Royal Society's rhetorical emphasis on eyewitness testimony was therefore notable even for its time.

It was impossible, however, to follow Bacon's strictures to the letter. Shapin notes the impracticability of rejecting all received wisdom, and Shapiro of eradicating all speculation from the search for knowledge, despite claims by some members of the early Royal Society that they were doing either or both.[54] Descartes and Aristotle were both dismissed in theory by Bacon's followers, but Shapiro detects elements of Cartesian and Aristotelian philosophy

[51] Agassi, *The very idea of modern science*, 45.
[52] Katharine Park and Lorraine Daston, "Unnatural conceptions: the study of monsters in sixteenth- and seventeenth-century France and England", *Past and Present* 92 (Aug 1981), 45.
[53] Avramov, "An apprenticeship in scientific communication", 190.
[54] Shapin, *A social history of truth*, 200.
Shapiro, *A culture of fact*.

in the worldviews of multiple English "virtuosi".[55] The *Philosophical Transactions*, despite Oldenburg's commitment to the induction method, demonstrably did contain elements of competing systems of knowledge, some of which were partly discredited at the time. These elements were sometimes implicit, as in Henshaw's submission on may-dew. However, they could also be explicit. A report of an unusual parhelion observed by Hevelius concludes with the statement that it was "for the Astrologers to examine" whether the phenomenon had contributed to the unseasonably cold weather.[56] Hevelius here appears to be referencing so-called "natural" astrology. This sub-genre of astrology was concerned with the effect of celestial phenomena on the natural environment and humanity as a whole, and it was considered more respectable than the very narrowly-focused "judicial" astrology which Lilly primarily practised.[57] It was nevertheless an element of a pre-existing and controversial knowledge system.

Even if it was practicable, it would not have been politic for members of the early Royal Society to focus on obtaining and communicating concrete information to the exclusion of all else. Boyle conceded this point in the preface of his *Defence against Linus*. He wrote the tract in response to the objections raised by Linus and Hobbes regarding his theory of the spring of the air.[58] In the preface, Boyle apologises obliquely for having included "Conjectures" in some of his earlier works.[59] He states that he did so "to excite the Curiosity of the Ingenuous, and afford some hints and assistance to the Disquisitions of the Speculative", thus

[55] Shapiro, *A culture of fact*, 110.
[56] Johannes Hevelius "A certain phenomenon", *Philosophical Transactions of the Royal Society* 9, no. 102 (1674), 27.
[57] Bernard Capp, *Astrology and the Popular Press: English Almanacs 1500-1800* (London: Faber and Faber, 1979), 16.
[58] Robert Boyle, *A defence of the doctrine touching the spring and weight of the air propos'd by Mr. R. Boyle in his new physico-mechanical experiments, against the objections of Franciscus Linus; wherewith the objector's funicular hypothesis is also examin'd, by the author of those experiments* (London: Thomas Robinson, 1662), Preface.
[59] Ibid.

incidentally conceding the value of speculation in natural philosophy.[60] The preface itself is presented partly as a justification for having written the *Defence against Linus* at all, with Boyle arguing that his theory would have lost support if he let serious challenges to it go unanswered.[61] Boyle's apparent diffidence can be interpreted as a sign of the times, because many seventeenth-century publications open with extensive justifications for their own existence, as do several of the letters to Lilly. However, Boyle anticipates, among other objections, the complaint from his readers that he is wasting time which would be better spent on experiment.[62] This is a recognisably Baconian sentiment, and it suggests that Boyle's apologetic preface had as much to do with his own scientific philosophy as it did with seventeenth-century etiquette. The fact that Boyle wrote the tract and the "Conjectures" despite his apparent misgivings, and his reasons for doing so, illustrate the inadvisability of his refraining entirely from speculation and debate. This dilemma has already been noted by Agassi, and it is reasonable to conclude that other members of the Royal Society were operating under similar constraints.[63]

A later incident further underscored the difficulties presented by the kind of single-minded Baconianism to which the Royal Society apparently aspired. The incident began with a disagreement between the respected astronomers Adrien Auzout and Johannes Hevelius over the path of a 1664 comet. The two astronomers had charted the path of what was widely believed to be the same comet, but they had observed it on different nights and in different places. Natural philosophers frequently reconstructed the path of a comet by combining several sets of observations, because comets were rarely visible from a single terrestrial

[60] Ibid.
[61] Ibid.
[62] Ibid.
[63] Agassi, *The very idea of modern science*, 218.

location for the duration of their appearance in the sky.[64] In this case, however, one of Hevelius' observations put the comet so far out of the path predicted by Auzout's observations that either Hevelius or Auzout had to have made a mistake.[65]

This put both astronomers in danger of disgrace, because a factual mistake could be fatal to a seventeenth-century natural philosopher's reputation. One of the major Baconian ideas to which the Royal Society subscribed was the "doctrine of prejudice", according to which factual error and basic scientific competence were mutually exclusive.[66] Broadly, the "doctrine of prejudice" stated that valid experimental practice must inevitably produce accurate knowledge, and that any deviation from reality must result from the experimenter's own bias. One consequence of this attitude was that the disproof of a theory or observation could and often did entirely discredit its author as a natural philosopher. This apparently stymied discussion and innovation within the Royal Society, and it magnified the potential consequences of the argument between Auzout and Hevelius.[67]

The argument over the path of the comet escalated to the point where the Royal Society was called on to adjudicate.[68] The society complied with some reluctance, eventually ruling in favour of Auzout.[69] Its members tried, with eventual success, to do so in a way which did not completely discount Hevelius' astronomical skill or previous observations.[70] Both were considered useful to the advancement of natural philosophy and therefore worth salvaging.[71] Following the doctrine of prejudice in this case would therefore have been detrimental to the

[64] E.g. C. H. Josten, *Elias Ashmole (1617-1692) his autobiographical and historical notes, his correspondence, and other contemporary sources relating to his life and work* (Oxford: Oxford University Press, 1967), 1675-7.
[65] Shapin, *A social history of truth*, 276.
[66] Agassi, *The very idea of modern science*, 46-7.
[67] Ibid.
[68] Shapin, *A social history of truth*, 276.
[69] Ibid., 276-280.
[70] Ibid., 289.
[71] Ibid., 280.

Royal Society's aims. Shapin recounts this episode to illustrate both the difference between conventional "gentlemanly" and "scholarly" discourse and the pre-eminence of the latter in English natural philosophy.[72] The incident also highlighted the fact that drawing conclusions from pure observation was impossible when different and, in theory, equally infallible observations could not be reconciled.

In many cases it was similarly impossible for the Royal Society to uphold its own standards of eyewitness reliability. Although the Society did give precedence to the kind of "disinterested" witness similarly favoured in legal disputes, it was generally acknowledged that this standard could not be uniformly applied. This is underscored in the work of Susan Parrish, who points out that the Royal Society accepted information about the Americas from correspondents who fell outside the category of "disinterested" witnesses simply because they were the only ones both willing and able to provide it.[73] The Society faced a similar problem with regard to maritime observations, and this may partly account for its apparently contradictory criteria for witness credibility. Interest in natural philosophy was usually regarded as a positive attribute in a reporter, but society members might also praise a reporter's lack of scholarly interest where it was convenient to do so.[74] Standards of witness competence similarly shifted according to witness availability.[75] This approach to witness reliability likely stemmed from the same cause as the Royal Society's careful handling of the controversy between Auzout and Hevelius. Members of the early Royal Society wanted to maximise the production of natural historical information. Adhering strictly to high standards

[72] Shapin, *A social history of truth*, 309.
[73] Susan Parrish, "Women's nature: curiosity, pastoral, and the new science in British America", *Early American Literature* 37, no. 2 (2002), 208.
[74] Robert Boyle, "A letter of the Honourable Robert Boyle of Sep. 13. 1673. to the publisher, concerning amber greece, and its being a vegetable production." *Philosophical Transactions of the Royal Society of London* 8, no. 97 (Dec 1673), 6113.
[75] Parrish, "Women's Nature", 208.

of eyewitness credibility, or even setting definitive standards, would have restricted the Royal Society's access to information and thus interfered with its mission to encourage experiment and observation. Perhaps as a result, there were no completely clear guidelines within the Royal Society's stated philosophy for assessing the trustworthiness or competence of eyewitnesses.

Despite its members' efforts to the contrary, therefore, the Royal Society's work incorporated both received wisdom and hypotheses. The Society could not fulfil its primary functions without the use of second-hand intelligence, and it had no clear formula for ensuring that this intelligence was accurate. The Royal Society and its correspondents therefore bore less resemblance to Bacon's "society of amateurs" and more resemblance to contemporary knowledge-making pursuits, including astrology, than the society's stated aims would suggest.

The importance of differentiation

The Royal Society's resemblance to contemporary epistemological systems in general and astrology in particular was problematic for both political and practical reasons. The Society was founded during, and partly in response to, a long bout of political unrest in England. Following the Restoration in 1660, the Royal Society in particular and the new science in general aimed to cement the new status quo by helping to build consensus regarding the nature of the universe.[76] Consensus regarding the best form of government was ideally supposed to follow.[77] More specifically, and perhaps more importantly, the Royal Society's

[76] Shapin and Schaffer, *Leviathan and the air-pump*, 283.
[77] Ibid.

work was meant to wrest authority from the various existing systems of knowledge which had been utilised by propagandists during the Civil Wars and Interregnum.[78] In order for this to occur, the Royal Society had to differentiate itself as an institution from those older systems of knowledge and their practitioners. Because the older systems often, and often infamously, incorporated a mixture of eyewitness testimony, received wisdom and speculation, the Royal Society could not break as cleanly from them as its founders intended.

The Royal Society's founders had at least two pressing reasons to emphasise the differences between their worldview and the worldviews held by mid-seventeenth-century English political propagandists. The first applies to early modern discourse generally, and it is illustrated by an indignant anonymous letter sent to Lilly in 1650. The sender claimed to be the friend of a Doctor Luke Ridgeley whom Lilly had evidently tried to blackmail with "some things that might seem to concern his reputation had they been exposed". This anonymous correspondent responded by accusing Lilly of participating in a variety of illicit activities, including, apparently, an intended human sacrifice. The letter advised Lilly ominously to "take heed how these things become public…they will be proved if need be". Though the sender also threatened to have Lilly beaten if he further "affronted" Ridgeley, the threat was included almost as a postscript. The author's primary concern was with Lilly's character and reputation, as well as that of Ridgeley.[79]

The letter is of its time in this respect. The controversy over prodigies and astrology formed only a part of a multifaceted early modern debate over the nature of truth and methods of knowledge production.[80] Many of the individual disputes over these issues involved a degree

[78] Burns, *An age of wonders*, 4.
[79] Ms. Ashmole 240, f. 350.
[80] Burns, *An age of wonders*, 4.

of character assassination which would now be considered gratuitous. This feature of seventeenth-century English debate can be attributed partly to the contemporary association between character and truth, which often prompted commentators to try to discredit an argument by attacking its protagonist.[81] It was exacerbated by the fact that many of the period's ostensibly epistemological or factual disputes were in fact partly or wholly political.[82] Participants in these disputes were required to thoroughly discredit all opposing arguments in order to prove the truth of their own.[83] This consequently obliged them to differentiate themselves sharply from their opponents, which was likely to influence their rhetoric.

Early modern participants in negotiations of legitimacy and authority utilised their own supposed uniqueness in multiple ways. Practitioners of a controversial discipline might attempt to safeguard their own credibility, and that of their discipline as a whole, by disowning its more suspect elements. By the seventeenth century, astrologers had been using this tactic for millennia to combat challenges to their discipline's validity.[84] Ptolemy's *Tetrabiblos*, for example, contains a plea to his readers not to judge astrology by the actions of unscrupulous practitioners.[85] The tactic was also used to bolster the prestige of new ideas and practices, particularly where the efficacy of established practices had come into question. Early modern charlatans, for example, might promote their practice by trading on public distrust of the medical establishment's goodwill or competence.[86] Points of difference could be valuable assets.

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[81] Shapin and Schaffer, *Leviathan and the air-pump*, 138-9.
[82] Ibid., 138.
[83] Capp, *Astrology and the popular press*, 73.
[84] Charles Burnett, "The Certitude of Astrology: The Scientific Methodology of al-Qabīṣī and abū Maʿshar", *Early Science and Medicine* 7, no. 3 (2002), 199.
[85] Geneva, *Astrology and the seventeenth century mind*, 6.
[86] William Eamon, *The professor of secrets: mystery, medicine and alchemy in Renaissance Italy* (Washington: National Geographic, 2010), 180.

I would argue that the Royal Society also had reason to use this strategy. Its existence was as closely tied to politics as that of any of its rival institutions. Royal Society members, like many of their contemporaries, used the character of eyewitnesses as one of many metrics to judge the validity of an otherwise outlandish report.[87] Eyewitness character was only one of many criteria by which the early modern world established the truth of an event, but the link between character and credibility is as apparent in the Royal Society's work as it is in the writings of charlatans. It appears in Society members' pointed comments on the personal qualities of witnesses, where credible witnesses were referred to not only as "learned" or "ingenious" but as "sincere" and "faithful".[88] It is also evident from the tropes that women used when writing to members of the Royal Society to make their natural philosophical contributions palatable. Although some of the Society's members, notably Robert Boyle, emphasised the importance of civil discourse around science, even Boyle criticised the competence of his ideological opponents where he considered it pertinent to the debate.[89] The Royal Society, like almost any entity or person involved in an early modern discourse, therefore had a strong motive to identify and dissociate itself from characteristics incompatible with knowledge-building.

The Society also had a specific philosophical reason to distance itself from those undesirable characteristics and the people who possessed them. Their supposed adherence to Bacon's "doctrine of prejudice" may have increased the new scientists' determination to differentiate themselves from the representatives of epistemological traditions whose conclusions they wished to contradict.[90] There could, in theory, be no scientific merit in ideas proposed by

[87] Shapiro, *A culture of fact*.
[88] Ibid., 119.
[89] Shapin and Schaffer, *Leviathan and the air-pump*, 174.
[90] Agassi, *The very idea of modern science*, 47.

anyone who had already been proven wrong. Though the Royal Society did not necessarily operate according to the "doctrine of prejudice", the doctrine did influence the society's practice, as is evident from the Auzout-Hevelius controversy. It may therefore have strengthened Society members' antipathy toward the practitioners of suspect disciplines as well as the disciplines themselves.

The resemblance between the Royal Society and other early modern knowledge-making groups would therefore have posed a problem for the Society's early members. The previous chapter examined the Royal Society's response to parhelia and comets as an alternative to that of Lilly and his correspondents and as proof that Lilly's was not the only approach to the phenomenon at the time. I believe the Society's handling of phenomena like parhelia has broader significance as a reflection of its members' approach to knowledge-building and to the advertisement of their own credibility.

Astrology and the Royal Society

Astrologers' reputations, like those of seventeenth-century natural philosophers, were closely tied to their practice and its outcomes. In Lilly's case, this is made clear in the letter from Michael Harword, who was one of many reporters to insist in his report that it was written out of necessity. Thomas Dey appears to have made this claim out of polite modesty, stating that he is filling a gap in the record for lack of a more skilful reporter.[91] Harword, by contrast, claims that he has written to Lilly in order to safeguard Lilly's good name. Harword sent Lilly a prodigy report in 1648, when recent events had apparently contradicted Lilly's and Booker's latest predictions. He describes his own use of astrological reasoning to answer the

[91] Ms. Ashmole 423, 212.

"malignats [sic] demanding where the peace was which Lilly, and Booker, predicted".[92] He states that he based his defence of Lilly partly on the appearance of the parhelia described in his report, and now, he suggests, Lilly can use this information to defend himself in his own words.

The seventeenth-century astrological community resembled the early Royal Society in a number of ways, but particularly in its manner of handling information exchange. One clear parallel between them was the importance of input from those outside or peripheral to the core community. Harword's actions, and his apparent confidence that they will be positively received, demonstrate the acknowledged importance of audience participation in Lilly's astrological practice. The principle can also be applied to early modern astrological practice more broadly. In the mid- to late seventeenth century, close interaction with readers was central to the practice of many publishing astrologers.[93] Audience interaction was also important to seventeenth-century natural philosophers, and the prodigy reports are very similar to the reports of unusual occurrences later sent to the Royal Society.[94] The proponents of both disciplines were therefore deeply invested in the popularity and impact of their publications and the degree to which they could encourage audience participation. At the same time, members of both the astrological community and the Royal Society expressed specific and often contradictory opinions regarding who should be allowed to participate in their discipline.

Furthermore, both astrology and the new science occupied a precarious position in seventeenth-century England, astrology as a perennially controversial and politically

[92] Ms. Ashmole 423, f. 132.
[93] Rachel S. Lustiger, "To the Great Scandal of that Heaven Born Science: Astrology Confronts the New Science, 1640–1740" (PhD diss., Arizona State University, 2000), 168.
[94] Carter, "A constant prodigy", 270.

dangerous institution and the new science because it was new and susceptible to ridicule.[95] The impulse to enlist new practitioners and followers, evident in both communities, can be partly attributed to this.[96] Individuals or groups within these communities often had additional reasons to try to recruit new members or encourage audience participation. In the early to mid-seventeenth century, Lilly built his career largely on his astrological evangelism. Later, in the second half of the century, a number of astrologers attempted to reform the discipline along the empirical lines favoured by the Royal Society.[97] Their program of reform involved the collection of information from their readers, specifically from their astrologically competent readers.[98] In their consequent dependence on the contributions of their audience, they resembled the early members of the Royal Society, who, as Baconian natural philosophers, aimed primarily to maximise the quantity of empirical research being conducted "in anticipation of wonderful results".[99] The focus on recruitment within both the astrological community and the Royal Society therefore resulted from the specific knowledge-making practices of those disciplines as well as from the self-interest of individual practitioners. Information flowed inward to the centre of both communities along similar channels and for similar reasons.

Parhelia and Parliamentarianism

Unlike its position on eyewitness testimony, the Royal Society's position on prodigies is reasonably well understood. Its understanding of parhelia specifically may be deduced from

[95] Michael Hunter, "Science and astrology in seventeenth-century England", in *Astrology, Science and Society*, ed. Patrick Curry (Suffolk: The Boydell Press, 1987), 280.
Agassi, *The very idea of modern science*, 152.
[96] Agassi, *The very idea of modern science*, 31.
[97] Lustiger, "To the great scandal of that heaven born science".
[98] Ibid., 177-8.
[99] Agassi, *The very idea of modern science*, 31.

an article written partly by Hugens de Zulechem. The article purports to offer a natural philosophical explanation for parhelia and haloes with the expressed hope of demystifying phenomena which have traditionally been considered both prodigious and prophetic.[100] Less emphatically, but along the same lines, an article containing P.J. de Fontaney's observations of a comet claims in passing that "a mock sun is nothing but a sublunary meteor", "meteor" in this context meaning any atmospheric event.[101] The omission of any reference to either eyewitness credibility or eyewitness numbers is most apparent in the reports of parhelia printed in the *Philosophical Transactions*.

The many parallels between the Royal Society and the contemporary astrological community, combined with the astrological prodigy reporters' emphasis on credible eyewitness testimony, make this a particularly striking trend. It may be explained by another similarity between the two groups, namely their intermixture of supposedly objective description with political and social content. Most of the astrologers and many of the Royal Society members who published their work did so in order to prosecute an argument, and the argument was often related – at least indirectly – to the socio-political situation at the time. As well as their readers' co-operation in creating knowledge, therefore, they wished to secure their audiences' agreement with their own assessment of the extant information.

One method of persuasion common to both disciplines was that of basing an argument or discussion on an authority outside humanity and therefore outside human fallibility. The Royal Society's Robert Boyle attempted to do this by proposing "matter of fact", separate

[100] Hugens de Zulichem, "An account of the observations, made by the Philosophical Academy at Paris", *Philosophical Transactions of the Royal Society of London* 5, no. 60 (Jan 1670), 1066.
[101] P. J. De Fontaney, "Observations of the comet of 1680. And 1681. Made at the Colledg of Clermont, P. J. de Fontaney, è S. J. professor of Mathematicks. Printed at Paris 1681", *Philosophical Transactions of the Royal Society of London* 4, no. 1 (1682), 112-3.

from human observation and opinion, as the proper and achievable basis for all scientific discussion.[102] "Nature", viewed without bias, was another supposedly solid foundation on which to build knowledge.[103] Lilly likely had a similar motive for his insistence on the supernatural, specifically the divine, origins of certain prodigies. The propaganda value of the supernatural in Lilly's publications has already been noted.[104] Lilly's *Starry Messenger* of 1645 illustrates this particularly clearly, and I would argue that it also cemented the relationship between parhelia and Parliamentarianism. The English Civil War was ongoing in 1645, and the argument in the *Starry Messenger* for the supernatural origin of parhelia was made to support a prediction of Parliamentarian victory in the upcoming Battle of Naseby. The Parliamentarians famously won the Battle of Naseby, and consequently the war, and Lilly's career was launched largely by this successful prediction. The Royal Society was not necessarily averse to astrology in general, as shown by the inclusion of Hevelius' "Astrologers" comment in the *Philosophical Transactions*. However, the *Starry Messenger* gave the Royalist members of the society a compelling reason to object to Lilly's particular brands of both astrology and prodigy-interpretation.

Civil and uncivil discourse

The Royal Society also had reason to object to Lilly's public persona. Lilly became a byword for both English astrology and Parliamentarian advocacy primarily due to his fortuitous placement in the mid-seventeenth century propaganda war and his own rhetorical skill. However, his fame seems to have brought him as much animosity as admiration. Harword was not the only one of Lilly's correspondents to mention Lilly's enemies or to portray

[102] Shapin and Schaffer, *Leviathan and the air-pump*, 24.
[103] Parrish, "Women's nature", 197.
[104] Geneva, *Astrology and the seventeenth century mind*, 64.

himself confronting them. T. Robinson, writing from Ireland, states that "most here are against you" but that "I have had contests with some of them".[105] Another correspondent, Francis Bernard, encourages Lilly near the end of his career to keep publishing "notwithstanding the ingratitude & envy of some persons".[106] This is unsurprising. Lilly spent the first few years of his career engaged in a propaganda war and the subsequent decade giving unsolicited and often unwelcome advice to an unstable government. At the same time, he was seventeenth-century England's most prominent representative of the somewhat suspect discipline of astrology. As a result, his work was inherently controversial, in addition to which Lilly and his milieu were infamous for their pugnacity in print.[107] Lilly's propensity to attract controversy can be explained by the time, place and manner in which he rose to fame.

It may also have been influenced by early modern conventions around debate and self-promotion. The practice of selling a product or worldview by crafting and broadcasting an unconventional and often antagonistic personality was extant in Italy by the time of the Renaissance.[108] So was the practice of self-promotion by shouting down rivals, and both of these strategies were later used in seventeenth-century England.[109] The kind of discourse which included these practices was generally utilised by writers and artists, with no source of income other than their work, who were trying to survive in a competitive market.[110] It was also precisely the kind of discourse which the Royal Society, in keeping with its own aristocratic tenor, aimed to avoid.

[105] Ms. Ashmole 240, f. 119.
[106] Ms. Ashmole 242, f. 87.
[107] Harry Rusche, "Merlini Anglici: Astrology and Propaganda from 1644 to 1651", *The English Historical Review* 80, no. 315 (Apr 1965), 322-3.
[108] Douglas Biow, *In your face: professional improprieties and the art of being conspicuous in sixteenth-century Italy* (Stanford: Stanford University Press, 2010), 17-8.
[109] Ibid., 84.
[110] Ibid.

If the caustic rhetoric of astrological debate was typical of its time, therefore, the Royal Society's rhetoric was pointedly atypical. Through the lens of Boyle's debate with Hobbes over proper knowledge-building practice, Shapin and Schaffer show how Boyle aimed to remove what he saw as counterproductive acrimony from scientific discourse.[111] Boyle attempted to do this, firstly, by adopting a civil tone himself, and secondly, by attempting to influence the terms of scientific dispute. Boyle stated firmly that comments on a proposed scientific idea should concern the idea, not the person who proposed it.[112] He also argued that members of the natural philosophical community should focus on the discovery of provable facts and limit speculation about their unprovable causes. With these stipulations he hoped to encourage the civil discourse, based on experimentally produced knowledge, which would theoretically promote broad consensus on the nature of reality and thus ensure social stability.[113]

Boyle apologised in print for his inability to completely avoid dispute, and the language in the *Philosophical Transactions* similarly deviates from Boyle's ideal, but it still differs dramatically from the rhetoric employed by, for example, Lilly and his rivals. An exchange between Auzout and Robert Hooke in one of the first editions of the *Transactions*, regarding Hooke's suggestion of a new way to make lenses, illustrates the difference. In this exchange, Auzout states that Hooke's new method cannot possibly work, and Hooke replies with an extensive defence of his invention. Throughout the exchange, neither combatant seems to have levelled an accusation more direct than Hooke's assertion that Auzout's "Theory of

[111] Shapin and Schaffer, *Leviathan and the air-pump*, 155-224.
[112] Ibid., 73.
[113] Ibid.

Apertures, though he seems to think it very authentick, yet it seems to me not so clear."[114] Admittedly this exchange was mediated by Henry Oldenburg, who had been honing his diplomatic skill as a scientific communicator since the 1650s.[115] Along with Boyle's stated opinions on the subject of dispute, however, it indicates that the Royal Society genuinely was committed to relative restraint in print.

This commitment to civility was intended to promote the advancement of natural philosophy and social stability, and it was another method by which the Royal Society might have aimed to distinguish itself. In this way as in others, though, the Royal Society bore a closer resemblance to contemporary knowledge-making communities than its core members intended it to do. Its members' attempt to avoid uncivil discourse may nevertheless have prevented the Society from denouncing its competitors in the same way that other groups could and did.

Tides

The rationale behind the treatment of eyewitness testimony in individual articles in the *Philosophical Transactions* can be somewhat opaque. However, the accounts of unusual tides published in the journal stand in stark contrast to the accounts of parhelia. Reliable eyewitness testimony appears to be of paramount importance in the reports of unusual tides printed in the early *Philosophical Transactions*. In a letter detailing the course of the tides near Hanoi, for example, Francis Davenport states that "I cannot aver the truth" of a certain

[114] Robert Hooke, "Mr. Hook's answer to Monsieur Auzout's considerations, in a letter to the publisher of these Transactions", *Philosophical Transactions of the Royal Society of London* 1, no. 4 (1665), 67.
[115] Avramov, "An apprenticeship in scientific communication".

tidal phenomenon which he has not personally observed.[116] This was despite Davenport's having apparently received multiple eyewitness reports of the phenomenon.[117] Another correspondent, Sir Robert Moray, sent a report of two unusual tidal phenomena from an island off the coast of Scotland. Of the phenomenon which he has not observed himself, Moray assures his correspondent that he has heard it described by "the Gentleman, to whom the Island belongs at present, and divers of his Brothers and Friends, knowing and discreet persons, and expert in all such parts of Sea-matters, as other Islanders commonly are".[118] Moray's rhetoric recalls that of Lilly's correspondent Christopher Sawtell. Sawtell was the only reporter to send Lilly an account of an unusual tide, and he similarly stressed both the strangeness of the phenomenon and the credibility of its eyewitnesses.[119] On the subject of unusual tides, therefore, the Royal Society appears to have been in accord with the astrological community.

Spencer in his *discourse concerning prodigies* placed unusual tides in the same category as parhelia and comets – that of phenomena whose causes were unknown, but which could conceivably have been produced by nature unassisted by a deity. The emphasis in the *Philosophical Transactions* on the oddness of these tides, and the perceived necessity of providing credible eyewitness testimony to prove their occurrence, is therefore significant. Irregular tides were perhaps considered more peculiar than parhelia or comets because they were rarer, and fewer people had the chance to observe them. Although all three were known to exist, therefore, strange tides may have been considered less believable without clear proof. It should also be noted, however, that strange tides were not invoked by mid-

[116] Francis Davenport and Edmund Halley, "An account of the course of the tides at Tonqueen", *Philosophical Transactions of the Royal Society of London* 14, no. 162 (1684), 682.
[117] Ibid.
[118] Robert Moray, "A Relation of some extraordinary Tydes in the West-Isles of Scotland", *Philosophical Transactions of the Royal Society of London* 1, no. 4 (1665), 54.
[119] Ms. Ashmole 423, f. 250.

seventeenth-century propagandists predicting apocalypse or social collapse in the way that comets and parhelia conspicuously were. Strange tides were therefore relatively politically neutral, and the Royal Society had no specific reason to minimise their oddness.

Conclusion

The Royal Society engaged with many of the same unusual events that astrologers and fringe religious sects had invoked during the mid-seventeenth century as signs of victory, defeat or impending calamity. This was, in part, an attempt by the Society's members to diminish the significance of these events by rendering them ordinary and natural even if their causes were not fully understood. In order to do this, the Royal Society's members needed to stake a unique claim to authority over the interpretation of these phenomena. In other words, they needed to differentiate themselves from the multiple other groups making the same claim. Differentiation was a technique employed by many mid-seventeenth-century English commentators either in response to aspersions cast on their discipline as a whole or in order to promote their services or worldview. When employed by astrologers, charlatans, and others, the rhetoric of differentiation could be exceptionally insulting.

However, Boyle in particular and the Royal Society in general aimed to foster a discourse free from personal animosity or unnecessary rhetoric, and insults would have defeated their purpose on both counts. This focus on civil discourse was itself a point of difference, but it dramatically decreased the society's scope for overt insistence on distinction and superiority, which was a widely used rhetorical strategy at the time.

The Royal Society was therefore obliged to find different ways of distancing its approach to prodigies from other forms of prodigy-interpretation. It did so partly by stressing its own commitment to experiment stripped of ideology and hearsay. However, the importance of that commitment to the Royal Society's philosophy was perhaps the only major point of difference between the Royal Society and its competitors. As it was impossible to uphold the commitment in practice, the Society would likely have welcomed, and taken, any other opportunity to stress its own unique approach to knowledge-making. The lack of emphasis on eyewitness testimony in reports of parhelia and comets, particularly parhelia, would have set the Society apart from propagandists like Lilly and the correspondence networks around them. It would also have distanced the Royal Society from the mentality expressed in Isabella Twysden's almanac and probably common in her milieu.[120] As well as setting the Royal Society and its correspondents apart, this approach to eyewitness testimony would likely have underscored the banality of parhelia and comets. The credibility of eyewitness testimony seems to have been relevant only when there was some cause to doubt the event it described. If a report was not accompanied by commentary on the quality of the reporters, therefore, readers might reasonably have assumed that the subject matter was considered neither controversial nor surprising.

That the lack of commentary was deliberate is indicated by the timing of these reports. They were published less than two decades after Lilly's 1645 *Starry Messenger*, one of the best-known Parliamentarian prognostic tracts, whose most famous prediction was based on the appearance of two parhelia. The significance of the *Philosophical Transactions*' treatment of parhelia is further emphasised by their contrasting treatment of unusual tides, which in the seventeenth century were equally unaccountable but far less politically loaded. That this

[120] Adam Smyth, *Autobiography in early modern England* (Cambridge: Cambridge University Press, 2010), 48.

pointed discrepancy in the emphasis given to eyewitness testimony stemmed from the Royal Society itself – or at least from its correspondents – is strongly suggested by the introduction to the "discourse of M. Hugens de Zulechem" printed in the *Philosophical Transactions*.

The significance of eyewitness testimony and its prominence in any one article of the *Philosophical Transactions* is not always apparent. The importance of eyewitness testimony in a report was likely influenced by a number of factors besides the subject matter. Firsthand reports from the society's trusted correspondents were often printed without either mention of corroborating witnesses or assurances of good faith. Articles written to prosecute or support an argument seem to have placed a relatively high value on credible eyewitness testimony even if the argument itself was never mentioned. Furthermore, multiple factors influenced the believability of a report's subject matter. Though comets were as dubiously explicable as parhelia, they were more common and longer-lasting and therefore, presumably, more familiar to the general population. Lilly devoted space in the *Starry Messenger* to an argument in favour of the reality of parhelia, but he evidently saw no need to prosecute the reality of comets.[121]

As a result, no single report of a comet or sighting of parhelia can be used to demonstrate the difference between astrologers' treatment of eyewitness testimony and that of the Royal Society. Generally speaking, the use of reliable eyewitness testimony to verify the incidence of parhelia and comets is much more emphatic in the reports to Lilly than it is in the *Philosophical Transactions*. This disparity, however, could potentially be explained by the difference in either timing of the reports or relationships between correspondents. The

[121] Lilly, *The starry messenger*, 2.

relationship between correspondents, in particular, seems to have strongly influenced the handling of eyewitness testimony in all of the reports.

When placed in context, though, I believe the disparity can be largely attributed to the Royal Society's political inclinations. Their stated aim of quelling the unrest caused by other mid-seventeenth-century commentators' interpretations of prodigies aligned with their Royalist politics. These preoccupations, and the place of parhelia at the centre of one of Parliamentarian prophecy's most conspicuous victories, together gave them a strong motive to downplay the oddness of prodigies in general and parhelia in particular. One result of this was an apparently anomalous, and I would argue a deliberate, neglect of eyewitness testimony in reports of parhelia printed in the *Philosophical Transactions*.

Chapter three: the distribution of astrological ideas

One of the shorter documents preserved with the Ashmolean Manuscripts is a draft return letter written by Lilly to an unnamed client. The letter is located next to another sheet on which Lilly has drawn up a nativity, a calculation of the latitude at which his client was born, and a list of the querent's major life events, known in this context as accidents. When they wanted a particular kind of astrological judgement, clients would provide an astrologer with a somewhat formulaic document comprising their approximate time of birth and a list of their "accidents". Often these lists were accompanied by one or more questions about their character and future.[1]

Unlike the documents sent by clients, however, Lilly's is not a list of accidents which have happened, but a list of accidents which, by Lilly's calculation, *should* have happened based on the querent's birth time. Lilly explains this in his draft letter and requests that his client either confirm the occurrence of the events he himself has outlined or provide their own list of the querent's accidents. Lilly also provides examples of the kind of "eminent accident" he requires, including "sickness in such a year & month, [and] marriage in such a year of age & the month".[2] He explains that the accident list he has written should be correct, but only if his correspondent has provided the querent's precise birth time. He has written out a list of the accidents he would expect to have happened to the querent based on the information provided, but, he claims, "if I have not a true Basis, I cannot serve you".[3]

[1] Keith Thomas, *Religion and the decline of magic* (Middlesex: Penguin Books, 1971), 338-9.
[2] Ms. Ashmole 240, f. 201.
[3] Ibid.

Although we have a significant amount of evidence for the role astrologers aimed to play in early modern English society, we have less evidence for or understanding of the role they actually played or the responses of their readers. This is particularly true of readers outside the elite, whose thoughts and beliefs have left relatively little trace in the documentary record. For similar reasons, we have relatively little record of the astrological beliefs and attitudes held by those outside or on the fringes of the astrological community, who naturally were less likely than those within it to articulate their opinion of the discipline. Far more evidence is therefore available for the impact astrology and astrological discourse were supposed to have had on seventeenth-century English society than for the impact they had in reality.

The nature and distribution of astrological knowledge is similarly difficult to gauge. In sixteenth-century England, astrological knowledge of the kind utilised by practitioners such as Lilly and Booker was only available to those who could read Latin. The early seventeenth century saw the publication of the first English-language manuals of astrology and a sharp increase in the number of original English-language almanacs.[4] That century also saw a general increase in the country's literacy rates, and therefore in the pool of readers able to benefit from the new availability of astrological texts.[5] That many of them did so is evident from astrologers' frequent comments and complaints regarding the sudden increase in astrological practitioners and would-be practitioners.[6] The exact pattern of astrological expertise and belief remains unclear, but it is significant. It and its evolution over the course of the seventeenth century should offer insight into the changing role astrology played in society during that period.

[4] Thomas, *Religion and the decline of magic*, 342.
[5] R. A. Houston, *Literacy in early modern Europe: culture and education 1500-1800* (Oxon: Routledge, 2013), 40.
[6] Patrick Curry, *Prophecy and power* (Cambridge: Polity Press, 1989), 37.

The record preserved with the Ashmolean Manuscripts of a didactic exchange between Lilly and a client is therefore valuable. It provides a particularly direct demonstration of the uneven distribution of astrological knowledge in seventeenth-century England, and itself serves as an example of the way that knowledge could spread. Lilly's draft was evidently written in response to either a request for a nativity or a question whose answer required one, and numerous requests of this nature are preserved with the Ashmolean Manuscripts. Many are enclosed with a record of the querent's time of birth, or approximate time of birth, along with a list of accidents. A wide but often predictable variety of accidents appears in these documents, and both their variety and their predictability are informative. The accident lists offer insight into their subjects' understanding of the way the celestial bodies might influence their own lives and the lives of those around them, particularly with respect to the areas over which those bodies had power. The exchanges between clients and astrologers which accompany the accident lists should shed light on the way people formed this understanding. This chapter will utilise the accident lists preserved with the Ashmolean Manuscripts and the associated correspondence to gauge the way correspondents understood the tenets of astrology and the relevance of the discipline to themselves. This, in turn, should clarify the role astrology played in these correspondents' lives, and by extension in the society around them.

Scholarship

Multiple historians have drawn attention to the lack of relevant data on, and associated difficulty in gauging the impact of, early modern astrology outside the astrological

community or the vocal elite.[7] Some readers of astrological texts and almanacs undoubtedly subscribed wholeheartedly to astrological doctrine while others doubted or dismissed it. The pattern of these attitudes is only partially understood, however, and the evidence can be contradictory. For example, although many almanacs were ostensibly aimed at the entire population of their target area, those which have survived to the present day belonged disproportionately to the wealthy and the fully literate.[8] The phenomenon is explicable by the fact that almanacs were designed to be disposable, and the wealthy were less likely to repurpose them and more likely to possess the wherewithal to preserve them.[9] Keith Thomas notes, however, that evidence of this kind belies certain contemporary commentators' assertions that the lower classes and the uneducated were primarily responsible for astrology's popularity in seventeenth-century England.[10] The place and pattern of astrological knowledge during this period therefore cannot be straightforwardly deduced from the primary evidence, because different areas of the historical record contradict each other.

Of those historians who have drawn conclusions about the distribution of astrological ideas, many appear to have used the same rule of thumb. Multiple scholars state that astrological belief within the lower or less educated classes of any past society must have been more intense than that of the elite. Bernard Capp, for example, states that "When prominent men of affairs believed, or half-believed, in astrological predictions on political matters, there seems no reason to doubt that many of the almanacs' ordinary readers would have been deeply impressed."[11] Similarly, Thomas states of Charles II that "when so skilful a politician as the

[7] William Eamon, "Astrology and Society", in *A companion to astrology in the Renaissance*, ed. Brendan Dooley (Leiden: Brill, 2014), 176.
[8] Bernard Capp, *Astrology and the Popular Press: English Almanacs 1500-1800* (London: Faber and Faber, 1979), 160-6.
Natalie Zemon Davis, *Society and Culture in early modern France: eight essays* (Stanford: Stanford University Press, 1975), 196-7.
[9] Capp, *Astrology and the popular press*, 160-6.
[10] Thomas, *Religion and the decline of magic*, 319.
[11] Capp, *Astrology and the Popular Press*, 100.

King himself felt it worth seeking aid from [astrologers] it is not surprising that so many lesser men did the same".[12] He makes a similar claim regarding the well-known Leveller Richard Overton and his appeal to Lilly for military advice.[13] Astuteness as well as status and education is in this way associated with relative scepticism about astrology. William Eamon, writing more recently, acknowledges that we rely on limited and generally indirect evidence for our knowledge of astrological beliefs and their distribution.[14] He cautions against overly broad conclusions on the collective characteristics of the almanac-reading public.[15] He does argue, however, that "although many educated readers dismissed prognostications as worthless nonsense, most ordinary readers took them seriously and read them with fascination".[16]

Natalie Zemon Davis offers a theory regarding the target audience of agricultural almanacs which, along with the complex relationship between class and prodigy-interpretation, may refute this rule of thumb. Astrologers and almanac-makers catered to clients from all classes and demographics, but Davis provides an additional hypothesis to explain the presence in urban houses of almanacs whose main ostensible purpose was often to distribute agricultural advice. Writing of early modern France, Davis points out that books were difficult even for the literate to access in rural areas.[17] She argues, furthermore, that much of the information contained in almanacs was already known or readily accessible to a large portion of the almanacs' supposed target audience. Ultimately, Davis suggests that at least some early modern almanacs existed to sell the idea of a rural idyll to an urban readership.[18]

[12] Thomas, *Religion and the Decline of Magic*, 371.
[13] Ibid., 372.
[14] Eamon, "Astrology and Society", 173.
[15] Ibid.
[16] Ibid., 162.
[17] Zemon Davis, *Society and Culture in Early Modern France*, 197.
[18] Ibid., 197-9.

Conversely, Timothy Feist quotes and echoes the historiographical belief that astrology carried more weight in rural than in urban areas. He consequently links the relative unpopularity of almanacs in eighteenth-century England to urbanisation as part of an argument for the possibly disproportionate importance of the genre's rural audience.[19] The nature of the documentary evidence about public attitudes to, knowledge of, and engagement with astrology makes it difficult to resolve this contradiction in the scholarship.

One strategy for improving our understanding of past public engagement with astrology is to investigate the way astrologers themselves engaged with the public. Many historians have speculated on the early modern English understanding of astrology as it can be gleaned from the content of contemporary almanacs. Chapman cites the emphasis placed by almanac-makers on time and space, in combination with the ubiquity of almanacs, as evidence for the cosmological significance of time and space in early modern English society.[20] Lustiger and Thomas list both astrological and non-astrological elements of certain almanacs which were included specifically in order to appease readers.[21] Sometimes these elements were included against the compiler's own preference. A 1633 compiler, for example, complained obliquely in his almanac about the necessity of including a diagram known as the "zodiac man".[22] The compiler was one of many whose almanacs contained material they considered ludicrous but necessary in order for the almanac to sell.[23] Capp also draws attention to the willingness of certain almanac-makers to ridicule elements of their almanacs included for the benefit of their

[19] Timothy Feist, "The stationer's voice: the English almanac trade in the early eighteenth century", *Transactions of the American Philosophical Society* New Series 95, no. 4 (2005), 20.
[20] Alison A. Chapman, "Marking Time: Astrology, Almanacs, and English Protestantism", *Renaissance Quarterly* 60, no. 4 (2007), 1257-90.
[21] Rachel S. Lustiger, "To the great scandal of that heaven born science: astrology confronts the new science, 1640–1740" (PhD diss., Arizona State University, 2000), 102-3.
Thomas, *Religion and the decline of magic*, 349.
[22] Capp, *Astrology and the popular press*, 57.
[23] Ibid., 56-7.

audience.[24] Capp argues that the inclusion of these elements shows the influence of their audience on the practice of astrological almanac-makers as well as elucidating that audience's astrological beliefs.[25]

Feist's work reinforces the necessity for compilers and publishers to tailor the contents of their almanacs to their readers' taste. In his work, Feist emphasises the commercial nature of the Stationers Company, which held a legal monopoly over the publication of almanacs for most of the seventeenth century. He argues that almanacs "were first and foremost a commodity, and one has to consider them as products before one can interpret them intelligently as literature".[26]

The content of almanacs therefore provides evidence for the way they were received and utilised by their audience and, by extension, for the astrological ideas and beliefs that audience held. The evidence is indirect, however, and Feist furthermore argues that the figures for almanac sales in the eighteenth century offered "little insight into the significance of [their] consumption".[27] I would argue that almanacs and almanac sales in the seventeenth century told a similarly partial story, as both the commentary around astrology and the content of the almanacs were heavily influenced by factors other than their readers' beliefs. The minority of seventeenth-century English almanac readers who wrote to an astrologer, and whose letters were preserved, is therefore significant. These readers left direct evidence for their understanding of astrology.

<u>The controversy over information</u>

[24] Capp, *Astrology and the Popular Press*, 56-7.
[25] Ibid.
[26] Feist, *The stationer's voice*, 1.
[27] Ibid., 20.

The way members of the public conceived of astrology would naturally have depended on the extent of their access to the relevant information. Astrologers had some control over this, but they were divided as to how much astrological knowledge should be made publicly available. Elias Ashmole argued in 1652 that access to astrological learning should be restricted.[28] Ashmole's attitude fit with the long-standing tendency of astrologers to blame the dubious reputation of their discipline on the dubious practices of their rivals, and at a time when astrology was visible and vulnerable to criticism this may have been strategic.[29] However, it also aligned with many seventeenth-century astrologers' opinions about their own audience. Booker, for example, argued in 1648 that he was justified in printing his prophecies in Latin rather than English, even though much of his potential audience could read English but not Latin, because "I know not why we should humour every man".[30]

Capp points out that this stance was useful to Booker, as it afforded him an excuse to withhold information from "the 'common sort'".[31] Like political news, astrological predictions were considered dangerous if spread too widely. Booker's use of Latin to restrict the availability of certain predictions likely reflected his political views in addition to, or perhaps instead of, his opinion on the spread of astrological information.[32] Jane Ridder-Patrick points out that Scottish almanac compilers and writers in other genres similarly used Latin to keep sensitive astrological information from a large portion of their readers.[33] Furthermore, John Gadbury stated outright in the 1690s that he regretted having caused

[28] Elias Ashmole, *Theatrum Chemicum Britannicum* (London: J. Grismond, 1652), 453.
[29] Capp, *Astrology and the Popular Press*, 56.
[30] Ibid., 236.
[31] Ibid.
[32] Ibid.
Gary Schneider, *The culture of epistolarity: vernacular letters and letter-writing in early modern England, 1500-1700* (Newark: University of Delaware Press, 2005), 48.
[33] Jane Ridder-Patrick, "The Marginalization of Astrology in Seventeenth-Century Scotland", *Early Science and Medicine* 22, no. 5-6 (January 2017), 480.

political unrest by "divulging...Urania's secrets to common eyes".[34] This was despite the fact that Gadbury, like Booker, tended to leave the Latin quotations in his almanacs untranslated. Gadbury's remorse and his strategic use of untranslated Latin reflect both the difficult political position and the political convictions of seventeenth-century English astrologers. They may also reflect the general trend of obfuscation in astrology outlined by Geneva.

More specifically, these attitudes and strategies may be linked to an increase in tension between the restriction and dissemination of information within the seventeenth-century English and Scottish astrological communities. The phenomenon occurred on a broad scale throughout the sixteenth and seventeenth centuries. The breakdown of censorship in the first half of the seventeenth century caused an uptick in the publication of formerly suppressed texts, including astrological texts, which significantly increased the availability of English-language astrological instruction. Astrological evangelists such as Lilly and Nicholas Culpeper subsequently built careers from their willingness to dispense this information.[35] Some prominent English astrologers were therefore invested in the spread of knowledge to the general public, even if it diluted the authority of their peers. This led to a long-running dispute within the astrological community over who should have access to astrological knowledge.

The dispute was coloured by the changing status of the discipline at the time. Astrology had long been influential within powerful institutions such as courts and universities, but it had few institutions of its own, and it lost prestige rapidly over the course of the seventeenth century. The decline of its established role was steep enough that Rutkin and Geneva

[34] Ibid., 101.
[35] Curry, *Prophecy and Power*.

respectively credit astrology's survival past the eighteenth century to its alliance with the occult and to its increasing popularity among "ordinary people".[36] Evidently, neither had been necessary in previous centuries. The difficulty of pinpointing the role of astrology in seventeenth-century England is therefore compounded by the fact that that role was in flux, and the change was spurred partly by the new and controversial availability of astrological knowledge. An accident list was one of the few documents in which that availability might have been reflected back at astrologers and preserved.

The accident lists

Clients who provided their accident lists to astrologers were generally requesting either a nativity or an election. A nativity was a general description of a client's character, and a prediction of the probable course of their life, based on the exact moment of their birth. An election was the appointment of an opportune time for a particular action, calculated with reference the same piece of information.[37] In theory, an astrologer required nothing but the querent's birth time to draw up either a nativity or an election.[38] In practice, however, very few querents could pinpoint their birth time to the level of precision necessary for either of these operations.[39] Because a person's geniture was thought to influence all aspects of their life, astrologers claimed that they could calculate a querent's exact time of birth by working backward from a description of that person's major life events. An astrologer would examine

[36] Darrell Rutkin, "How to accurately account for astrology's marginalization in the history of science and culture: the central importance of an interpretive framework", *Early Science and Medicine* 23, no. 3 (2018), 240.
Ann Geneva, *Astrology and the seventeenth century mind* (Manchester: Manchester University Press, 1995), 282.
[37] Darrell Rutkin, "Various uses of horoscopes: astrological practices in early modern Europe", in *Horoscopes and Public Spheres: Essays on the History of Astrology*, ed. Günter Oestmann, H. Darrell Rutkin, and Kocku von Stuckrad (Berlin: De Gruyter, 2005), 168.
[38] Capp, *Astrology and the popular press*, 16.
[39] Thomas, *Religion and the Decline of Magic*, 338-9.

a querent's approximate or probable times of birth along with their accident list to decide which possible configuration of stars and planets could have caused the combination of events on the list. They took the moment at which the stars and planets were in that configuration to be the querent's exact birth time.[40]

Only one accident list preserved with the Ashmolean Manuscripts is explicitly identified by the sender as an aid "to rectifie my nativity by".[41] The writer, William Heathcott, sends a relatively comprehensive accident list and precisely details the astrological questions he wishes his correspondent to answer.[42] Another list, written by Ashmole after the subject's death, is entitled "Accidents for rectifying my Lord Treasurer Clifford's nativity".[43] Although unusually detailed, Heathcott's accident list is typical of the kind of document sent to astrologers like Lilly and Booker. Ashmole's list is similarly typical in its contents, although few of the lists preserved with the Ashmolean Manuscripts were so obviously written without the input of the subject.[44] Their authors' comments on the use for which these documents were intended reinforce the impression that rectification was the primary function of the preserved accident lists.

General variation

Part of the appeal of astrology in the early modern period was its broad explanatory scope.[45] The wide range of incidents and details included in accident lists reflect this scope. Many lists included the querent's birth time, but some of their writers pinpointed the time to within

[40] Thomas, *Religion and the decline of magic*, 338-9.
[41] Ms. Ashmole 423, f. 160.
[42] Ibid.
[43] Ms. Ashmole 436, f. 58[ab].
[44] Ms. Ashmole 240, f. 201.
[45] Thomas, *Religion and the decline of magic*, 383-4.

the hour or even the minute, while other writers could not even be sure of the exact date. Ann Hall's accident list, sent to Booker by her husband, states that she was born "1605 Aprill the 15 or 16th beinge Satterday about 3 of the clocke in the afternoone", adding that "if you have an almynack of thatt yeare you may see which of those dayes was Satterday".[46] Grinling Gibbons, in a query sent to Ashmole about a business venture, encloses a letter from his sister stating his time of birth. Although she is able to give the exact date, she informs him that "I cainot tell whear my father did Rit ould stille or nu" – "old style" and "new style" dates being taken from the Julian and Gregorian calendars respectively.[47] At the time, the Gregorian calendar was more than a week ahead of the Julian calendar. Gibbons' sister adds that "I have hard my mother say it was ester Tuesday you ware borin so if you Could Git an almanack you mit know by that the still".[48] Even basic information such as a client's date of birth could be interpreted in multiple ways, and astrological texts were invoked to clear up the resulting confusion.

Cardinal directions

Ro: Wrentmore's letter to Booker features two questions, both by a querent unknown to Booker and for whom Wrentmore is acting as an intermediary. The second, very general question is simply "which way from Cant. will bee most advantagious for my health and profitt?"[49] The querent's request for a direction rather than for the name of a specific place is particularly notable because Booker replies in kind, suggesting that "north east or north west from Canterb: may prove moste advantagious and Salubrious".[50] Although Booker then lists

[46] Ms. Ashmole 180, f. 119.
[47] Ms. Ashmole 243, f. 333.
[48] Ibid.
[49] Ms. Ashmole 180, ff. 115-6.
[50] Ibid.

a number of towns to which the querent might travel, his initial focus on cardinal direction aligns with both his client's question and the astrological theory of the time.

Questions and comments about geographical direction appear in numerous letters sent between astrologers and clients with some interest in astrology, or at least with some personal connection to their astrological correspondent. Roger Knight, for example, is a client of Lilly's who has clearly met the astrologer in person and who reintroduces himself by outlining his nativity. Knight introduces the woman he hopes to marry as "a Gentlewoman whoe lived South from the place of my usuall residence", and he goes on to describe the geographical directions in which she and his father travelled in order to meet.[51] Meanwhile, Arthur Clowes states that "In your last mounths observations you speake of un welcom Newes from the South west but it chanced to fall in the Northwest".[52] These correspondents evidently consider the relative geographical positions of places of interest to be more astrologically important than the names of those places.

The phrasing of the question in Wrentmore's letter is significant because the querent on whose behalf Wrentmore acted had likely had no previous contact with Booker, and neither, apparently, had Wrentmore himself. In his letter, Wrentmore expresses a wish to "salute [Booker] personally", and Booker's draft reply mentions that the letter has come "from an unknowne person".[53] The agreement of the question with contemporary astrological beliefs therefore cannot be attributed to Booker's direct input, so either Wrentmore or the querent must have come across the idea elsewhere.

[51] Ms. Ashmole 423, f. 130.
[52] Ms. Ashmole 423, f. 134.
[53] Ms. Ashmole 180, ff. 115-6.

Clowes refers in his letter to a "great kindness" which Lilly rendered him the previous year, so he was clearly already acquainted with his correspondent.[54] His mention of the fact that Lilly has published a warning of "unwelcome news from the southwest" is also relevant. It strongly suggests that Clowes drew his understanding of the relationship between astrology and geographical direction from his familiarity with Lilly's published work. Astrologers' correspondents may have been influenced by the information presented in almanacs in this case as in the case of prodigies, and the content of almanacs evidently encouraged a belief in the importance of direction.

Direction was therefore understood to be highly relevant in astrological judgements. The importance of geographical location was a closely related and equally well-recognised early modern astrological idea. Chapman notes a significant increase over the course of the seventeenth century in the place-specificity of almanacs. She argues that this new emphasis on the importance of place arose partly in response to the rise of Protestantism, which sought to extinguish the role of place and time in religion. Chapman notes that the importance of place in astrology derives from the astrological belief in a "celestial grid…of planetary, astral and lunar influences" entirely dependent on geographical location, but she argues that its importance in society hinged on the religious shifts occurring at the time.[55] Eamon similarly argues that almanacs "heightened readers' awareness of place". [56] Capp, like Chapman, believes that the popularity of astrology increased in sixteenth- and seventeenth-century England partly to fill the void left by the rituals and beliefs of the ousted Catholic Church.[57] Astrologers uniformly understood celestial influences to be place-dependent, and the general public appears to have shared this understanding. Evidence would suggest that this affected

[54] Ms. Ashmole 423, f. 134.
[55] Chapman, "Marking time", 1265.
[56] Eamon, "Astrology and Society", 171.
[57] Capp, *Astrology and the Popular Press*, 20.

the role of astrology in the early modern English worldview. The place-specificity of astrology allowed people to orient themselves in their world in the way religious rituals had formerly done.

However, this in itself does not explain the emphasis on cardinal directions over specific place names in many of the letters preserved with the Ashmolean Manuscripts. The pervasiveness of this emphasis suggests an astrological rationale, and its appearance even in letters written spontaneously by would-be clients suggests that this rationale was widely understood. The astrological rationale can be found in Lilly's *Christian Astrology*. Lilly lays out a coherent explanation for the focus on cardinal directions at the beginning of the second book. He explains that the use of cardinal directions in questions about the place to which a person should travel is linked to the positions in the sky of the twelve houses of heaven.[58] He furthermore instructs the student of astrology to consider the positions of the planets in these twelve houses, as well as in relation to each other, before giving a judgement on the direction that a client should travel.[59] Because different planets and configurations were thought to influence different spheres of a person's life, Lilly also recommended that the astrologer take into account whether their client was travelling for business or health.[60]

Comments and asides in letters such as Wrentmore's testify to the widespread acceptance of these ideas. In an environment where both the critics of astrology and the practitioners themselves accused the general public of overestimating the prophetical and other powers of astrology, these comments are noteworthy for their acknowledgement of its limitations. Knight's note, when asking for advice about a failed marriage negotiation, that the

[58] William Lilly, *Christian Astrology* (London: John Macock, 1659), 132-3.
[59] Ibid., 133.
[60] Ibid.

negotiation took place "Southwest from us, and west from the Gentlewoman", indicates that Knight considered it important to include astrologically relevant detail in his question.[61] This, in turn, shows Knight's understanding that certain details were required for a judgement and that astrology and astrologers worked in specific ways, bounded by the discipline's internal logic. John Silvester's request for information about a potential future wife, including "which way [she will] live from me", shows a similar understanding of the function of astrology as it was understood by its practitioners.[62] From the contents of the two letters it is clear that both Knight and Silvester were generally astrologically well-informed, and Knight appears to have been a repeat customer who visited Lilly in person on multiple occasions.[63] Nevertheless, their comments indicate a standardised knowledge of astrological rules which extended beyond the circle of professional astrologers, and which belies the accusations made by contemporary commentators.

Physical features and astrology

Roger Knight's letter also provides the most striking evidence for a generally acknowledged belief that astrology was linked to physical appearance. Knight provides Lilly with a detailed description of both his own physical features and those of his proposed wife. He describes the woman he hopes to marry as being "of a reasonable tall stature, of a brownish haire, of an Ovall Visage, & a Saturnine complexion".[64] The most evidently astrological element of his description is the word "Saturnine", but the woman's height, the colour of her hair, and the shape of her face were all astrologically relevant.

[61] Ms. Ashmole 423, f. 130.
[62] Ms. Ashmole 180, ff. 65-6.
[63] Ms. Ashmole 423, f. 130.
[64] Ibid.

There is additional evidence to suggest that the connection of physical features with the influence of different planets was part of a widespread and robust system of belief about the way the body worked. In the eighteenth century, a number of physicians working in Britain and elsewhere conducted successful practices by mail. Eighteenth-century doctors, like seventeenth-century astrologers, wrote to their colleagues for advice either about particularly difficult cases or at their client's request. Many of the letters sent between these eighteenth-century doctors and their patients have been preserved, and a number of them mention the patient's physical appearance as if it were medically relevant.

In some cases, this information *is* relevant according to the medical theory of the time. A man writing to Dr. William Cullen on behalf of his wife in 1774, for example, describes her as "of sanguine temperament" and "rather pale, extremely fair and white".[65] In Galenic medical theory, a person of "sanguine temperament" was one in whom blood predominated over the other three humours. Cullen's correspondent also assures the doctor that his wife is "not plethoric" – that is, she does not have excess blood.[66] The description of her as pale was presumably included as evidence for this claim. The letter to Cullen therefore shows an enduring link between medicine and astrology, as early modern medical theory held that the humours were affected by the celestial bodies, but it does not have direct astrological import.[67] However, another of Cullen's correspondents, writing in 1780, mentions her "dark hair" and "darkish complexion" as well as giving her age and height.[68] She also asks the doctor to excuse her lack of medical knowledge, so she may simply have guessed at the necessary details to include in her letter. Even if this was the case, however, the mention of

[65] Wayne Wild, "Medicine-By-Post in Eighteenth-Century Britain: The Changing Rhetoric of Illness in Doctor-Patient Correspondence and Literature" (PhD diss., Brandeis University, 2001), 265.
[66] Ibid.
[67] Louise Hill Curth, "The medical content of English almanacs 1640-1700", *Journal of the History of Medicine and Allied Sciences* 60, no. 3 (2005), 265.
[68] Wild, "Medicine-by-post in eighteenth-century Britain", 319.

hair colour in particular is interesting in light of Roger Knight's earlier comments about his own hair colour and that of his possible future wife. Belief in the astrological, and therefore medical, import of physical features seems to have endured, at least in modified form, after the decline of astrology as a widely respected intellectual pursuit.

Projecting a persona

Within limits, the utilization of astrology outside the core astrological community and the elite can perhaps be inferred from its utilization within those groups. During the early modern period, both astrologers and members of the elite used astrology as a method of projecting a persona, and multiple historians have noted this link between astrology and self-presentation. In particular, both Kocku von Stuckrad and Anthony Grafton have investigated the connection between nativities, self-presentation and confession. Von Stuckrad examines the use of horoscopes in biographies, including those otherwise unconnected with either astrology or astrologers. He concludes that horoscopes gave coherence to biographies in the same way that they gave structure and meaning to specific life events.[69] Grafton states that the sixteenth-century scholar Girolamo Cardano was able to move away from his society's formulaic approach to biography, and to write more candidly than his contemporaries, by basing his own autobiography on his nativity.[70] Grafton also believes that Cardano's autobiography is made to appear more confessional than it actually is, and that the author's apparently reluctant frankness on some topics disguises his reticence on others.[71] According to Grafton, Cardano attributes his ostensible frankness to his interest in advancing

[69] Kocku von Stuckrad, "The Function of Horoscopes in Biographical Narrative: Cardano and After", in *Horoscopes and Public Spheres: Essays on the History of Astrology*, ed. Günter Oestmann, H. Darrell Rutkin, and Kocku von Stuckrad (Berlin: De Gruyter, 2005), 225-40.
[70] Anthony Grafton, *Cardano's Cosmos: The Worlds and Works of a Renaissance Astrologer* (Cambridge: Harvard University Press, 1999), 184.
[71] Ibid., 188.

astrological theory.[72] Intentionally or not, therefore, Cardano uses the requirements of astrological discourse and study to excuse the revelation of personal information and, ultimately, to show himself in a flattering light. I would argue that the new availability of astrological information afforded astrologers' correspondents the opportunity to use astrology in a similar way.

Autobiography

In 1683, at Ashmole's own request, the scholar Job Ludolf sent Ashmole his own and his son's birth times. Shortly afterward, Ludolf wrote to Ashmole enquiring "whether you have found in my constellation the representation of a busy and restless humour."[73] "Constellation" in this case referred to the position of the stars and planets at the exact time of Ludolf's birth, a circumstance which was thought to influence a person's character. Although his comment is unusually transparent, Ludolf was not the only correspondent who took the opportunity afforded by the exchange of astrological information to present himself in a particular light.

Ludolf appears to have sent birth times alone, but birth times sent to astrologers were generally accompanied by accident lists. Accident lists illustrate their writers' understanding of the role the celestial bodies were thought to play in everyday life. They were particularly well-suited for use in the construction of print personae due to their inherent structure and function and their place in astrological research. I believe that astrologers' correspondents both used and subverted the conventions associated with accident lists to reveal or conceal

[72] Ibid., 185.
[73] Ms. Ashmole 1136, f. 132.

personal information and thus to project a particular image of themselves. They could do this for the benefit of either the astrologer or a wider audience, although it is not always entirely clear on whom correspondents were intending to make an impression. The accident lists preserved with the Ashmolean Manuscripts nevertheless offer insight into the way their subjects used astrology to craft an image of themselves for their readers.

Clients appear to have used the flexibility and individuality of accident lists for their own purposes, to create a narrative about themselves and their lives. I would argue that this practice was shaped and encouraged by an attitude prevalent within the astrological community and evident from certain exchanges between astrologers. In 1647, for example, the astrologer Richard Napier sent Lilly a figure drawn up to determine whether his niece would marry a certain man, with the request that Lilly give his judgement on the question. Lilly wrote a draft of his answer directly under Napier's question, and it begins with the statement that "there is no probability that this will take effect".[74] Whatever the circumstances surrounding the question of Napier's niece's marriage, and whether or not he sent it, Lilly's blunt answer accords with his own philosophy and the philosophy of astrology more generally. Lilly argued in *Christian Astrology* that, while tact was advisable when giving an astrological judgement, honesty was paramount.[75] The sentiment was echoed throughout the astrological community, notably by Cardano in his autobiography, and it likely affected the contents of accident lists written by clients.

In order to obtain an accurate nativity, clients were theoretically required to give an honest account of their lives, and the resulting judgement pertained to their personality as well as

[74] Ms. Ashmole 174, f. 457.
[75] Lilly, *Christian Astrology*, "To the student in astrology".

their future.[76] The aspiring astrologer Robert Sterrell underlines this point by requesting of Lilly "that I may be better knowne, I pray Calculate my nativitie, and let that give you my Caracter".[77] Repeat customer Roger Knight gives Lilly his "Character", by which he means his nativity and astrologically relevant traits, ostensibly to remind Lilly who he is.[78] Accident lists and nativities were therefore "ego documents" in a unique sense.

Some correspondents closer to the centre of the astrological community clearly took advantage of the resulting autobiographical and image-projection potential to build a persona from their nativity. The mathematician Richard Robinson, for example, explaining his aversion to joining the navy, wrote that "Venus is Lady of my Ascendant and Mercury Lord of my Geniture I thinke, so that I was not cut out for a Souldier".[79] The connection between astrology and autobiography has already been made with reference to blank almanacs, biographies and memoirs.[80] I believe that Robinson's comment points to a tendency toward astrological image-building in the letters and accident lists sent to astrologers. Comments like Robinson's are scattered throughout the Ashmolean Manuscripts. Along with the well-documented use of nativities in more visible forms of image-building, they suggest that the language used in and about accident lists was chosen to project a persona of the writer for the benefit of the reader. The Ashmolean Manuscripts contain instances of several different strategies used to do this.

Highlighting

[76] Lauren Kassell, "Casebooks in Early Modern England: Medicine, Astrology, and Written Records", *Bulletin of the History of Medicine* 88, no. 4 (2014), 599.
[77] Ms. Ashmole, 423, f. 147.
[78] Ms. Ashmole, 423, f. 130.
[79] Ms. Ashmole 240, f. 248.
[80] Adam Smyth, *Autobiography in early modern England* (Cambridge: Cambridge University Press, 2010).

Some astrologers' correspondents appear to have utilised the standardised form of accident lists and their accompanying letters to highlight certain aspects of their character or horoscope. The most overt example of the first occurs in the letter from Ludolf to Ashmole. Another example can be found in a letter sent to Lilly by an acquaintance and amateur astrologer called William Roe, who writes that "I sometimes muse at soe many notable fixed starres in remarkable planets in my figure".[81]

Even if these statements were ingenuous, they may have been rendered more acceptable by their context. Humility was evidently a staple of etiquette in seventeenth-century English astrological correspondence and in early modern writing more generally. Correspondents offering information, for example, might emphasise that they were only doing so because no-one more competent had stepped forward.[82] This, and apologies for the quality or even the existence of a letter, appear to have been tropes of early modern correspondence.[83] Both Ludolf and Roe might have been encouraged to ignore this rule by the nature of the information they were offering.

Astrologers often collected nativities, which may be the reason so many of these somewhat unassuming documents are preserved with the Ashmolean Manuscripts. Partridge's 1685 request to the general public was evidently unusual, but Geneva asserts that astrological practitioners "shared and exchanged nativities with one another, much as American children used to swap baseball cards".[84] Like other forms of information, they appear to have been

[81] Ms. Ashmole 243, f. 170.
Lilly, *Christian Astrology*, introduction.
[82] Ms. Ashmole 423, f. 212.
[83] Smyth, *Autobiography in Early Modern England*, 134.
Schneider, *The culture of epistolarity*, 66-7.
[84] Geneva, *Astrology and the Seventeenth Century Mind*, 158.

used as currency by astrologers and their correspondents. George Lawdrey, for example, sent the nativity of a famous figure to Lilly in an attempt to revive their apparently lapsed correspondence.[85] Astrologers could also collect nativities directly from their subjects. It is particularly pertinent that Ludolf sent Ashmole his own and his son's nativity in response to a direct request from Ashmole. For this reason alone, Ludolf would have been aware of the value and interest of nativities to astrologers. Roe, who set his own nativity, would almost certainly have understood their significance as objects of study.[86] In juxtaposition with the self-effacing tone often taken by astrologers' would-be beneficiaries, the comments made by Roe and Ludolf can be seen to spring from the writers' awareness themselves as benefactors.

This awareness was not necessarily the sole reason for the comments. Both Roe and Ludolf appear to have known their correspondents personally. Roe wrote a laudatory poem in the introduction to Lilly's *Christian Astrology*, and Ludolf mentions in his letter that he has recently visited Ashmole.[87] Familiarity as well as confidence may therefore have prompted the comments on their horoscopes.

Furthermore, Roe could have taken his cue from Lilly, who was persistently immodest by the standards of his time. He claims in *Christian Astrology* to have rescued English astrology from near-oblivion or at least from decadence, and he hints at the same idea in his autobiography.[88]

Injustice

[85] Ms. Ashmole 423, f. 196.
[86] Ms. Ashmole 243, f. 170.
[87] Lilly, *Christian Astrology*, introduction.
Ms. Ashmole 1136, f. 132.
[88] Lilly, *Christian Astrology*, introduction.
William Lilly, *The Last of the Astrologers* (Great Britain: The Scolar Press Limited, 1974), 23.

Correspondents might also record perceived injustices in their accident lists. The apprentice Robert Pink, for example, retrospectively denies two accusations of theft made when he was a child. Of some money he was accused of stealing, he states that "my Brother had the dispose of it & I knew not but it was left for us however I boare the blame for the most part".[89] He also states that he was accused of stealing a silver ornament "but had it not however I was loking on it when hee showed it".[90] Pink's accident list includes an unusual amount of ancillary detail. However, the information given in these two entries can be read as self-justifying as well as contextual.

Correspondents might also deny more consequential charges. A client of Lilly's called WB, who was probably a political prisoner at the time that he wrote to Lilly, stated as part of a query that "my conscience testifies unto mee that I am truely innocent, & have bin the greately wronged partye".[91] John Silvester likewise wrote to Booker that he had been "thretened Imprisonment Indeservingly" by the mayor of his town.[92]

By flagging injustice in their accident lists, correspondents could have been attempting either to set the record straight or to conform to the requirements of the genre. Clients were encouraged to recount as many accidents as they could remember, but the fairness of an incident was not necessarily relevant. Lilly, for example, did not explicitly include injustice in his list of accidents suitable for the rectification of a nativity. Instead, he specified "such misfortunes, sicknesses, or casualties as have happened to the body...honour, Preferment,

[89] Ms. Ashmole 174, f. 179.
[90] Ibid.
[91] Ms. Ashmole 423, f. 183.
[92] Ms. Ashmole 180, f. 66.

Marriage".[93] Most of the events included in his own accident list fall into one of these categories, and he makes no comment on the circumstances of their occurrence. He simply notes that they occurred.[94] Kenelm Digby, who studied astrology extensively although he did not practise professionally in the way that Lilly did, similarly lists his own life events with virtually no commentary.[95] This would indicate that the circumstances of an accident, including its fairness, were of little interest to an astrologer.

However, Lilly's list also includes events which appear to fall outside his own definition of a relevant accident. The importance of any specific piece of autobiographical information was therefore subjective in spite of the well-understood basic guidelines for an accident list. Additionally, clients' definitions of the term "accident" varied widely and often diverged from those of astrologers. Clients who commented that a certain accident was unjust or unwarranted might therefore have done so for the sake of an accurate judgement, whether or not the astrologer considered it necessary. However, the conjunction of these comments with those highlighting valued character traits would suggest that clients sending accident lists were also preoccupied with self-presentation.

Furthermore, it is possible that some correspondents intended their image curation for a wider audience, because seventeenth-century English letters were not private documents by default. This is clear from the letters Lilly published in his almanacs, and it is starkly illustrated by an episode involving Booker and a letter from Jeremy Shakerley to Henry Osborne. In a letter recounting this episode, Booker also mentions the exchange of documents of interest between

[93] Lilly, *Christian Astrology*, 508-9.
[94] Ms. Ashmole 240, f. 188.
[95] Ms. Ashmole 174, ff. 75-9.

himself and various colleagues.[96] Astrologers' correspondents, like many early modern letter-writers, could therefore assume that their letters might reach multiple readers.

Not all correspondents accepted this possibility. Both Roe and WB requested that their letters be kept confidential. WB had a particularly compelling reason to protest his innocence and was particularly assiduous in doing so, but it appears that the protestation was entirely for Lilly's benefit. It could still have been strategic, however, as Lilly had access to a number of influential figures and was relatively influential himself. He communicated, at least through intermediaries, with several of England's prominent contemporary political figures.[97] Before the beheading of King Charles I, moreover, he gave advice to an intermediary concerning the king's attempted escape from prison.[98] In addition, he famously used his influence with certain powerful political figures in 1650 to help free the imprisoned Royalist astrologer George Wharton.[99] WB might therefore have had reason to impress the injustice of his situation on Lilly specifically.

On the other hand, Ludolf very likely expected his nativity to be widely shared, and Silvester may have wished to broadcast his innocence, especially if he was aware of astrologers' practice of exchanging horoscopes between themselves. England was politically unstable for much of the seventeenth century, and Lilly's and Wharton's experiences suggest that arrest at the time was relatively common and fairly arbitrary.[100] The opportunity to protest one's innocence in a document which mandated honesty was likely attractive as a result. The practices of highlighting or anticipating the flattering elements of a nativity and of noting the

[96] Ibid.
[97] Ms. Ashmole 240, f. 49.
[98] Thomas, *Religion and the Decline of Magic*, 381.
[99] Kay Ellen Ackerman, "The Starry Messenger: A Life of William Lilly" (PhD diss., Vanderbilt University, 1990), 219-20.
[100] Ibid., 7-8.

injustice of certain accidents suggest that astrologers' correspondents were looking to project a positive image of themselves through an astrological filter.

Confession

The requests for privacy from Roe and WB highlight the related but apparently contradictory practice of making confidential confessions in accident lists or letters. According to Grafton, Cardano did this strategically, but I would argue that astrologers' correspondents were more likely to do it out of necessity. Roe's request for confidentiality relates to one of his accidents. From his letter it is not entirely clear to what Roe is confessing, but he requests that Lilly "conceale my profusenes hitherto never reveald but to God & your selfe".[101] WB asks ambiguously in his letter that Lilly "conceale the same in your owne breast", apparently referring either to the questions he asks in the letter or to the fact that he has written it.[102] In a very short note, asking whether he will find a wife, Dan. Cripps directs Booker to "declare not anything butt to my selfe".[103] Roe evidently wished to conceal his past and Cripps to conceal his future plans. WB could have been asking Lilly to conceal either his political opinions and experiences or his faith in judicial astrology. Either is plausible. Whether or not he was in prison, WB was clearly in a delicate situation. Furthermore, by the late seventeenth century some astrologers' clients were visiting secretly due to the stigma attached to the practice.[104]

[101] Ms. Ashmole 243, 170.
[102] Ms. Ashmole 423, f. 183.
[103] Ms. Ashmole 428, f. 17.
[104] Curry, *Prophecy and power*, 55.

The apparent reluctance with which astrologers' clients revealed certain types of personal information aligns with Cardano's approach to personal revelations in his autobiography.[105] The necessity of honesty from both astrologer and client throughout the process of drawing up a nativity therefore appears to have been well-understood. Cardano explored his own life in unflattering detail, supposedly in the service of astrological scholarship, and astrologers were required to respond to querents with an honest judgement "so far as basic self-preservation allowed".[106] Lilly's response to Napier's question illustrates this. Requests for discretion in the letters attached to the accident lists show that the honesty required for an accurate judgement could hinder the writer's projection of a curated image to the world. It could also, however, lend validity to the positive elements of an image presented to an astrologer.

An accident list was a relatively utilitarian document, but it was also intrinsically autobiographical. The inclusion of tangential and apparently unnecessary detail in multiple accident lists is therefore unsurprising. The nature of this detail suggests that some clients were preoccupied with the image they presented to their correspondent, and possibly to the wider world. The arbitrarily detailed and often self-justifying content of these letters indicates that astrologers' clients took advantage of the conventions of astrological discourse to construct and project personae in the same way that astrologers did. It is unclear to what extent this was an opportunistic or even a conscious practice, but the autobiographical aspect of the letters, and their value as objects of study, assisted with the process. The necessity of honesty both helped and hindered it.

[105] Grafton, *Cardano's cosmos*.
[106] Ibid., 190.

Conclusion

Many of the clients whose letters to astrologers are preserved with the Ashmolean Manuscripts request information in terms which suggest that they were familiar with the theory the astrologer would use to answer their question. The questions often appear indirect as a result. For example, correspondents might ask for the cardinal direction in which they should travel rather than the destination toward which they should aim, or for a physical description of a thief or a possible future spouse rather than for that person's name. Astrologers replied in kind, confirming the accuracy of these clients' understanding of the discipline and its application to their lives. Given the attitude displayed by various contemporary commentators toward the public understanding of astrology, it is significant that there was an astrological rationale behind the request and provision of information in this particular form. It is equally significant that these clients rarely asked for specific or definite details.

Lilly's approach to astrology has been described as unusually magical for his time, and more than one of his contemporaries objected to the kind of practitioner or would-be practitioner who learnt astrology from his handbook.[107] Astrologers also frequently complained that the nuances of their discipline were lost on those outside the astrological community, who were therefore liable to request judgements outside the scope of the discipline. The content of certain letters preserved with the Ashmolean Manuscripts suggests that this misinterpretation of astrology was not universal. However, astrologers' comments as well as the phrasing of questions in other letters indicate that it did occur. Members of seventeenth-century English

[107] Curry, *Prophecy and Power*, 37-8.

society seeking to understand or record the celestial bodies' influence on their lives followed a template set by astrological texts, but knowledge of that template was unevenly distributed.

Astrology occupied an ambiguous place in the seventeenth-century English worldview, and this ambiguity resulted partly from the heterogenous nature of the discipline. Thomas states that astrology was "not a coterie doctrine, but an essential aspect of the intellectual framework in which men were educated".[108] Different branches of astrological practice were associated with different disciplines and social strata, and those associations changed over the course of the seventeenth century. Judicial astrology specifically was practised largely by university graduates at the beginning of the century and largely by non-university graduates by its end.[109] The intellectual role of early modern astrology is particularly difficult to define due to the shift in disciplinary categories which took place during and after the early modern period. Pursuits which are now considered unrelated or tenuously related would once have been part of the same discipline, and vice versa.

Furthermore, astrologers' correspondents appear to have used the conventions of astrological discourse to project a particular image in the same way that they used contemporary conceptions of truth to render their reports believable. Clients evidently used accident lists and the associated letters to present an image for its own sake, perhaps because accident lists necessitated the provision of detailed personal information. In this, their actions reflected the practice of early modern astrologers and some early modern biographers. The novel and frequently discussed availability of astrological instruction to the seventeenth-century English public likely enabled them to do so in a way which would previously have been far more

[108] Thomas, *Religion and the decline of magic*, 338.
[109] Capp, *Astrology and the popular press*, 235.

difficult. This may have had implications for the way astrologers themselves could or did use astrology and its conventions and principles.

Chapter four: the market for astrological information

On the eighth of December 1652, a comet appeared over the city of Surat. For at least five nights following, the comet was visible as it travelled past the constellations, and Jeremy Shakerley, an English astronomer living in the city, observed it closely. He later sent a letter to England containing detailed notes on the phenomenon, addressed to his friend Henry Osborne and carried by a ship's steward called Mr. Dynes. When Dynes reached England, however, he tried and failed to deliver the letter several times before discovering that Osborne had left the country for Ireland. Dynes was apparently on the point of burning the letter out of frustration when he was intercepted by an unnamed friend of the astrologer John Booker.[1] Booker's friend persuaded Dynes to open the letter before he burnt it, as "there may be something in it of concernment".[2] Finding that there was, she brought the letter to Booker.[3] As he afterward explained to Shakerley, Booker had already made his own observations on the December 1652 comet as it appeared over England, but he lifted Shakerley's observations out of the letter to publish in his own almanac for the next year. To his explanation Booker appends the comment that "I am sure I have done you no wrong therein".[4]

Booker's blatant confession to having printed information from an ostensibly private letter is startling to a modern reader. Despite the far more public nature of letters in the early modern period, Shakerley may have been equally startled.[5] The early modern astrological community

[1] Ms. Ashmole 242, ff. 93-5[b].
[2] Ms. Ashmole 242, f. 93.
[3] Ibid.
[4] Ibid.
[5] Gary Schneider, *The culture of epistolarity: vernacular letters and letter-writing in early modern England, 1500-1700* (Newark: University of Delaware Press, 2005), 22.

deeply disapproved of plagiarism, and the unauthorised publication of a letter was greeted with indignation in other contexts.[6] It may be for this reason that Booker's letter so strenuously emphasises its writer's role in saving Shakerley's observations from the fire. The episode between Shakerley and Booker also reflects the tension between privacy and publicity which early modern astrologers, and early modern society in general, were required to navigate. Shakerley's letter to Osborne anticipates that "the Contents of this paper will be of as much weight and worth in your esteem as either a Cornelian Ring or an Agatt haft, the ordinary appendages to East India Salutes".[7] Booker publicised Shakerley's observations for the same reason that Shakerley sent them privately to a friend, that is, because they were valuable. Information was and is a tradeable commodity, and the early modern period saw a shift in the way its value related to its availability.

A widespread effort took place during the early modern period to publicise and clarify previously esoteric knowledge, and certain sectors of the astrological community participated enthusiastically in this effort. Several prominent seventeenth-century English astrologers advocated for the publication of previously obscure astrological information, and Lilly built his career partly on his astrological evangelism. However, the approach taken by practitioners like Lilly was criticised by other members of the astrological community, including Ashmole, for making the art available to those who, in their view, could not do it justice.[8] In addition, astrologers, like the practitioners of other disciplines, were incentivised in some ways to conceal and in other ways to reveal their discipline's secrets. This chapter will investigate the epistolary exchange of astrological information in seventeenth-century England to draw

[6] Rachel S. Lustiger, "To the great scandal of that heaven born science: astrology confronts the New Science, 1640–1740" (PhD diss., Arizona State University, 2000), 20.
Schneider, *The culture of epistolarity*, 25.
[7] Ms. Ashmole 242, f. 95[b].
[8] Patrick Curry, *Prophecy and power* (Cambridge: Polity Press, 1989), 37.

conclusions about the relationship between secrecy and publicity within the astrological community of the time.

Secrecy and publicity in scholarship

William Eamon sums up this relationship, albeit with reference to a different time and place, with the comment that "the mechanisms of celebrity-revelation and publicity are the very ones that rob secrets of the aura of their mystery".[9] Eamon sees a broad shift in focus from secrecy to publicity taking place during the Renaissance. He links this shift partly to the rise of print and partly to the founding of academies which aimed to pool and publicise the kind of knowledge which had previously been guarded closely by its possessors.[10] Eamon focuses on sixteenth-century Italy and on the kind of information which would later be collated and disseminated by the Royal Society of London. Joseph Agassi describes an attitude to knowledge-gathering in the Society's early years similar to that outlined by Eamon. He states, for example, that one of the major aims of the Society's founding members was to interest the public in science.[11] The impulse toward the dissemination of knowledge extended across large swathes of time and space, and it affected multiple disciplines.

Eamon further acknowledges that information in the early modern period very often drew its perceived value from its exclusivity.[12] Meredith Ray expands on the idea of information, especially borderline occult information, as currency. Ray describes the way the women of Renaissance Italian courts could exchange esoteric knowledge not only for related knowledge

[9] William Eamon, *The professor of secrets: mystery, medicine and alchemy in Renaissance Italy* (Washington: National Geographic, 2010), 218.
[10] Ibid., 113-4.
[11] Joseph Agassi, *The very idea of modern science: Francis Bacon and Robert Boyle* (Dordrecht: Springer, 2013), 32-3.
[12] Eamon, *Professor of secrets*, 315.

but for status and notice.[13] She argues, furthermore, that tension between secrecy and publicity was evident in these exchanges.[14] Susan Parrish mentions that American colonial women sending information and specimens to members of the early Royal Society could be compensated with goods as well as with reciprocal information.[15] Scholars therefore agree that certain areas of learning and the knowledge which sprung from or contributed to them could have material value, particularly if that knowledge was difficult to come by.

Historians detect both of these tendencies in the early modern astrological community. Ann Geneva argues that cryptic language was a fundamental part of astrology, crucial enough that the seventeenth-century impulse toward clarification contributed to the loss of the discipline's status and acceptance.[16] Geneva argues that the redundancy of the astrological system, as a consequence of which multiple features of a horoscope related to multiple terrestrial phenomena and objects, rendered it unsuitable for clear explication.[17] Grafton makes the same point with regard to early modern European astrology. He states that, although many astrological handbooks were published, they "served less as manuals to be applied than as advertisements for their authors" due to the impossibility of applying the rules consistently.[18]

Nevertheless, Geneva's work emphasises the effort made by members of the astrological community to explain the tenets of astrology to the general public.[19] Geneva focuses her investigation on Lilly's astrological evangelism, but Rachel Lustiger argues that the same

[13] Meredith K. Ray, *Daughters of Alchemy: women and scientific culture in early modern Italy* (London: Harvard University Press, 2015), 17.
[14] Ibid., 52.
[15] Susan Parrish, "Women's nature: curiosity, pastoral, and the new science in British America", *Early American Literature* 37, no. 2 (2002), 208.
[16] Ann Geneva, *Astrology and the Seventeenth Century Mind: William Lilly and the Language of the Stars* (Manchester: Manchester University Press, 1995), 271-2.
[17] Ibid., 271.
[18] Anthony Grafton, *Cardano's Cosmos: The Worlds and Works of a Renaissance Astrologer* (Cambridge: Harvard University Press, 1999), 64.
[19] Ibid.

kind of explicating effort was made by the late-seventeenth-century astrological community as a whole. Lustiger believes that the astrologers of the time were attempting to shore up the intellectual legitimacy of their discipline by imitating the language and epistemology of the new scientists as well as the intelligentsia.[20] She therefore sees the collation and distribution of astrological information primarily as a strategy almanac-makers used to build rapport with their audience and thus to carve out a niche for themselves in an overcrowded market.[21] Lustiger further states that "students [of astrology] provided an ideal source of new followers and greater legitimacy" for the discipline.[22]

Lustiger's theory on the subject of reader input seems to agree with that of Grafton, but it provides an interesting contrast to Geneva's theory. In Lustiger's scenario, astrologers' correspondents were important primarily as probable customers, while Geneva focuses more on the value of the information they provided. The exact function of reader input from the almanac-makers' perspective is therefore unclear, but scholars agree that it played a significant role in the creation and success of astrological publications. Lustiger bases her conclusions largely on the clear attempts of early modern compilers to engage with and win the sympathy of their readers.

Curry echoes both Lustiger and Geneva in describing a "scientific reform" movement in late-seventeenth-century English astrology, one whose practitioners aimed to demonstrate the principles of astrology by experiment and thus to simultaneously clarify and publicise them.[23] He ties this movement explicitly to the post-Restoration ruling party's effort to establish a

[20] Lustiger, "To the great scandal of that heaven born science", 208-9.
[21] Ibid., 168.
[22] Ibid., 57.
[23] Patrick Curry, "Saving astrology in Restoration England", in *Astrology, science and society: historical essays*, ed, Patrick Curry (Suffolk: The Boydell Press, 1987).

verifiable basis of reality in order to ensure social stability. In his view, the reforming astrologers of the time aimed to contribute to this effort.[24] In this way, Curry, like Lustiger, ascribes a persuasive function to the seventeenth-century drive toward astrological reform. However, Curry also argues that the techniques of the new science appealed to the reformers for "methodological reasons", and that reforming astrologers were trying to solve acknowledged methodological problems within their discipline.[25]

Curry goes on to recount the "scientific" reforming astrologers' failure to place their discipline on an empirical basis. He argues, though, that the reformers failed, not on their own terms, but according to "those with the necessary authority" to decide.[26] Conversely, Geneva makes a case for the fundamental incompatibility of astrological theory with clarification. She describes the same conflict within the seventeenth-century English astrological community which Eamon sees within early modern modes of knowledge-communication more generally.[27] Echoing Eamon's argument, Geneva states that "the cross-rip which developed between an innate effort to conceal and a demystifying effort to reveal ultimately engulfed astrology".[28] Scholars generally agree that seventeenth-century English astrologers made a sincere collective effort to publicise and clarify the knowledge connected with their discipline, but that the effort was ultimately unsuccessful.

Historians have therefore thoroughly explored the motivation and outcome of the early modern effort to spread astrological knowledge, but scholarship on the subject has focused primarily on the way the movement likely appeared, or was meant to appear, to the public.

[24] Ibid., 251.
[25] Ibid., 250, 246.
[26] Ibid., 256.
[27] Geneva, *Astrology and the seventeenth century mind*, 272.
[28] Ibid., 272.

Scholars have paid less attention to the way it and the conflict between secrecy and publicity influenced the exchange of information within, and the provision of information to, the astrological community. Like early members of the Royal Society, certain prominent publishing astrologers solicited information from their readers, especially their astrologically competent readers, as well as exchanging information between themselves. Lilly and Gadbury also encouraged members of the public to request information from them. An investigation of the resulting correspondence should shed light on the way the astrological community, including its more marginal elements, handled information exchange.

Changing modes of knowledge exchange

Henry Oldenburg is famous as the active and prolific secretary of the Royal Society and the founder of the *Philosophical Transactions*, but he carried on a wide-ranging scientific correspondence for some time before the society formed.[29] In 1658, he sent a letter to Samuel Hartlib, a well-connected scientific correspondent, in which he described, among other things, a new idea for a perpetual motion machine. He then went on to request the particulars of the Earl of Hohenloe's recipe for saltpetre and a portable printer supposedly invented by William Petty.[30] He concluded his request with the promise that "I shall in time, I hope, recompense yr liberality".[31] This remark echoes the general tone and content of Oldenburg's letters, and it illustrates the transactional nature of Oldenburg's correspondence and of scientific correspondence in general.

[29] Iordan Avramov, "An Apprenticeship in Scientific Communication: The Early Correspondence of Henry Oldenburg (1656-63)", *Notes and Records of the Royal Society of London* 53, no. 2, (1999).
[30] Ibid., 190.
[31] Ibid., 191.

The philosophy of the new scientists in England was heavily influenced by that of Bacon, and many English scientists at the time intended to promote public peace by creating an indisputable basis for public opinion. As a result, they championed and industriously facilitated the collection of reliable information for public dissemination.[32] Often they obtained this information by exchanging it for information of a similar nature, as is evident from Henry Oldenburg's network of scientific correspondents.

In the European courts of the time, certain kinds of knowledge had long been tradeable not only for the like knowledge but for favour and status. Gary Schneider describes the way information classified as "news" became a valuable commodity in the English court during the sixteenth century. According to Schneider, "men expecting advancement were expected to collect information" and convey it to their superiors.[33] The "news" to which Schneider is referring appears to have been primarily political.[34] However, other forms of knowledge were valuable as well. Occult or borderline occult information, for example, could earn its bearers the favour of the powerful. The women of sixteenth-century Italian courts routinely exchanged alchemical recipes. As Ray explains, these recipes "functioned as a form of currency" which could increase the sender's status when delivered to a powerful patron.[35] It could also be exchanged for "political intelligence" of the kind which English courtiers were expected to provide in exchange for advancement.[36]

However, the value of knowledge exchanged in this way had always been closely tied to its secrecy. Whether because the difficulty of obtaining it proved that its possessor was "in the

[32] Agassi, *The very idea of modern science*, 32-3.
[33] Schneider, *The culture of epistolarity*, 47.
[34] Ibid.
[35] Ray, *Daughters of Alchemy*, 17.
[36] Ibid., 39.

know", or because its rarity made it a novelty to the person who received it, ostensibly "secret" information was prized.[37] Even Oldenburg's correspondence shows evidence of this attitude. In a 1659 letter to Samuel Hartlib, Oldenburg stipulates that Hartlib should communicate the contents of the letter to Boyle, assuring his correspondent that the information will be safe with Boyle and his sister Lady Ranelagh, "wch is a person, yt can keep a secret as well, as any I know".[38] Despite their self-imposed mandate to spread natural philosophical knowledge, therefore, even the new scientists made an effort to safeguard the secrecy of that knowledge where it suited them.

The importance of secrecy caused difficulties in seventeenth-century England. As the early modern period progressed, those in possession of classified information were confronted with new ideological and financial incentives not only to reveal it but to disseminate it as widely as possible.[39] The tension between the publication of information and the secrecy which had always conferred its value is perhaps most starkly shown in the "books of secrets" which began to appear in the sixteenth century. These books comprised collections of facts, pieces of advice, and recipes which look random to a modern audience but whose connection lay in their supposed obscurity. The authors of "books of secrets" often claimed to have published them out of a conviction that the knowledge they revealed should be universally available.

However, even authors who did this often tried to increase the perceived value of the information they offered by claiming to have published it in defiance of their peers. Lilly makes this particular claim about the astrological theories and guidelines he lays out in *Christian Astrology*, stating that he has published them "notwithstanding the importunities of

[37] Schneider, *The culture of epistolarity*, 47.
Ray, *Daughters of Alchemy*, 17.
[38] Avramov, "An apprenticeship in scientific communication", 190n.
[39] Eamon, *Professor of Secrets*, 315.

some…who desired I should not deliver the Art in so plain and easie a method.[40] The sixteenth-century Bolognese physician Leonardo Fioravanti similarly vows in his publications to explicate an art which, in his opinion, has been "usurped" by a restricted group of practitioners.[41] The author of *The Secrets of Alessio Piedmontese*, meanwhile, adopted a pseudonymous persona to create the fiction that the knowledge contained in his book had previously been closely guarded by everyone who possessed it, including himself.[42] Perceived rarity increased the marketability of published information in the same way that it increased the value of information privately exchanged.[43] Authors such as Lilly and Fioravanti thus simultaneously levered and sabotaged the exclusive nature of the knowledge they had to offer.

Astrology was caught between secrecy and publicity in other ways as well. In seventeenth-century England, the discipline was linked to the magical tradition, partly by convention and partly because two of its champions, Lilly and Elias Ashmole, were fascinated by magic.[44] Astrology was also associated with the new science, again through certain of its devotees and because several late-seventeenth-century astrologers made strenuous attempts to reform the discipline along Baconian lines.[45] Interest in magic and interest in the new science were by no means mutually exclusive during the seventeenth century, but the two epistemologies approached knowledge exchange in strikingly different ways.[46] Magical knowledge was considered powerful and valuable precisely because it was esoteric, while the new scientists

[40] William Lilly, *Christian Astrology* (London: John Macock, 1659), "To the Reader".
[41] Eamon, *Professor of Secrets*, 46.
[42] Ibid., 10-1.
[43] Ray, *Daughters of Alchemy*, 51.
[44] Günter Oestmann, H. Darrell Rutkin, and Kocku von Stuckrad "Introduction: horoscopes and history", in *Horoscopes and Public Spheres: Essays on the History of Astrology*, ed. Günter Oestmann, H. Darrell Rutkin, and Kocku von Stuckrad (Berlin: De Gruyter, 2005), 4.
Curry, *Prophecy and Power*, 35-9.
[45] Curry, "Saving astrology in Restoration England".
[46] Curry, *Prophecy and Power*, 35.

generally maintained that natural philosophical information was most useful and functional when it was publicly available.[47] Private letters sent to astrologers by their acquaintances and readers show evidence of both attitudes.

Letters

A number of the astrologers' correspondents whose letters are preserved with the Ashmolean Manuscripts wrote either to ask for information or to give it with the expectation of a return. Their letters vary widely in content and style as well as in their writers' relationship to the astrologer, the information they offered and the recompense their writers expected.

Of the letters requesting information, some offered intelligence of an event and asked the astrologer to clarify its meaning, as in many of the prodigy reports.[48] Others asked for guidance or reassurance on some point of astrological theory.[49] Correspondents might otherwise offer a piece of information preliminary to asking for an apparently unrelated favour, perhaps a letter from or introductory meeting with the astrologer to whom they wrote.[50] Collectively these heterogenous letters indicate a widespread understanding of astrological information as a form of currency within and beyond the astrological community. Their strong resemblance to the letters associated with multiple contemporary knowledge-

[47] Lauren Kassell, "Casebooks in Early Modern England: Medicine, Astrology, and Written Records", *Bulletin of the History of Medicine* 88, no. 4 (2014), 115.
Agassi, *The very idea of modern science*, 132-3, 150.
[48] Ms. Ashmole 423, f. 154.
Ms. Ashmole 423, f. 197.
[49] Ms. Ashmole 423, f. 135.
Ms. Ashmole 423, f. 152.
Ms. Ashmole 423, f. 165.
[50] Ms. Ashmole 423, f. 147.
Ms. Ashmole 423, f. 196.

making practices and attitudes emphasise the ambiguous position which astrology occupied in the epistemology of the time.

Information offered

The authors of these letters were carrying on a written conversation of which only part of the other half has been preserved in printed publications. The conversation seems to have stretched across several decades of the seventeenth century. In his 1664 almanac, for example, John Gadbury makes what he calls a "Request" to "the industrious Students in Astrology".[51] The request is framed as a proposal for a collective data-gathering project to be undertaken for the benefit of posterity. Gadbury asks first that those of his readers who practise astrology collect and compare the nativities of "several persons of different Conditions and Degrees", giving examples of the differences he would like to investigate – "Ecclesiastical or Civil, Nobles, Gentry or Commons, &c.".[52] He then asks his readers to focus specifically on the nativities of those born in particular eventful years and on particular auspicious days. To spur his audience to action, Gadbury lays out the benefits to posterity of a bank of information like the one he proposes to create. He also reminds his audience that he himself has already begun to assemble this information bank but is unable to complete it on his own. Although he never explicitly states that he wants nativities and observations sent to him, he further encourages his audience to collect both by promising to "not only compare, but exchange notes" with anyone who has information to offer.[53]

[51] John Gadbury, *Ephemeris, or, a diary astronomical and astrological for the year of grace 1664* (London: James Cottrel, 1664), "To the industrious students in astrology".
[52] Ibid.
[53] Ibid.

This is unsurprising in light of Gadbury's approach to astrology. Gadbury was one of the most prominent "scientific reformers" of the late-seventeenth-century astrological community.[54] His reforming attempts strongly resembled the new scientists' efforts to overhaul their society's understanding of the natural world more broadly. One of the major projects of the new scientists, recommended by Bacon and carried out in England by Robert Boyle, was the creation of a network of correspondents, a "society of amateurs", to report on natural philosophical phenomena. [55] Gadbury's project required precisely this kind of network, and this was likely deliberate. According to Lustiger, the astrological "scientific reformers" imitated the new scientists and the intellectual community more generally in order to provoke a response from those communities.[56]

However, Gadbury's proposed project also reflects a general trend in seventeenth-century English astrology which appears to have begun independently of the new science. Almost two decades earlier, in 1647, Lilly published an astrological handbook, commonly known as *Christian Astrology*. In his foreword, addressed "to the reader", Lilly requested of his students "that if they meet with any extraordinary casualty in their practice, they would communicate it unto me".[57]

Lilly wrote *Christian Astrology* in an epistemological environment quite different to that in which Gadbury published his 1664 almanac, and Lilly's astrological philosophy differed significantly from that of Gadbury. Curry singles Lilly out as an astrologer peculiarly uninterested in reform along scientific lines, and as one of the last prominent practitioners of

[54] Mary Ellen Bowden, "The scientific revolution in astrology: the English reformers, 1558-1686" (PhD diss., Yale University, 1974), 49-50.
[55] Agassi, *The very idea of modern science*, 130.
[56] Lustiger, "To the great scandal of that heaven born science", 218.
[57] Lilly, *Christian Astrology*, "To the Reader".

the "magical or divinatory" form of astrology which Gadbury eschewed.[58] Geneva contradicts Curry when she makes reference to Lilly's network of "Baconian data-gatherers", but she also uses Lilly's work to illustrate the affiliation of astrology with cryptography.[59] During the early modern period, cryptography, like magic, was associated with the restriction of knowledge to an in-group.[60] Despite his own association with both magic and cryptography, however, Lilly was unusually committed to the spread of astrological knowledge. This practice was far less common in the 1640s than it was by the time of the Restoration, and Lilly was one of the major catalysts for the change.

Lilly himself used his publications to portray himself as the singlehanded saviour of British astrology, and he may have exaggerated the dearth of publicly available astrological knowledge at the beginning of his career in order to bolster that image. Nevertheless, he was one of the first astrologers to publish an English-language handbook of the discipline when the relaxation of government censorship made it possible to do so.[61] Lilly may have overestimated the importance of his handbook for the sake of publicity. However, the subsequent steep increase in the availability of astrological instruction lends credence to his claim to have ushered in a revival of popular astrology in England.[62]

The similarity of these two petitions, despite the disparate circumstances under which they were printed, indicates, among other things, the ubiquity of collaboration in the seventeenth-century astrological community. The petitions are framed in different ways, however. Both Lilly and Gadbury urge their readers to collaborate with them to fill the gaps in their

[58] Curry, *Prophecy and power*, 39, 136.
[59] Geneva, *Astrology and the seventeenth century mind*, 91.
[60] Keith Hutchison, "What happened to occult qualities in the Scientific Revolution?", *Isis* 73, no. 2 (1982), 238.
[61] Curry, *Prophecy and power*, 20-1.
[62] Ibid.

generation's knowledge of astrology, but they offer slightly different explanations for the existence of those gaps. Gadbury blames the "Negligence and Ignorance" of past astrologers and their consequent failure to make sufficient numbers of nativities available to posterity.[63] He therefore attributes the lack of publicly available astrological precepts in his own time to the astrological community's historical and apparently passive lack of interest in or contribution to astrological theory. Lilly, by contrast, accuses his forebears as well as his contemporaries of actively suppressing information. He hints heavily that basic astrological knowledge has hitherto been unavailable to the general public because most astrologers refuse to reveal it.[64]

This difference of opinion points to a wider disparity between the two astrologers' views on the source of astrological knowledge. Their responses to the perceived lack of publicly accessible astrological information likely echo their attitudes toward astrological knowledge and its source. Lilly's assertion that the dearth of information stems from the self-interest of those adepts in a position to share it would suggest that he understood astrological expertise at least partly as a possession transferred exclusively between people, and not to people from nature. His focus on experience and experiment suggests that he did not subscribe wholly to this view, as does his reference to the investigations into astrological precepts still to be carried out.[65] However, his highlighting of other practitioners' reluctance to share information, the deliberate contrast with his own willingness to disclose, and his portrayal of himself as the saviour of English astrology together suggest that he associated the discipline with the practice of private, transactional information exchange.[66]

[63] Gadbury, *Ephemeris*, "To the industrious students in astrology".
[64] Lilly, *Christian Astrology*, "To the Reader".
[65] Ibid.
[66] Ibid.

In addition to this, Lilly, more than Gadbury or any other contemporary, used astrology effectively as a propaganda tool. The astrological significance of prodigies played a crucial role in this. Lilly's most famous successful prediction was based on a report of parhelia, and in the 1645 pamphlet containing the prediction, Lilly mentions that a "Mr. Heylet" sent him the report.[67] A pamphlet Lilly published two years later contains another ostensibly general prediction based on another report of parhelia. Although it does not mention the name of Lilly's correspondent, this pamphlet reproduces part of the text of the report. Lilly explains that it is one of many which he has received since 1645, but that he has previously refrained from discoursing on them in print.[68] Lilly's correspondents therefore knew that he printed analyses of prodigies reported to him, and that he might also reproduce the reports themselves, and some correspondents stated explicitly that their prodigy reports were intended for that purpose.[69] Lilly was also a well-known propagandist, and his famous 1645 prediction was an explicitly partisan one about the outcome of a key battle in the English Civil Wars. His correspondents would therefore have understood that his motivation for collecting data was partly political, and that their reports might be used for political ends. This is significant because it indicates that information of the kind sent by Lilly's reporters could only be put to political use if it was printed and widely read. Its value to Lilly, and therefore to its bearers, was contingent on its being made public.

Many astrologers' correspondents sent information with the explicit aim of improving their society's understanding of astrology, instead of or in addition to a stated aim of ingratiating themselves with the astrologer. A number of the letters to Lilly preserved with the Ashmolean Manuscripts seem to be answering Lilly's call for data in this way. Lilly's

[67] William Lilly, *The starry messenger* (London: John Partridge and Humphry Blunden, 1645), 2.
[68] William Lilly, *The vvorld's catastrophe* (London: John Partridge and Humphrey Blunden, 1647), 63.
[69] Ms. Ashmole 423, f. 132.
Ms. Ashmole 423, f. 200.

anonymous correspondent from Hertfordshire, for example, states that his letter is intended to assist with the advancement of astrological theory. The writer explains that he has sent the report "in way of Thankefullness" for Lilly's efforts in that direction and "out of respect unto" the recipient.[70] Lilly's Hertfordshire reporter evidently believes that his report will be of use to Lilly personally, but he also implies that it will benefit astrology as a whole.[71]

William Roe wrote one of the laudatory poems published at the beginning of *Christian Astrology*. He also sent Lilly a list of his accidents whose apparent purpose echoes that of the Hertfordshire report. Roe states that, although Lilly has already answered all of his questions concerning his nativity, he has sent further details of his life "for the judgements further confirmation to acquaint you therewith, that you may compare them with the annuall directions".[72] Roe, like Lilly's anonymous correspondent, supplied a record of his own experiences with the stated aim of advancing the study of astrology through Lilly. Michael Harword, meanwhile, sent a letter ostensibly meant to help rehabilitate the discipline's reputation. Harword sent Lilly his report of parhelia with the explicit expectation that Lilly would use it to counter anyone who challenged his astrological predictions. The letter informs Lilly that Harword himself has argued verbally with some who had, and expresses the hope that Lilly will use the report to defend himself, and thus astrology, in print.[73]

Gadbury also collected and published information from his readers with the specific aim of advancing the study of astrology. The responses to Gadbury's request in his 1664 almanac have not been preserved, but they appear to have been forthcoming, because Gadbury in his 1665 almanac thanks his readers for their contribution to his project. He also promises to

[70] Ms. Ashmole 423, f. 154.
[71] Ibid.
[72] Ms. Ashmole 243, f. 170.
[73] Ms. Ashmole 423, f. 132.

continue collaborating with those who have contacted him and those who might do so in the future.[74] Correspondents gained private recognition by sending information to Gadbury, and, like Lilly's reporters, they also appear to have sent this information with the understanding that it might be made public. In 1662, Gadbury published a work entitled *Collectio Geniturarum, or a Collection of Nativities*, and he states in his 1664 almanac that "at present I am endeavouring a further discovery of those mysterious Truths".[75] These publications, presumably, were the intended destination of the nativities he requested from his readers.

Many of the letters written to seventeenth-century English astrologers were therefore sent with the expectation that they would serve their purpose either through publication or by contributing to a published work. At the same time, many of Lilly's correspondents appear to expect personal recognition from Lilly in the form of a return letter, of the kind Gadbury promised to send, or of a private meeting. Lilly's anonymous correspondent makes it clear that he expects a return letter, requesting that Lilly "take [the instance of parhelia] a little into your Thoughtes and…write but 2 or 3 wordes unto me, what youre opinion is of it".[76] He also includes instructions as to how Lilly should address the letter to ensure that it reached him. This correspondent claimed previous acquaintance, although he refused to confirm it by identifying himself, but the practice of asking for a return letter was not restricted to acquaintances. Robert Wittie, a "stranger" to Lilly at the time he sent Lilly his prodigy report, wrote that "I desire to receive a word from you concerning…what your judgement is".[77]

[74] John Gadbury, *Ephēmeris, or, a diary astronomical and astrological for the year of grace 1665* (London: Ja. Cotterel, 1665), "To the serious students in astrology".
[75] Gadbury, *Ephemeris*, "To the industrious students in astrology".
[76] Ms. Ashmole 423, f. 154.
[77] Ms. Ashmole 423, f. 197.

Although they did not send prodigy reports, Robert Sterrell and George Lawdrey similarly used information to gain a return letter from the astrologer to whom their correspondence was addressed. Although it has not been preserved with the associated document, Sterrell seems to have sent an almanac along with his first letter to Lilly. He explains that, "missing this Scotish Astrologer in your Catalogue, I have sent him herewith, in one of the waste leaves at the beginninge, you have a propheticall tristike which I had in an old manuscript".[78] The purpose of this information, Sterrell tells Lilly, is "to initiate my acquaintance with you".[79] Later letters indicate that Sterrell did become a close acquaintance of both Lilly and Ashmole.[80] Whether or not this was occasioned by Sterrell's initial offering of an almanac and a "prophetical tristich", it indicates that members of the public knew or believed that they could begin an acquaintance with an astrologer by sending them a piece of information.

Lawdrey appears to have attempted to revive a lapsed correspondence using the same strategy. He writes to Lilly complaining that Lilly has replied to none of his recent letters. He follows with the declaration that "I desire to keep our old acquaintance…wherefore as a token of affection to you I present you with the time of Geo. Monck his geniture."[81] The rest of the short letter is a recount of Monck's birth time and accidents and a promise that, if the recount is "acceptable" to Lilly, Lawdrey can provide him with more.[82]

Neither Roe nor Harword requests an answering letter, but Roe implies that Lilly has already given him a return, stating that "by your last of 29th May I have received full satisfaction for my Asc.s rectification".[83] Harword, of course, explicitly requests that Lilly include an

[78] Ms. Ashmole 423, f. 147.
[79] Ibid.
[80] Ms. Ashmole 242, f. 129.
[81] Ms. Ashmole 423, f. 196.
[82] Ibid.
[83] Ms. Ashmole 243, f. 170.

astrological judgement of the contents of his report in his next almanac, "and so vindecate the arte through the whole kingdome".[84] Williamson, another stranger to Lilly, sends Lilly a report of parhelia "hoping to see your predictions upon in it print".[85]

The possibility of seeing their names, or at least their news, in print may have been sufficient motive for certain members of the public to write to Lilly, judging from the content of a later almanac. In the early eighteenth century, Henry Beighton took over the compilation of the highly successful though entirely non-astrological almanac the *Ladies Diary*. The *Ladies Diary* consisted primarily of riddles which the audience was invited to answer by writing to the compiler, and in 1717 Beighton printed a list of the previous year's correspondents.[86] Lustiger points out that this was likely strategic, as the existence of the *Ladies Diary* depended on the riddles sent by its readers and Beighton specified that anyone who sent in an answer should send a riddle of their own as well.[87] In this context, Lilly's mention of Mr. Heylet by name may have encouraged correspondence from prodigy reporters like Williamson and Harword. Astrologers' correspondents, like those of Beighton, were therefore able to exchange particular kinds of information for possible status precisely because that information was considered fit for publication.

Furthermore, all of the letters mentioned above agreed with the conventions of the seventeenth-century astrological community as well as those of the society around it. Lustiger notes that "the sending of information to an astrologer [was] an expected part of the relationship" between publishing astrologers and their readers. The requests made by Lilly and Gadbury attest to this, and Lilly and Gadbury were not the only publishing astrologers to

[84] Ms. Ashmole 423, f. 132.
[85] Ms. Ashmole 423, f. 200.
[86] Lustiger, "To the great scandal of that heaven born science", 177.
[87] Ibid.

make those requests. John Partridge, Gadbury's successor as the most prominent astrologer in England, published an appeal for nativities in 1685 which closely resembled Gadbury's appeal of twenty years prior.[88] Several decades beforehand, in 1653, the astrological reformer and Copernican Joshua Childrey had published an almanac which urged "those, who are well stored with Genethliacall figures" to analyse them with reference to a heliocentric universe.[89] Childrey did not ask his readers to communicate the results to him, but his request forms part of a list of activities which he considers important "for the advancement of astrology".[90]

Lustiger classifies this acquisition and subsequent collation of information from readers as a manifestation of the astrologer's role as "oracle".[91] Geneva similarly sees Lilly, at least, as the centre of a web of intelligence typical of the astrological community.[92] However, the movement of information toward a single prominent person and the cachet which that information could theoretically confer on its bearers also recall the cultures of "news" and occult information exchange in sixteenth- and seventeenth-century European courts. An example of a private request for and provision of information which fell somewhere between these two categories is preserved with the Ashmolean Manuscripts.

The letter is an account of a storm in Stafford, addressed to the gentleman John Stansby.[93] Its anonymous author outlines first the purported (supernatural) and then the actual (unusual but explicable) events surrounding the storm. He prefaces this outline with a comment on the difficulty he had obtaining the information, and he mentions that he has written the account

[88] Lustiger, "To the great scandal of that heaven born science", 177-8.
[89] Joshua Childrey, *Syzygiasticon instauratum or, an ephemeris of the places and aspects of the planets* (London: T. Mabb, 1653), Preface.
[90] Ibid.
[91] Lustiger, "To the great scandal of that heaven born science", 179.
[92] Geneva, *Astrology and the seventeenth-century mind*, 81.
[93] Ms. Ashmole 174, ff. 463-4.
C. H. Josten, *Elias Ashmole (1617-1692) his autobiographical and historical notes, his correspondence, and other contemporary sources relating to his life and work* (Oxford: Oxford University Press, 1967), 1047.

specifically because Stansby requested it.[94] According to Stansby's correspondent, the storm gave rise to rumours of a rain of blood, armies fighting in the air, and a visit from a troop of devils.[95] He adds that all anyone would swear to, when pressed, was a severe storm and whirlwind which damaged a number of buildings and orchards, but that "Rumors…like snowballs never fade, till Sol the Sun & Truth appeare".[96]

Stansby certainly had an interest in astrology and the astrological community. He was a correspondent of Ashmole's, and the Ashmolean Manuscripts contain a copy of his nativity drawn up by himself.[97] In addition, his anonymous reporter's account of the Stafford storm includes a mention of a "Mr Sanndy", probably Richard Napier, as well as "Mr. Lilly".[98] Nevertheless, the account addressed to him is in no way astrological. This does not necessarily mean that it had no astrological use, as many of the prodigy reports sent to Lilly contain no explicit mention of astrology. However, reported incredible events like those described in the letter to Stansby were also an important component of printed news when it first appeared in England.[99] The letter, moreover, concludes by debunking every report of a supernatural event accompanying the Stafford storm. Judging by its content as well as its addressee – Stansby does not appear to have been especially noted for his astrological interest – I would argue that the letter fit into the broader category of news sent to a superior in the hope of a reward.[100] The letter to Stansby thus indicates that this form of information exchange existed in circles of which astrologers formed a part, but that it was not restricted to astrological information within these circles.

[94] Ms. Ashmole 174, f. 463.
[95] Ibid.
[96] Ibid.
[97] William Henry Black, *A descriptive, analytical and critical catalogue of the manuscripts bequeathed unto the University of Oxford by Elias Ashmole* (Oxford: Oxford University Press, 1845), 348.
[98] Ms. Ashmole 174, f. 464.
[99] Barbara J. Shapiro, *A culture of fact: England, 1550-1720* (Ithaca: Cornell University Press, 2000), 87.
[100] Josten, *Elias Ashmole*, 1047n.

Lilly's contemporaries knew he collected intelligence in order to communicate it to his sizeable readership, and some of his correspondents sent him information with the understanding or even the explicitly stated expectation that he would use it in this way. Ashmole also collected certain kinds of astrological information for potential publication, although he generally seems to have subscribed to an older model of knowledge exchange in which that knowledge circulated within an in-group. Ludolf at least likely knew this when he sent Ashmole his nativity and that of his son. The volume of astrological information published in the seventeenth century was unprecedented in England, but astrologers' correspondents continued to use the information they sent not only as a bargaining tool but as one whose value depended on its rarity.

Information requested

Several of Booker's draft replies to letters requesting astrological assistance are preserved with the Ashmolean Manuscripts. Of these, two present a striking juxtaposition. In one, Booker agrees to answer a query because it came "so well couched and by the hands of a friend I so much respect", although he admits that he would not usually answer queries "of this nature".[101] In the other, Booker refuses to supply astrological instruction to a correspondent on the grounds that "my own business will not permit me" and, besides, "you are or may be able enough yourself".[102]

[101] Ms. Ashmole 180, ff. 115-6.
[102] Ms. Ashmole 244, f. 156.

Both of the letters to which Booker was responding have been preserved, and both were written by an intermediary on behalf of an unnamed querent, but they are written in distinctly different styles. The first letter is written with exaggerated deference, with the writer signing themselves "your true admirer of your worth and science", and, perhaps crucially, it includes a promise that the querent will pay Booker for his efforts.[103] The second contains no such promise, and the writer simply describes a nativity and requests that Booker "be pleased to honour me, with your serious thoughts thereon".[104]

These were only two of countless letters to astrologers in which the writers requested information. In most cases, the writers asked for a straightforward astrological judgement of the kind astrologers frequently answered in the course of business. From what evidence we have of astrologers' responses to these letters, it is clear that they were generally viewed simply as requests for a service. Payment was frequently mentioned in the letters, although it was never emphasised as a part of the exchange. Often the documents preserved with the Ashmolean manuscripts bear the astrologer's notes on the query. Booker's drafted refusal to answer one of the letters described above, and his admission in a draft reply to the other that he would not necessarily have answered a letter of its kind, suggest that these letters were out of the ordinary, and extraneous to Booker's business. Nevertheless, many similarly idiosyncratic letters have been preserved with the Ashmolean Manuscripts.

The expectation that information will be shared simply because it is requested is evident in these letters. Those sent between practising and previously acquainted astrologers did receive a response, but previous acquaintance was not considered crucial, as is clear from Edw:

[103] Ms. Ashmole 180, ff. 115-6.
[104] Ms. Ashmole 244, f. 156.

Bishop's letter to Lilly. [105] Bishop's rhetoric in the letter underscores the fact that he and Lilly are unacquainted. He asserts nevertheless that "it is noe shame for a gratefull Man to Begg, Crave, Borrow, or Steale, Learning", and he asks directly how he should fit the astrological tables in his possession to his latitude.[106] Lilly in particular cultivated a reputation for generosity with astrological information, and several of his correspondents indicate in their letters that they expect Lilly to answer their questions for that reason. Robert Billingsley prefaces a request for general direction in his astrological studies with the stated assumption that "your candour & knowne Vertues wil pardon this uncivil salute of a stranger".[107] A letter to Lilly from Rich: Hunt indicates the probable basis of Billingsley's confidence and that of Bishop. Hunt claims to have travelled to London to obtain the astrological instruction from Lilly "which in your several epistles praefixed to your books you seem graciously to promise", and to have failed.[108] He nevertheless expresses confidence that Lilly "bares so good an affection to the unfeignd good as not to spare any pains conducing to the advancement of private persons", and he asks for Lilly's astrological judgement on his own capacity to learn the discipline.[109] Nevertheless, Hunt, like many of those who wrote to ask for an astrological judgement, promises to pay Lilly for the information he requests.[110]

The content of other letters suggests that their authors, while hoping to be provided with information themselves, regarded that information as generally restricted. An anonymous correspondent travelling in Italy, who had previously met Lilly in person, wrote to Lilly with a request for clarification on a piece of advice which Lilly evidently gave him verbally. Lilly's correspondent asks him for information regarding "wher I shal find those Capuchins

[105] Lustiger, "To the great scandal of that heaven born science".
[106] Ms. Ashmole 423, f. 135.
[107] Ms. Ashmole 423, f. 152.
[108] Ms. Ashmole 423, f. 165.
[109] Ibid.
[110] Ibid.

or any other persons whatsoever in any part of al Italy: that can truly instruct me" on a point of astrology in which, according to Lilly, that particular group of Capuchins was skilled.[111] The letter is notable, not only as an example of a correspondent asking for advice on how to learn astrology, but because the writer hints that Lilly's public cachet was built partly on reticence. The writer states "that though you are so noble a benefactor to our present age to publish more then most can apprehend, yet you keepe a reserve of the sublimest science within your owne brest; or at least communicate only to such friends as you thinke worthiest your favours".[112] By insisting that Lilly was able to be both secretive and generous regarding astrological information, Lilly's effusive correspondent indicates that it was necessary to Lilly's image that he maintain a balance between the two.

The letters written to Booker show, furthermore, that Lilly was not the only astrologer to whom strangers applied for miscellaneous astrological information. A correspondent who signed themselves simply TS sent Booker what would be an ordinary request for a nativity had they not drawn up their nativity themselves. Instead of requesting an astrological judgement, as most correspondents did, TS in his letter asks Booker's opinion on several points of astrological theory so that they can make their own judgement.[113] Unusually for an astrologers' correspondent, TS offers Booker payment in kind, writing that "if a botle of good Inke will accomodate you I will befriend you this weeke for I will make it my selfe".[114] Ink-making was a common skill at the time. Every schoolchild taught to write in early modern England was theoretically required to learn ink-making, so TS' promised bottle of ink seems more symbolic than materially valuable.[115] In its practicality, though, it resembles the many

[111] Ms. Ashmole 423, ff. 185-6.
[112] Ibid., 185.
[113] Ms. Ashmole 180, f. 26.
[114] Ibid.
[115] James Daybell, *The material letter in early modern England: manuscript letters and the culture and practices of letter-writing, 1512-1635* (London: Palgrave Macmillan, 2012), 28.

gifts of food and other goods sent between Ashmole and Lilly.[116] Although Ashmole was Lilly's patron and his gifts had value, they were not payments for a specific service.

Notwithstanding Booker's responses, astrologers' correspondents had reason to believe that their appeals for information would be answered. As Schneider points out, answering a letter was considered the recipient's duty regardless of the letter's contents or the identity of the sender.[117] More specifically to astrology, Lustiger states that "one is struck by the generous dissemination of knowledge and information" within the astrological community despite the competition for clients.[118] She goes on to describe the many instances of astrologers, including obscure astrologers, writing to the most prominent practitioners to request astrological judgements as well as commendations of their work.[119]

Lustiger attributes this willingness to collaborate to "a general feeling of persecution among the members of the astrological community", but it was equally apparent in the eighteenth-century medical community and in the seventeenth-century Royal Society.[120] I would argue that it stemmed primarily from a general impulse to publicise information, an impulse which clashed with the association between secrecy and value clearly extant at the time.

Obscurity and propaganda

As with many elements of seventeenth-century English astrology, the tension between secrecy and dissemination of information within the astrological community was

[116] Josten, *Elias Ashmole*, 1342-5.
[117] Schneider, *A culture of epistolarity*, 58.
[118] Lustiger, "To the great scandal of that heaven born science", 20.
[119] Ibid.
[120] Ibid., 35.

significantly shaped by and is strongly apparent in the career of William Lilly. Lilly's interest in magic has implications for his approach to knowledge-communication, because early modern magical and natural philosophical knowledge were acquired through different channels. According to Keith Hutchison, "magic was not learned by the normal processes of human investigation, but from another magician who in turn learned from another magician and so on back to a magician who learned by demonic revelation."[121] Tied to the belief in knowledge acquired through supernatural revelation was the belief that human knowledge had degenerated over time.[122] Astrology was not magic, but its tenets and the way it was practised fit well with these beliefs, and with the idea that the key to a better understanding of the universe lay in the reconstruction of an earlier episteme.[123] Even in the late seventeenth century, participants on the "ancient" side of the "ancient vs. modern" debate were advocating for a return to the Ptolemaic astrology codified almost two thousand years before.[124]

This, I would argue, had implications for the use and efficacy of astrology as a propaganda tool. Astrology could be used as a weapon in an open propaganda war because the knowledge which underpinned it was tied to some past revelation, and therefore to obscure knowledge. This theoretically meant that astrological expertise gave astrologers, including those who acted as propagandists, privileged insight into the working of the world. Grafton points out that "the very complexity of the [astrological] system ensured that only a trained astrologer, an initiate, could use it".[125]

[121] Hutchison, "What happened to occult qualities in the Scientific Revolution?", 238.
[122] Agassi, *The very idea of modern science*, 50.
[123] Ibid.
[124] Curry, "Saving astrology in Restoration England", 251-3.
[125] Grafton, *Cardano's Cosmos*, 64.

Lilly was not the only astrologer to exploit this property of astrology. Although he became the most famous participant in the astrological propaganda war accompanying the English Civil Wars, he did not start it. When the propaganda war began, its two most prominent participants were Booker on the Parliamentarian side and George Wharton on the side of the King. Lilly rose to fame only after he joined the war on Booker's side.[126] He utilised the same tactics used by Booker and Wharton, one of which was to insistently predict victory for their own side and disaster for their enemies. Lilly's career effectively illustrates the link between astrology's propaganda value and its obscurity, but Lilly's experience was evidently specific to his time and his milieu.

Conclusion

Information in early modern Europe could be a powerful commodity and source of social capital. Astrological information was no exception, and prominent astrologers such as Cardano increased or attempted to increase their status and influence by offering to provide this information to powerful people. Those on the periphery of the astrological community whose letters to prominent astrologers are preserved with the Ashmolean Manuscripts similarly tried to barter information for status and notice, at least within the community. Gadbury's requests in his annual almanac, like Lilly's requests and insertions in his own publications, suggest that the core astrological community was receptive to information offered in this way.

[126] Harry Rusche, "Merlini Anglici: astrology and propaganda from 1644 to 1651", *The English Historical Review* 80, no. 315 (Apr. 1965), 323-6.

This was not a new phenomenon, but it may have taken on new significance in the seventeenth century, because seventeenth-century English astrology stood at a crossroads. On the one hand, it was associated with, though distinct from, the tradition of magical knowledge which had supposedly degenerated over time and which could only be obtained through discourse with an adept. On the other hand, it was understood by a number of its practitioners, including the most famously magically inclined, as a natural phenomenon explicable and improvable through natural philosophical inquiry. As such, astrological information could be used at the time as a currency whose value depended on its rarity, like other forms of occult information used by courtiers to make strategic connections. It could also be used as the raw material of a Baconian project intended to increase collective natural philosophical knowledge primarily through the collation and publication of firsthand reports.

At the same time, the sudden increase in the accessibility of astrological precepts, fostered by the relaxation of government censorship and the efforts of astrologers like Lilly, occasioned a tug-of-war between those practitioners who wished to spread astrological knowledge as widely as possible and those who believed it should be restricted. Information was freely shared within the astrological community, but its members disagreed as to where the borders of that community should be. This tension between restriction and dissemination emphasises and, as Geneva points out, was partly caused by astrology's location between two forms of knowledge-building with distinctly different modes of communication.

I would argue that the dynamic between prominent publishing astrologers and their correspondents also illustrates the location of astrology between the information economy of courtiers who bartered obscure information for status and the collation of information for deliberate dissemination which was more typical of the new science. Astrologers'

correspondents sent what amounted to data or flattery in exchange for or anticipation of exclusive expertise from or exclusive access to a relatively influential person. The exchange of information for information was an integral part of the new science and new modes of information exchange, as was the collation of information for publication. The overt offering of information in exchange for an audience with the recipient belonged to a different tradition. The offering of information for synthesis and publication, with the expressed expectation that it would be repaid with a letter or an audience, seems to incorporate elements of both. Books of secrets occupied a similar position and, I would argue, caused tensions similar to those prompted by the participation of astrologers' correspondents in this hybrid form of information exchange.

From this, it seems likely that the objections of astrologers like Ashmole to the democratisation of astrological information which occurred in seventeenth-century England resulted from an assumption that the value of that information was linked to its rarity. The position of astrology in England may have shifted in response to the seventeenth-century impulse to reveal, not because astrology was intrinsically abstruse – although it was – but because its practitioners had formerly operated in accordance with that assumption.

Conclusion

As the role and remit of astrology shifted over the course of the seventeenth century, much of the information which passed between astrologers and the public in England became either more visible or more widely accessible or both. As a result, seventeenth-century English society had to reckon with the increasing or increasingly obvious influence of astrology and astrological knowledge on politics and public opinion as well as in interpersonal exchanges and negotiations. Astrological predictions had long had political connotations, and astrological beliefs in seventeenth-century England clashed, or had the potential to clash, with those of some of the country's major religious institutions.[1] This was well understood before the seventeenth century, but it was underscored by the events of this period.

The advent of print, followed by the breakdown of print censorship in seventeenth-century England, magnified the political and ideological impact of astrological predictions during an exceptionally politically turbulent period of British history. Politically inclined groups and organisations active in the mid- to late seventeenth century adjusted their rhetoric accordingly. Many groups did this by either utilising or denouncing astrology in general along with the well-known astrologers who used their platform and their reputation for prescience to further a political cause.

As well as highlighting the political power of astrological prognostication, and along with rising literacy rates, these developments significantly increased the proportion of the English

[1] Darrell Rutkin, "How to accurately account for astrology's marginalization in the history of science and culture: the central importance of an interpretive framework", *Early Science and Medicine* 23, no. 3 (2018), 232-3.

population with access to astrological knowledge. The resulting increase in the number of practising astrologers, and astrologically competent members of the general public, affected the dynamics of information exchange within the astrological community. Members of the elite and well-known practising astrologers frequently used astrological ideas and information to reinforce their rhetoric or to cultivate useful connections. In particular, the use of astrologically relevant information as currency, and of elements of a nativity in self-presentation, were long-standing practices within the astrological community and the elite of early modern Europe.

Over the course of the seventeenth century, both practices began to spread beyond those groups, as is evident from the letters written to astrologers during this period. This development had potentially wide-ranging ramifications. During the early modern period, the use of information as currency was common within various traditions and settings, and it was crucial to the success of numerous interactions, particularly interactions between powerful figures and their would-be beneficiaries. Some forms of knowledge, including knowledge concerning general astrological principles, were valuable only to the extent that they were difficult to obtain. The sudden availability of astrological knowledge in seventeenth-century England therefore likely affected the utility of that knowledge as a form of currency, without necessarily affecting its perceived legitimacy.

The process of dissemination of formerly rare and valuable knowledge occurred across various different disciplines in early modern Europe, and often it sparked objections from those who had previously had and benefited from privileged access to that knowledge. This occurred even when its dissemination might have been considered beneficial to the general population. Sometimes, as in the case of sixteenth-century Italian medicine, established

practitioners expressed fears that new practitioners would either misuse the available information or spread novel and dangerous medical ideas (with reason, in their case).[2]

Professional astrologers and others who considered themselves part of the established astrological community sometimes responded to the increasingly widespread engagement with astrological theory in a similar way. Several astrologers made comments in their published works warning their peers of the danger posed to their discipline's status by unskilled or unscrupulous practitioners. This particular line of argument had been used to defend the reputation of astrology since ancient times, and so it need not have related to the changes which took place during the seventeenth century. However, late-seventeenth-century English astrologers referred, in their comments, specifically to the wave of new astrological practitioners precipitated by the sudden accessibility of astrological material. Their cautions therefore recall both the long-running efforts of astrologers to separate the legitimacy of astrology from that of its practitioners and the responses of early modern representatives of various disciplines to the increased availability of information in general.

Despite established astrologers' anxiety over the declining currency of astrological knowledge, however, certain kinds of information related to astrology remained valuable. For different reasons, nativities and reports of prodigies were both sought-after by astrologers, and seventeenth-century English astrologers often encouraged or even personally asked members of the public to send them one or the other. In this way, the market for astrological information was extended beyond the groups, including established astrological practitioners and members of the elite, who had previously had privileged access to both it and astrological

[2] William Eamon, *The Professor of Secrets: Mystery, Medicine and Alchemy in Renaissance Italy* (Washington: National Geographic, 2010).

learning. Like other groups with access to esoteric or otherwise restricted knowledge, established astrologers had guarded and traded on this astrological learning.

Members of the public as well as new or aspiring astrological practitioners took advantage of the opportunity afforded by the value of this information and their own increased understanding of its import to utilise it as established astrologers did. I would argue that this, along with the sudden increase in astrological practitioners, prompted much of the backlash from established astrologers against the dissemination of astrological knowledge.

Despite these objections, there is evidence to suggest that the seventeenth-century spike in astrology's popularity in England was predicated on its accessibility, and that astrologers understood this well. Those who disseminated knowledge to and solicited information from their readers did so at least partly to bolster the status and influence of astrology as a whole along with their own status and influence. Lilly was particularly well-known for his work in both dispensing astrological information and gathering it from the public. However, the English astrological community in general was almost equally notable for its willingness to do both in the seventeenth century, particularly in the late seventeenth century, notwithstanding the reticence of some of its members. Established astrologers' deliberate facilitation of communication between themselves and the general public was itself a response not only to the growing ease of communication in general but to the increasingly precarious status of astrology in England. The attempted reform of astrology by late-seventeenth-century astrologers, necessitating the collation and dissemination of astrological information with the help of the public, was undertaken partly in response to the widening rift between astrology and natural philosophy. The recruitment of astrological practitioners through the publication of astrological information in almanacs and handbooks was meant to

shore up the legitimacy and popularity of the discipline, and it was considered necessary for similar reasons.[3]

While the flow of astrological knowledge between astrologers and the public decreased the utility of that knowledge for individual practitioners, therefore, it was intended to benefit the discipline as a whole as well as the astrologers who facilitated it. It did so partly by presenting a compelling picture of astrology and astrologers' predictions to the general public. The information sent to well-known astrologers by their correspondents could therefore only fully serve its purpose if it was published. In this sense, the market for astrological knowledge which was open to the seventeenth-century English public differed from many of the well-established but more restricted modes of early modern information exchange.

The visibility of the information sent to astrologers by the public, and particularly of the information concerning prodigies, in turn affected the way specific elements of seventeenth-century English society responded to astrology. Members of the early Royal Society in particular, in their collective capacity as supporters of the restored monarchy, appear to have made a deliberate attempt to distance themselves from the more visible components of Interregnum-era astrology. This is unsurprising given the conventions of early modern public debate and the political impact of astrology at the time. However, it also recalls the efforts of established astrologers of the time to distance themselves from practitioners they considered to be outside their own sphere.

[3] Rachel S. Lustiger, "To the great scandal of that heaven born science: astrology confronts the New Science, 1640–1740" (PhD diss., Arizona State University, 2000), 20.

I would argue that both attitudes stemmed from a concern with the loss of control over astrological information and its influence on society. The subsequent shift toward a conception of astrology as a "private pursuit" likely developed from this concern as well.[4] Until the seventeenth century in England, although virtually everyone had access to the services of an astrologer, astrological theory was inaccessible to most of the population and access to politically sensitive astrological predictions were deliberately restricted. The attitudes toward astrology and the public displayed by certain established astrologers and supporters of the restored monarchy in late-seventeenth-century England were likely formed in response to the highly visible consequences of this information becoming publicly available.

Attitudes toward astrology, like attitudes toward many of the broad-scale explanatory systems extant in the early modern period, were heavily influenced by the utility to any one movement of the discipline and its associated ideas. Part of the utility of these ideas lay in the possibility of controlling them, either to restrict or to encourage them or to fit them to one's own agenda. As the place of astrology in English society shifted, the ideas associated with it became more difficult to control. The currents of information moving between astrologers and their audience affected both the way the public and sectors of the public conceptualised astrology and the way astrologers themselves were able to utilise those ideas. Changing modes of information exchange compounded these effects. It became expedient for both astrologers and members of the English elite to reframe astrology as an exclusive or individual activity, although this ran counter to the broader contemporary trends of knowledge-creation and information exchange.

[4] Ibid., 5.

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